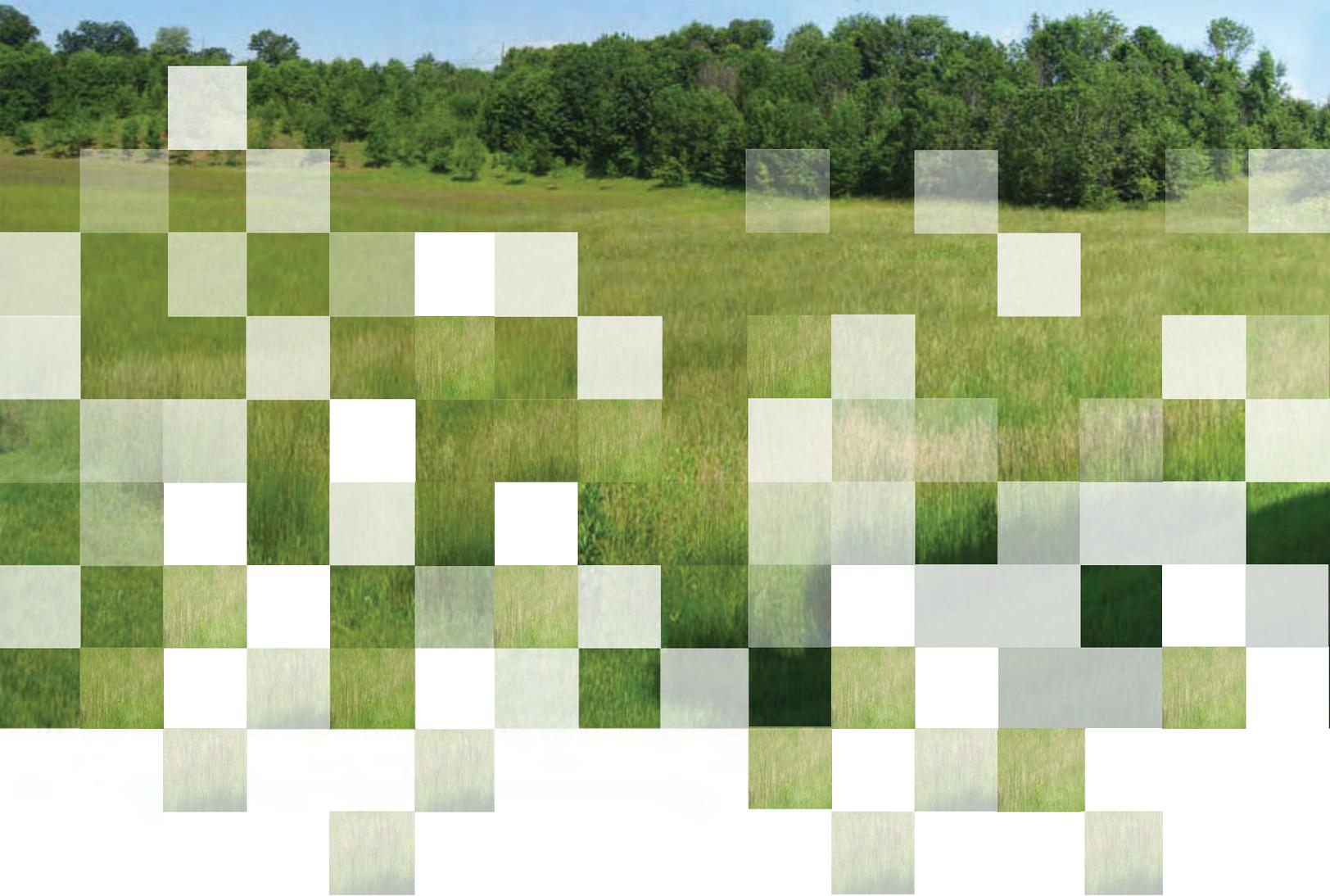


Seneca Crossing Local Park facility plan report



Prepared by
The Maryland-National Capital Park and Planning Commission
LSG Landscape Architecture
Straughn Environmental

September 22, 2011

CONTENTS

1. INTRODUCTION.....	3
2. FACILITY PLAN PROCESS.....	6
3. PLANNING DOCUMENT RECOMMENDATIONS.....	7
A. Germantown Master Plan	
B. Land Preservation, Parks and Recreation Plan	
C. Vision 2030	
D. Park User Satisfaction Survey 2003	
E. Approved Site Plan	
4. DEMOGRAPHICS + AREA FACILITIES	11
A. Demographics and Population Trends	
B. Area Facilities	
5. PROGRAM OF REQUIREMENTS.....	13
6. EXISTING CONDITIONS.....	18
A. Natural Features	
B. Transportation and Access	
7. ALTERNATIVE PLANS CONSIDERED.....	22
A. Scheme 1	
B. Scheme 2	
C. Scheme 3	
D. Scheme 4	
8. COMMUNITY OUTREACH.....	30
9. INTEREST GROUP INPUT.....	35

CONTENTS

10. PREFERRED PLAN.....	36
11. AGENCY APPROVALS	38
12. APPENDIX.....	39
A. Cost Estimate	
B. Agency Approval	
C. Community Input	
D. Soil Survey	
E. Drawings	

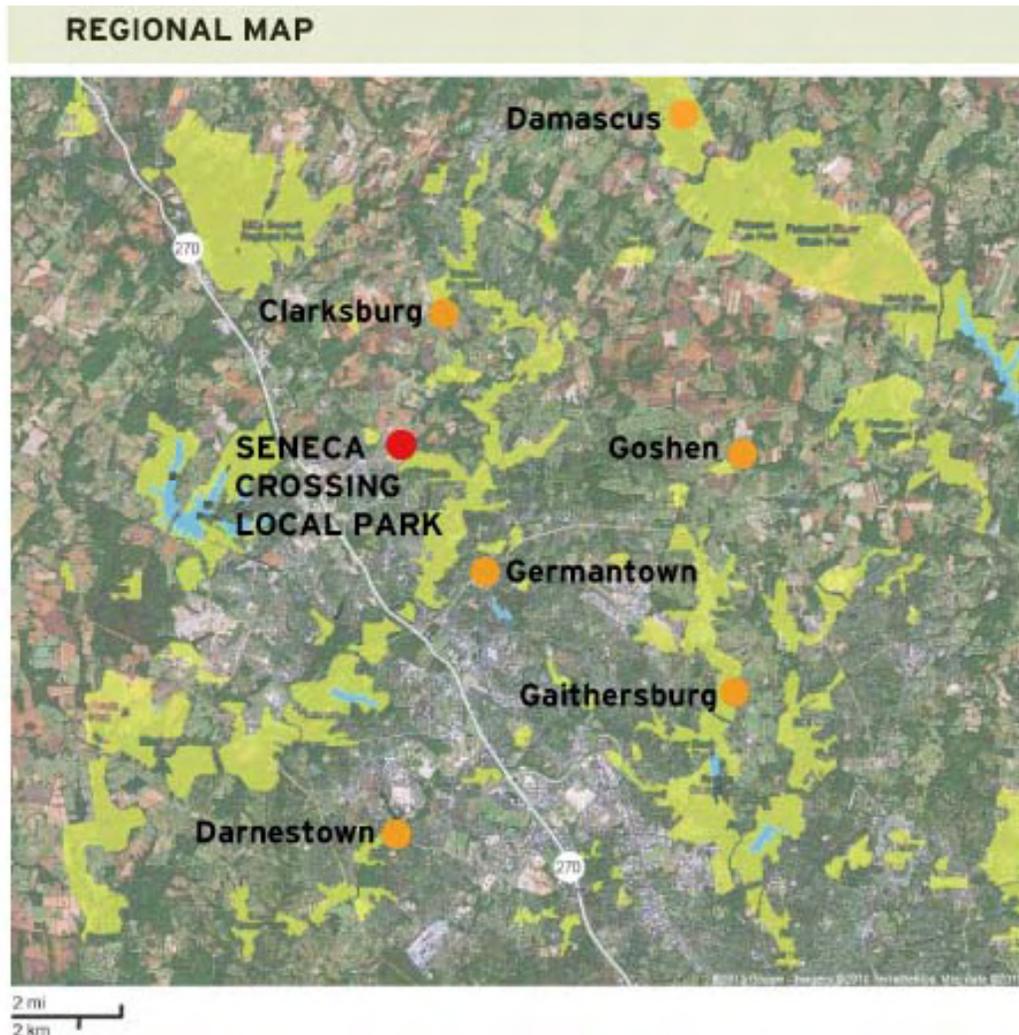
1. INTRODUCTION

The purpose of this project is to provide a Facility Plan and detailed cost estimate for a new local park that will serve active recreational needs of the northern Germantown service area and also offer recreational features for nearby communities. The park will be developed in a way that takes advantage of its shape and topography and minimizes impacts on the adjacent community. It will create a safe, inviting, accessible and maintainable place to visit.

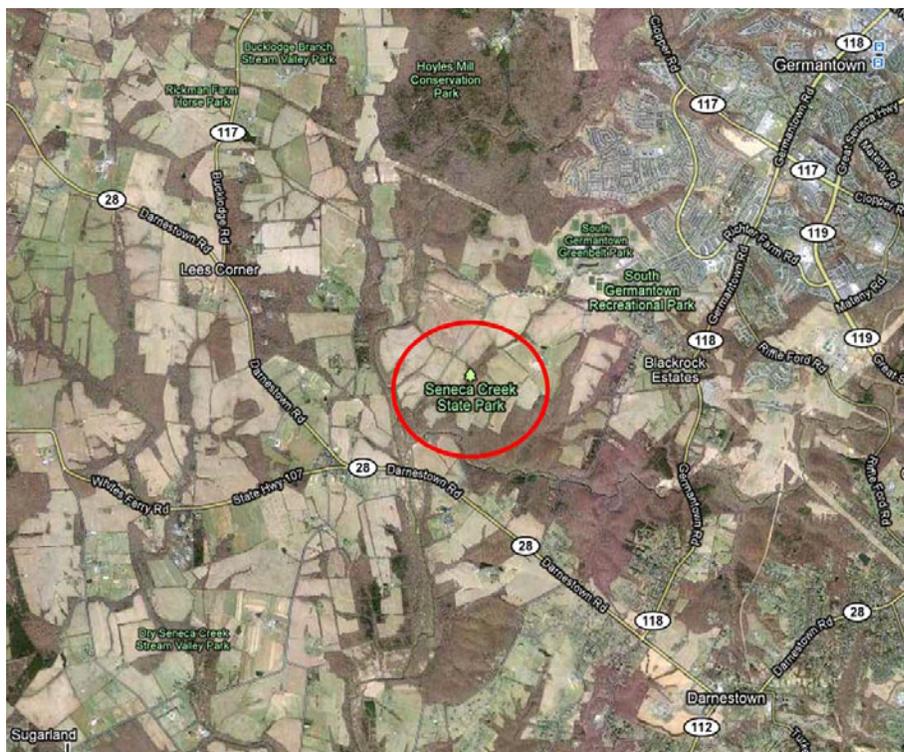
Seneca Crossing Local Park is currently a 27.8-acre tract of undeveloped parkland located at 11400 Brink Road, in Germantown, Maryland. The property is somewhat linear in shape, approximately five times longer than it is wide. The park fronts Brink Road, just east of Route 27, in close proximity to Maryland Interstate 270. It borders a contiguous development of 1,100 single-family homes in the Cedar Valley (500 homes) and Strathford Knolls (600 homes) communities to the south. Seneca Crossing Drive, the main monumental entrance road into the adjacent Cedar Valley development, bisects the park. Of the two resulting park sections, the one to the east is approximately three times larger.

The site is in the Northern Area - Region 1 of the Maryland-National Capital Park and Planning Commission (M-NCPPC) park system. The park is situated within the Germantown (PA 19) planning area at its border with both the Clarksburg (PA 13) and Goshen/Woodfield/Cedar Grove (PA 14) planning areas and forms part of what was previously known as the North Germantown Greenbelt.

The land was deeded to M-NCPPC in 1998 by the original developer of the adjacent community, Winchester Homes, for use as a local park. The park was subsequently rough-graded by Winchester in conjunction with placement of fill material generated by their development of the Cedar Valley community and in preparation for the future park. This preliminary grading was designed to create a series of plateaus that could later be developed as recreation fields. The developer also completed reforestation of sloped areas to the back of the park site and was obligated to place specified levels of topsoil on future planned field areas of the site as part of the subdivision site plan agreement conditions.



Seneca Crossing Local Park



Site vicinity and local roads map



Aerial view of site

More recently, Artery Development, in conjunction with completing nearby improvements to Ridge and Brink roads, was required to provide Storm water management facilities for storm water runoff to be directed through the park site. Their construction requirements within the park included upgrading quality measures in order to accommodate the nearby roadway work, as well as a projected 3-acre impervious area resulting from typical park facilities likely to be built there in the future. They also completed some earthwork fill in one of the drainage-ways. Quantity management for the future park was planned to be accomplished with the nearby Seneca Crossing regional SWM pond, located to the south of the park.

Facility Planning for Seneca Crossing Local Park was funded out of the Facility Planning: Local Parks PDF. The facil-

ity plan was designed in conjunction with a consultant team led by LSG Landscape Architecture between 2009 and 2011. The preferred plan was developed for the park through an analysis of existing conditions and the development of four planning alternatives. Facility planning included a robust public involvement process with key meetings organized to understand public preferences for park development and to review the planning alternatives. Based on that input and on staff and regulatory agency review, the planning team created the preferred development scheme described in this report. Upon completion of that scheme, the team secured preliminary storm water management plan concept and preliminary forest conservation plan approvals, and assembled capital improvement cost estimates included in this report.

2. FACILITY PLAN PROCESS

During the facility planning process environmental conditions and community impacts were analyzed; site conditions were studied; community input was obtained; a program of requirements (POR) was developed; various design scenarios were evaluated; and detailed budget estimates were developed. The process involved outreach to the surrounding community through two public meetings and posting the project on the Commission website. The staff team and appropriate reviewing agencies also provided recommendations for completion of the facility plan.

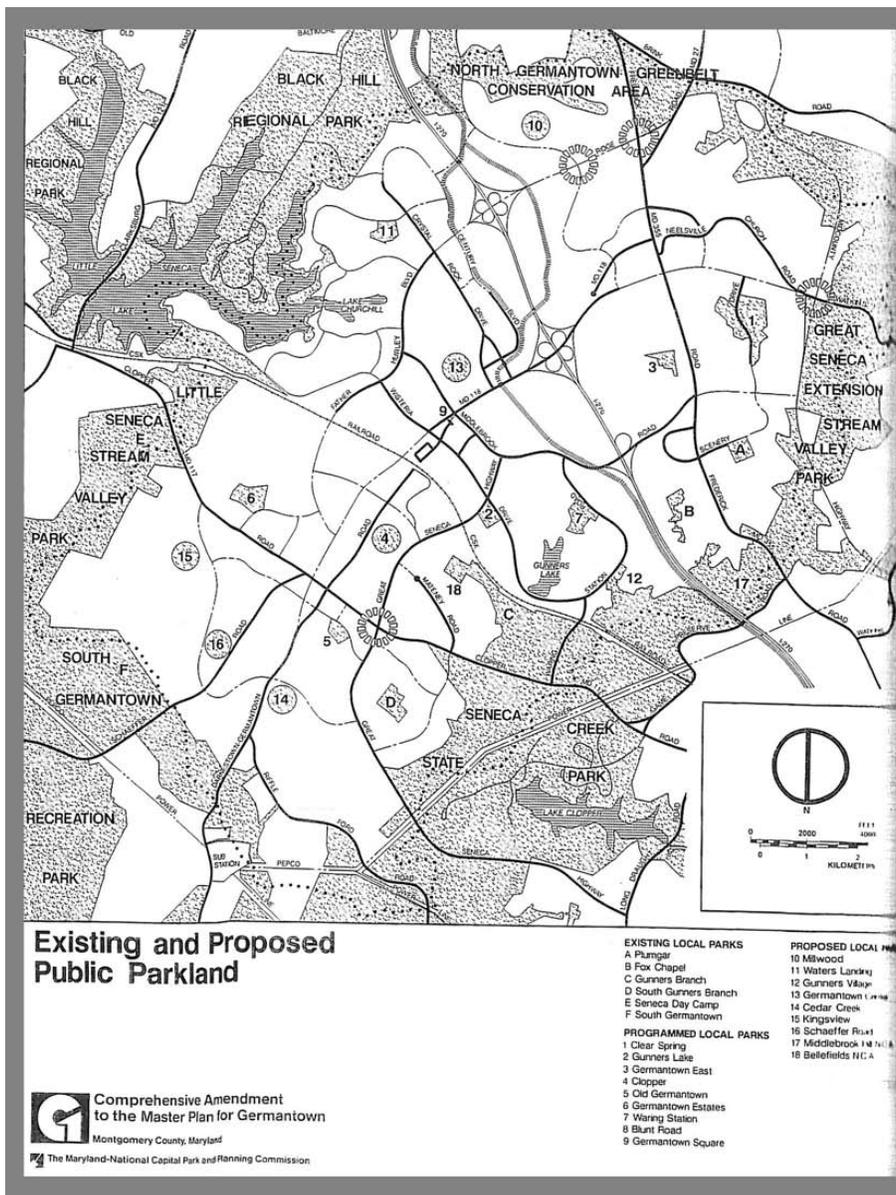
In May 2009 the Department of Parks began the process to select a consultant to assist with the development of the Facility Plan. LSG Landscape Architecture was chosen and brought under contract that August. The original request for proposals outlined a basic program of requirements (POR) that staff had already developed into four conceptual, illustrative schemes. This initial program provided a baseline of activities suitable for a local park, though the final POR would be developed with public input. The initial program included the following:

- recreational athletic fields (to serve soccer, softball, potentially cricket;)
- hard surfaced courts (skate spots, bocce, etc.)
- playground areas;
- sledding hill;
- pedestrian loop path system with exercise opportunities;
- focal areas for community gathering;
- community garden allotment space;
- informal open lawn;
- small dog park;
- landscaped areas;
- vehicular parking;
- trail connections to regional trails and greenways;
- pedestrian and vehicular connections to the surrounding area;
- storm water management facilities based on low-impact design (LID) principles;
- site furnishings and other visitor amenities.

During the Project Initiation stage, the LSG team provided a site survey, undertook a geotechnical analysis, conducted an initial analysis of the site and developed an NRI/FSD. One public meeting was held during this phase on February 18, 2009. The design team presented basic analysis information about the existing site. Using smaller breakout groups, the public provided input on what program elements they would like to have included in the park. A full discussion of this effort is described later in this document. In a series of working meetings following this meeting, staff and consultants developed the recommended POR.

During the Alternatives Development Stage, staff and consultants developed four alternative park designs, incorporating a range of the design elements suggested by the public in February. Staff and consultants presented the alternatives to the community on February 9, 2011. The schemes were subsequently uploaded to the project website and community preferences solicited.

Over the following spring, the design team consolidated community and staff input into a final recommended scheme. This recommended plan and its elements were again reviewed in a series of Planning, Design, Construction, and Operations (PDCO) team meetings. Also during this phase, the NRI/FSD and a storm water management concept plan were developed. In the summer of 2011, the design team was authorized to prepare the facility plan documents to be presented for Parks Board approval in early fall 2011.



Germantown Master Plan excerpt

3. PLANNING DOCUMENT RECOMMENDATIONS

Planning recommendations for Seneca Crossing Local Park are found in both Department of Planning and Department of Parks adopted plans and studies. The park site is located in the Germantown planning area under the Department of Planning and in the North Central Planning Area under Montgomery County Parks. Development of the park site is in accordance with an approved site plan approved by the adjacent residential community. The creation of a local park in this location is also supported by land use recommendations in the Germantown Master Plan. Approved recreational facilities that would typically be provided in a local park include large rectangular fields (including cricket fields), hard-surfaced trails, picnic areas, skate parks, dog

exercise areas and community gardens. It was determined that within Germantown and nearby areas (the I-270 corridor, Clarksburg, Damascus, Goshen, Gaithersburg), large and small rectangular fields, large diamond fields, cricket pitches and playgrounds are needed.

Germantown Master Plan.

The Seneca Crossing Local Park site is located within the geographic area covered by the approved 1989 *Germantown Master Plan*, and is just outside of the 2009 *Germantown Employment Area Sector Plan*. The 1989 Plan recommended the acquisition of land for the development of new local parks. The site is within the area noted as the “North Germantown Greenbelt Conservation Area.” The greenbelt is intended to “provide an effective visual and physical border which establishes the edges of the Ger-

mantown community.” The greenbelt’s primary purpose is to protect stream valleys, steep slopes and forests surrounding Germantown, while providing locations for active recreational facilities. No specific development recommendations were made for the active recreational facilities in the 1989 plan however.

Other Governing Plans

Across the frontage of the site, a portion of the planned SR-62 Sundown Road/Brink Road Bikeway is planned. This is recommended on the Countywide Bikeways Functional Master Plan.

Land Preservation, Parks, and Recreation Plan (LPPRP) 2005

Recreational needs assessments from the 2005 LPPRP Plan confirm previous projections of the 1998 PROS Plan and provide more specific information for projections to the year 2020. Current information regarding county-wide needs indicates that there will be a deficit of a number of recreation elements considered as potential uses in Seneca Crossing Local Park. These include a need for large, multi-purpose rectangular fields, hard-surface trails, picnic areas, skate parks, and dog exercise areas by the year 2020. Other facilities in demand that were not evaluated in the LPPRP, but which were evaluated in the facility plan process include cricket pitches, volleyball courts, and community gardens. The data for service area needs of Germantown, the I-270 Corridor service area, Clarksburg, Damascus, Goshen, and Gaithersburg, further indicates that there will be a deficit of: 2.7 large multi-purpose rectangular fields in Germantown and 19.4 in the I-270 Corridor, representing the greatest area demand for a specific recreational facility. The data also indicates by 2020 there will be need in the service area for: 0.7 small rectangular fields within the Germantown Planning Area and 9.7 fields in the I-270 Corridor, as well as for playgrounds.

Seneca Crossing is classified as a local park in the *Land Preservation Parks and Recreation Plan* (LPPRP) planning document. Local parks are defined as follows:

Local parks provide both programmed and informal recreation opportunities within reach of all area residents. Typically about ten to fifteen acres in size, these parks contain athletic fields, tennis and basketball courts, picnic and playground areas, and sometimes recreation buildings and other facilities. The major difference between neighborhood and local parks is that the local parks provide regulation size athletic fields that can be reserved for game play. Over 40% of the people visiting local

parks in 1996 were either league players or league game spectators. Ballplayers attend games on fields near their homes, or travel to other parts of the County to challenge opposing teams. Therefore local parks often have large service areas. Many people drive to local parks, while many neighborhood parks are within walking distance.

The *Vision 2030* plan further describes the service area of local parks as principally serving a one-quarter mile radius, or those users who can be expected to walk to the park, and a larger catchment area of a one-mile radius, including users who arrive by other means. Due to the location and size of Seneca Crossing Local Park, and its proximity to I-270 (1.5 miles to the west), it may also satisfy some county-based needs as well. Specifically, it may serve future residents of the Germantown planning area. When looking at planning area needs, the park user radius may often overlap with portions of adjacent planning areas. This local park, for example, is located within the Germantown Master Plan area and could potentially serve users from the adjacent areas of Goshen, Gaithersburg, Clarksburg, and Damascus.

Vision 2030

Beginning in 2010, Montgomery County Parks and Montgomery County Department of Recreation began a joint planning effort for providing future park and recreation services. The process included extensive surveys, focus groups and other means to understand user preferences, as well as research on changing demographics and a census of existing facilities. Planners also modeled levels of service (LOS) for key recreational activities or facilities throughout the county.

While some public input generally stressed the need to improve existing facilities over implementing new ones, other feedback strongly supported the implementation of new program elements to be added to local parks. Many of these desired program elements are incorporated in the Program of Requirements (POR) for Seneca Crossing Local Park. Specifically, the survey respondents most strongly preferred paved or natural surface walking trails, playgrounds and natural areas, all of which are recommended to be included in the final Seneca Crossing Local Park Facility Plan.

Park User Satisfaction Survey (2003)

The Commission completed an extensive county-wide ‘Park User Satisfaction Survey’ in 2003, in response to significant changes in the Montgomery County population. The goal of the survey was to study how well the Parks System was meeting residents recreational and open space needs as well as determine their satisfaction level with the quality and maintenance of current facilities. The

Facility Plan Report

2003 User Survey substantiates the widespread use and demand for certain local park facilities. Some of the most popular and needed features countywide, included soccer fields, paved trails, natural areas, playgrounds, picnic facilities, and garden-like features. Again, all of these facilities were considered for inclusion during the development of the Program of Requirements for Seneca Crossing Local Park.

The Approved Site Plan #8-91013

A grading plan for the future park site was prepared in conjunction with the development plans for the adjacent Cedar Valley residential community. The developer was required to grade the site for future park development, based upon a conceptual grading plan developed by M-NCPPC. The park property was graded to create two



Seneca Crossing Local Park

rectangular areas, suitable for athletic fields, in the eastern portion of the park, and a small softball field in the western portion. The east fields flanked a large open area for unprogrammed play. In addition, the plans called for a 150-foot wide afforestation area along the southern property line, on the eastern portion of the site, as a buffer to planned residential lots. The afforestation buffer area

preceded the implementation of the Maryland Forest Conservation law, and no conservation easement was placed over the planted area (which included storm water management facilities). Unfortunately, at this time, much of the buffer planting is no longer existing.



4. DEMOGRAPHICS + AREA FACILITIES

Demographics and Population Trends

The 2010 census results show Germantown as the fastest growing area in Montgomery County, adding 19,955 residents since the 2000 census. Germantown now has a population of 86,395, making it one of the three largest population centers in the County. The Vision 2030 plan included key updated demographic data, although it divided the County into larger planning areas. The north central area, including Germantown, is anticipated to have the highest rate of growth, (30.6%) by the year 2030. Combined with prior statistics in the 2005 U.S. Census update, census results describe an area composed largely of families with two working spouses, commuting by vehicle to workplaces usually in Montgomery County. Similar to other parts of the County, Germantown is relatively affluent and well educated.

Key demographic characteristics in the provision of out-

door recreation facilities include age and cultural background. Athletic fields have the highest appeal to young to middle aged population segments, while loop trails and walking paths appeal to all, but particularly to older users. Cultural background, including country of origin, can play an important part in expectations concerning types of recreation. According to Vision 2030, 33.5 percent in the North Central sub-area are foreign born, and within Germantown, 12.4% speak English not very well and 40.3% speak a language other than English. Thus, for example, the high degree of interest expressed in cricket at the first public meeting should not be unexpected as the County's diverse population desires culturally familiar recreational pursuits.

Between 2000 and 2010, the number of Germantown residents under age 18 grew by 21.2%, while the number over 18 grew by 33.7%. In the same period, countywide, the changes were 5.3% and 13.3%. The following chart summarizes recent trends in population age:

Age Range	North Central Area (Vision 2030)	Germantown (2005 U.S. Census update)
0 - 4	8.5	8.5
5 - 17	17.5	20.4
18 - 29	15.0	14.3
30 - 44	24.0	29.1
45 - 64	26.5	23.4
65 and over	8.5	4.2

Area Demographics

Seneca Crossing Local Park

Area Facilities

Seneca Crossing Local Park is a transitional space located between the I-270 Corridor, surrounded largely by suburban land uses, and the pastoral character of the Agricultural and Rural Open Space. Existing nearby facilities to the west and I-270 include the Neelsville Village and Milestone Shopping areas, Milestone residential area, and Ridge Road Recreational Park. All Souls Cemetery, King Farm/Butler's Orchard, and the Brink Meadow residential area are to the north. South of the site are the Cedar Valley residential development with community playground, recreation area, and wetlands interpretive area, the Dr. Sally Ride Elementary School and the Strathford Knolls residential development.

A ring of almost 2,000 acres of M-NCPPC parkland surrounds the Germantown area. Of these, approximately 300 acres (15%) are local or smaller parks, and 1,700 acres (85%) are conservation, stream valley, regional, and recreational parks. Two thirds of the natural stream valley and regional parkland will remain undeveloped, and much of it extends well into adjacent planning areas. These areas are further complimented by State-owned parkland such as Seneca State Park and stream valley land to the south. There are 10.4 miles of natural surface stream valley trails in proximity to Seneca Crossing Local Park and nearby communities. They include: the Seneca Creek Greenway Trail (7.1 miles from Lower Magruder Trail to Seneca Creek State Park); and the Lower Magruder Trail (3.3 miles from Watkins Road to the Magruder Branch hard-surface trail that extends for 4 more miles).



Aerial View of site and adjacent facilities

5. PROGRAM OF REQUIREMENTS

M-NCPPC staff defined a preliminary program of requirements (POR) for consideration in the planning and design of Seneca Crossing Local Park based on typical local park facilities, area needs, nearby facilities, and site character. A summary of this is found in part 2 of this document. These project elements were later refined during the facility planning process in preparation of a preferred plan. The project team – consultants and staff – jointly developed the following Program of Requirements following early public input and a review of applicable planning guidelines and standards. It was summarized as part of the February 2011 public presentation.

The complete POR is listed below, including some items considered in alternatives presented to the public, but later eliminated from the final preferred scheme. Explanations of public input are included in part 8 of this document.

Potential Program Element	Description & Dimensions	Quantity to include in Seneca LP	Space Required (min area)	Criteria for Inclusion		
				Published Standards & Area Needs	Public Meeting Input	Written Public Input (petitions, letters, emails, neighborhood-created survey)
Trails						
Neighborhood Access	Pedestrian walkway from park to adjacent neighborhood	Yes, an access walk from Seneca Crossing drive will be provided	varies		No pedestrian connection to the neighborhood, along with the related issue of discouraging parking in the neighborhood, was ranked in the top five desired program elements by 4 of 5 participant groups at Community Meeting #1	Pedestrian access from the neighborhood was not listed on the neighborhood survey, but several respondents added comments that they opposed it or strongly disapproved of it. One written comment in favor of no neighborhood access was received by MNCPPC.
Internal Pedestrian Circulation	6' - 8' wide paved internal walkways	Yes	varies		Ranked in top five desired program elements by 4 of 5 participant groups at Community Meeting #1	No written input was received.
Natural Surface Trails	4' - 6' wide mulch or stone	Yes, locations to be determined	varies		Ranked in top five desired program elements by 4 of 5 participant groups at Community Meeting #1	71% of Cedar Valley residents who submitted survey approved of trails, bike paths, and/or reforestation. No other written input was received.
Class I Shared Use Trail	8' - 12' wide concrete or asphalt paved path designed for off-road non-motorized transportation. 10' wide and within park limits preferred.	Yes	2,320 lf	Portion of planned SR-62 Sundown Road/ Brink Road Bikeway on Countywide Bikeways Functional Master Plan.	Not ranked in top five elements.	No written input was received.
Sports Fields and Courts						
Cricket Field	Natural turf oval: typically 450' – 480' in diameter with longer side increased by length of pitch (66') in center. Seneca site can only fit a 300' x 450' oval that may serve youth and local games and practices.	No, site unable to accommodate full-sized field, although larger rectangular field may be used for practice	4.3 - 6 acres	Not evaluated in LP-PRP/2005 because none exist. Qualifies as a large active recreational field, mentioned in developer's approved site plan. Could be a permitted field, which are typically included in local parks.	Highest ranked element by every participant group at Community Meeting #1	92% of Cedar Valley residents who submitted surveys disapproved. MNCPPC received 5 emails / letters in favor of a cricket field, as well as two petitions signed by a total of 115 County residents.

Seneca Crossing Local Park

Potential Program Element	Description & Dimensions	Quantity to include in Seneca LP	Space Required (min area)	Criteria for Inclusion		
				Published Standards & Area Needs	Public Meeting Input	Written Public Input (petitions, letters, emails, neighborhood-created survey)
Multipurpose Rectangular Sports Field (Soccer; Rugby; Football; Field Hockey; Lacrosse)	Full size, natural turf field: 120 yd (360 feet) x 80 yd (240 feet), plus 5 yard (15 feet) overrun on each side. This size can accommodate tournament play or be divided in two for youth leagues.	2	2.3 acres per full-sized field	LPPRP/2005 calls for one large field on Seneca Crossing Local Park. Per LPPRP/2005, Germantown Planning Area needs 8.7 fields. Four active recreation areas, two of these soccer, included in developer's approved site plan. Park Planning and Stewardship recommends inclusion of a large rectangular field wherever possible.	A rugby field was ranked in top five desired program elements by 3 of 5 participant groups at Community Meeting #1. A multipurpose rectangular field was ranked in top five elements by 1 of 5 groups.	78% of fifty Cedar Valley residents who submitted survey disapproved. No other written input was received.
Tennis Courts	Paved, 64 feet x 124 feet (single court). Group of 4 to 6 courts is preferred.	No	.18 acres per court	Not needed per LPPRP/2005. One court is provided at Ridge Road park.	Ranked in top five desired program elements by 4 of 5 participant groups at Community Meeting #1	44% of Cedar Valley residents who submitted survey disapproved, 30% approved, and 26% had no opinion. MNCPPC received two written comments in favor of tennis courts.
Baseball/ Softball	Sizes vary per use/age of participants	No	varies	Area for small softball/baseball field shown on original site plan, but currently not needed per LPPRP/2005.	One of 5 participant groups at Community Meeting #1 included "No baseball" in the top five desired program elements.	One survey respondent was strongly in favor of a baseball field. No other written comments were received.
Volleyball	Sand/turf, 50 feet x 80 feet	4	.1 acres	Not needed per LPPRP/2005.	Multiple participants at Public Meeting #2 requested volleyball be included.	Not mentioned on survey. MNCPPC received one written comment in favor of a volleyball court.
Basketball Court	Paved, 56 feet x 92 feet	No	.12 acres	Not needed per LPPRP/2005 and Park Planning & Stewardship. Two being added now at Ridge Road Recreational Park. Two exist now on Homeowners' Association land south of elementary school.	An indoor court was ranked in top five desired program elements by 1 of 5 participant groups at Community Meeting #1.	77% of Cedar Valley residents who submitted survey disapproved. No other written input was received.
Recreation/Fitness						
Playground Multi-aged	Separate play areas for different age groups (tots, older)	2 separate play areas	.25 - 1 acre	LPPRP/2005 identified need for 6 additional playgrounds in Germantown Planning Area. Playgrounds are typically provided in Local Parks.	Ranked in top five desired program elements by 2 of 5 participant groups at Community Meeting #1	41% of Cedar Valley residents who submitted survey approved, 35% disapproved, and 24% had no opinion. MNCPPC received two written comments in favor of playgrounds.
Skate Park or Skate Spots	Specifically designed skating environment containing ramps, quarter and half pipes, or other sculpted forms for skate boarding, roller blading, etc. Skate spots are smaller groupings of obstacles, without the typical fenced enclosure.	Yes	.1 - 1 acre	LPPRP/2005 identified countywide need for 15 additional skate parks by 2020. Park Planning & Stewardship recommends consideration.	Ranked in top five desired program elements by 1 of 5 participant groups at Community Meeting #1.	This element was not listed in the survey, but one respondent noted their strong approval. Letters and emails in favor were received from 9 other community members.

Facility Plan Report

Potential Program Element	Description & Dimensions	Quantity to include in Seneca LP	Space Required (min area)	Criteria for Inclusion		
				Published Standards & Area Needs	Public Meeting Input	Written Public Input (petitions, letters, emails, neighborhood-created survey)
Sledding Hill	Open sloped lawn, sloping 10% to 45%; 30% slope preferred; north-northeast orientation	No, slope with best gradient faces south; other slopes programmed for reforestation	.5 acre	Not mentioned by LPPRP/2005.	Not ranked in top five elements.	Not requested.
Fitness Stations	Exercise station located along pedestrian walkway or trail	Yes	Stations can be grouped, or spread out along >= .5 mile trail.	Germantown demographics include increasing number of residents over age 55.	Not ranked in top five elements.	Not requested.
Passive Recreation Uses						
Community Garden	Level or terraced plots, typical size 15' x 20', minimum 50 to 100 plots, arranged along paved walks, with available potable water. Requires parking access, deer protection fence and potable water.	Area dedicated to volleyball on preferred plan may be reprogrammed to this use at a later date if necessary	varies		Not ranked in top five elements.	52% of Cedar Valley residents who submitted surveys approved, 29% disapproved, and 19% had no opinion. However, parking is required and 56% of survey replies do not want parking.
Picnic Areas and Shelters	different types: permitted shelters or central gathering places	three shelters will be provided	varies	LPPRP/2005 identified countywide need for 21 additional permitted shelters. Park Planning & Stewardship recommends incorporation of a non-permitted central gathering place. Included in "General Park Needs" in draft Germantown Master Plan	Shelters were included in the group of facilities that made up one of the top five desired program elements desired by 1 of 5 participant groups at Community Meeting #1.	50% of Cedar Valley residents who submitted surveys approved, 30% approved, and 20% had no opinion.
Unprogrammed Open Space - Open Lawn	Open lawn graded for informal use	yes	varies; 1 - 2 acres open lawn necessary for informal sports play		Ranked in top five desired program elements by 1 of 5 participant groups at Community Meeting #1.	No written input was received.
Unprogrammed Open Space - Forest Cover or Heavily landscaped	Created forest areas	yes	Afforestation or reforestation must be a minimum of 10,000 sf and 50 feet wide varies	Local parks (unless solely for reforestation or passive use) usually provide active recreation features. Developer's approved site plan designates specific areas for buffer/reforestation. Developer's approved site plan designates specific areas for buffer/reforestation; 150' wide along back of site.	Ranked in top five desired program elements by 3 of 5 participant groups at Community Meeting #1	71% of Cedar Valley residents who submitted surveys approved of reforestation in conjunction with trails or bike paths. 76% of residents approved of reforestation independent of other elements.
Buffers	Bermed and/or landscaped areas separating park from adjacent houses or uses, typically 150 feet in width per approved site plan.	yes			Ranked in top five desired program elements by 2 of 5 participant groups at Community Meeting #1	One written comment in favor of a landscape buffer was received.

Seneca Crossing Local Park

Potential Program Element	Description & Dimensions	Quantity to include in Seneca LP	Space Required (min area)	Criteria for Inclusion		
				Published Standards & Area Needs	Public Meeting Input	Written Public Input (petitions, letters, emails, neighborhood-created survey)
Dog Park	Fenced area, double gate, primarily crushed stone surface (decomposed granite), shaded perimeter, and benches. related amenities	No	.5 acre to 1 acre	Not mentioned by LPPRP/2005.	Not ranked in top five elements.	Not listed on survey. 3 written requests for a dog park.
Landscaped and or focal point areas	Unique landforms or other memorable landscape features such as art work etc.	yes	varies	Not mentioned by LPPRP/2005.	Not ranked in top five elements.	No written input was received.
Interpretive Signage and Exhibits	Graphic panels	Message and location will be identified at final design	varies	Not mentioned by LPPRP/2005.	Not ranked in top five elements.	No written input was received.
Visitor Amenities	Benches, trash receptacles, kiosks, etc.	yes	varies	Not mentioned by LPPRP/2005.	Spectator seating and drinking fountains were included in the group of facilities that made up one of the top five desired program elements desired by 1 of 5 participant groups at Community Meeting #1.	Not mentioned on survey. MNCPPC received two written comments in favor of "restrooms and amenities".
Services						
Restrooms	May consider smaller facility with self-composting toilets (if DPS approves). May include amenity in combination with a picnic shelter.	areas shall be designated for portable restrooms	less than 0.1 acre	Restrooms in permanent structures are not typically provided in Local Parks. Porta-johns have been typically included with fields.	Ranked in top five desired program elements by 3 of 5 participant groups at Community Meeting #1	54% of Cedar Valley residents who submitted survey disapproved; 36% approved, and 12% had no opinion. MNCPPC received two written comments in favor of "restrooms and amenities".
Parking	Parking typically provided at 50-70 spaces per recreation field depending on field type, size, use, and other park features; includes additional spaces for other specific facility uses.	yes. P	varies	Not covered by LPPRP/2005.	Providing adequate on-site parking and discouraging parking in the neighborhood were ranked in the top five desired program elements by 4 of 5 participant groups at Community Meeting #1.	56% of Cedar Valley residents who submitted survey disapproved of a parking lot for 25 to 100 vehicles; and 30% approved of a lot. 50% of residents preferred no parking at all, while 24% disapproved of no parking.

Facility Plan Report

Potential Program Element	Description & Dimensions	Quantity to include in Seneca LP	Space Required (min area)	Criteria for Inclusion		
				Published Standards & Area Needs	Public Meeting Input	Written Public Input (petitions, letters, emails, neighborhood-created survey)
Maintenance Access	10 feet wide, minimum, where not otherwise provided by trail or other driveway	yes	varies	Not covered by LP-PRP/2005.		
Storm Water Management	Preference for Environmental Site Design (ESD) based solutions, including swales, bioretention, pervious pavement, etc.	yes	varies	Included in "General Park Needs" in draft Germantown Master Plan		
Lighting	Sports field lighting and parking lot and pedestrian area lighting	no		Local parks are for day-use only. Lighted sports fields NOT typically provided in Local Parks and other lighting not typically provided.	Not ranked in top five elements.	No written input was received.

Notes:

Community input was provided in the form of:

- Rankings generated by breakout groups at Community Meeting #1. The five highest ranked program elements, as rated by participants, are noted as such above. For complete rankings see Appendix.
- Comments received by M-NCPPC Parks Department before and after the meeting via emails and written input received. Program elements that received ten or more written comments have been noted as such. Written comments are included in the Appendix
- Replies to a survey created independently by a resident of Cedar Valley, and provided to Montgomery County Parks following Meeting #1.



6. EXISTING CONDITIONS

Natural Features

The property, including both portions on either side of Seneca Crossing Drive, is approximately 2,320 feet in length and 480 feet in depth. A narrow strip of land approximately 70 feet wide extends south from the site's eastern edge and buffers the Cedar Valley from the planned extension of Mid-County Highway (Maryland Route 83). The total site is 27.8 acres. The larger area currently includes engineered plateaus that form relatively level open spaces divided by wide sloped drainage-ways and storm water management features. The side slopes of these plateaus are generally steep – 25% or greater in some instances. The high point of the site is approximately elevation 624, at the north-west corner of the site at the intersection of Ridge Road and Brinks Road. The low point, approximately elevation 530, is at the outfall of the site on its south boundary with Cedar Valley. The majority of this large area of the park is currently devoid of trees and covered by grasses that are mowed once per year. The smaller western area of the park is separated by the entrance road to Cedar Valley, and is also maintained in annually mowed grasses.





An NRI-FSD was completed for the site in early 2010. There are no floodplain areas or non-tidal wetlands within the park boundary. Non-tidal wetlands exist within nearby parklands of the North Germantown Greenway, located farther south of the park site in the adjacent neighborhood area. The Seneca Crossing regional storm water management pond facility is also located to the south of the park.

The existing reforestation areas were designated in the approved Site Plan and included approximately 9.5 acres, or 34% of the site, with approximately 6 acres in the larger portion of the park and 3.5 acres over near Ridge Road in the smaller park area. Some of these slopes were designated as reforestation areas in the original site and planted accordingly, however these plantings are currently in poor condition and are competing with invasive vegetation. Much of these areas are covered in callery pear (*Pyrus calleryana*), tree of heaven (*Ailanthus altissima*), mimosa (*Albizia julibrissin*), and Japanese honeysuckle (*Lonicera japonica*). No significant trees exhibiting a diameter at breast height (DBH) of 24.0 inches or greater were found on site. The forest stand delineation (FSD) identified one forest stand on site, approximately 2.19 acres in

size, located on a steep slope southeast and adjacent to the Ridge Road/Brink Road intersection. This poor condition, early successional stand is dominated by largely dead or dying green ash (*Fraxinus pensylvanica*) and Northern red oak (*Quercus rubra*), which appear to be planted stock from the original reforestation effort. Due to steep slopes, it was given a retention priority of 1.

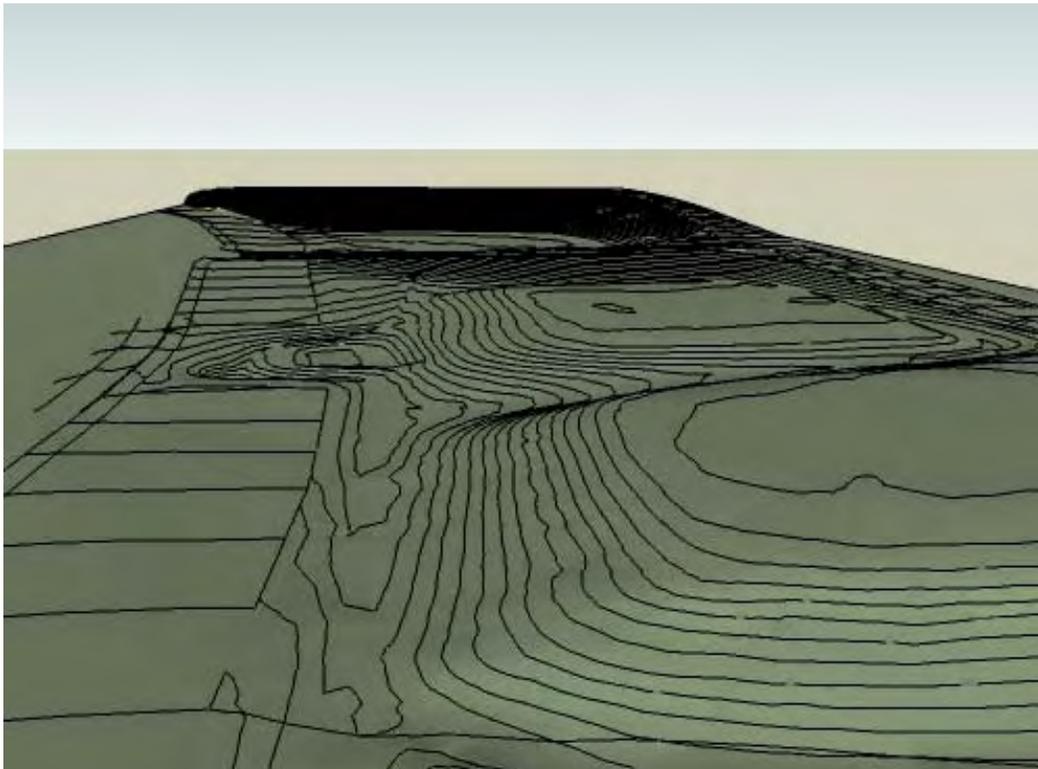
As part of the facility plan, a geotechnical study was completed, including nine soil borings and five infiltration tests. Bedrock was not encountered in the 20-foot depth of the borings, and ground water was only found in one location, at the south side of the smaller western portion of the site, to a depth of 8 feet. Infiltration rates at tested locations were within suitable range except for one test hole where groundwater had been encountered. The major finding of the geotechnical study was the near absence of topsoil, which measured from 0 inches to 1.5 inches. Soil chemistry was tested, with soil pH varying from 5.39 to 7.98. As part of site development as a park, additional topsoil will need to be imported or existing topsoil amended with additional organic material and soil chemistry adjusted.

Seneca Crossing Local Park



Site topography

TOPOGRAPHY



View from east boundary, looking west



Transportation and Access

Existing and planned public roads will provide good vehicular access to the park, which is located off of Maryland Route 27, 1.5 miles northeast of I-270. The northern length of the park extends along Brink Road just east of its intersection with Ridge Road (Maryland Route 27). The western portion of the park abuts the southeast corner of this signalized intersection. The future extension of Mid-County Highway (Maryland Route 83) is planned to traverse along the eastern boundary of the park. While the western park boundary is at a significantly lower elevation than adjacent roads, the main park frontage with Brink Road is relatively even with roadway grades. Existing curb and gutter and public storm drains capture runoff from Brink Road.

The primary vehicular access point(s) into the park are planned to be from Brink Road at midpoint locations where fill grading and a piped drainage swale have been installed on parkland and where median breaks have also been placed. An additional lane has been paved along Brink Road in front of the larger expanse of the park that will serve as an entrance/exit lane for future vehicular access. The planning team contacted Montgomery County Department of Transportation (MCDOT) to review proposed

access points. MCDOT approved the use of both existing curb cuts on Brink Road, without need for the construction of acceleration or deceleration lanes. They also approved a location for an entrance into the smaller western park parcel, off Seneca Crossing Drive, but approximately 100 feet south of the existing curb cut.

Pedestrian access to the park is provided by existing sidewalks along alternating sides of Brink Road and on both sides of Ridge Road (toward Milestone), Seneca Crossing Drive, and the neighborhood roads of the Cedar Valley development. A master planned bikeway connector is indicated from the future Mid-County Highway corridor, along the northern edge of the park nearest Brink Road, across Ridge Road at the Brink Road lighted intersection, through Ridge Road Recreational Park, and continuing westward to the Black Hill Greenway. There are existing hard-surface paths along Route 27, from Route 355 to Brink Road; through Ridge Road Recreational Park; and along Route 355 north of the Route 27 intersection. Seneca Crossing park trails and connections should have a direct relationship to the master planned bikeway and other existing and proposed paths and sidewalks in the area.

7. ALTERNATIVE PLANS CONSIDERED

Prior to the second public meeting, the design team developed four alternative schemes that sought to balance the implementation of the POR with the possibilities and limitations of the Seneca Crossing Park site. Schemes were designed to test each of the potential program elements in different combinations so that the public could explore relative preferences for park program elements. Schemes were presented at the second meeting and posted to the project web site to encourage and collect additional input from the community. A compilation of comments received on the schemes is included in Appendix D: Community Input.

Scheme 1

The design for scheme 1 is divided into four primary areas, the first of which is the area east of Seneca Crossing. This area consists of a large, circular shaped open lawn. This space could be used for a variety of informal activities to include Frisbee, bocce ball and other games, reading, picnicking, and other leisure activities. Completing the circular shape formed by the lawn, is an adjacent tot lot and playground, which provides a consolidated area for families with multiple children of different ages 2-12 to play in one area. A small parking lot, accessed from Seneca Crossing Road, contains 15 parking spaces and services this portion of the site. Between this small parking lot and play

areas is a small gazebo that offers shade and seating for picnicking or parents watching small children play.

To the west of Seneca Crossing Road are the 3 other primary areas. The first is a large rectangular sports field, 330 feet by 210 feet in size, which could be used for a variety of field sports. A large gazebo, adjacent to the field offers opportunities for small gatherings, reading or picnicking. There is a second large oval shaped sports field west of Seneca Crossing Road that is designed to accommodate cricket, although the width of the field prevents it from serving as other than a practice facility. It will also accommodate soccer or other rectangular field sports, however. Both fields are oriented approximately east-west, fitting



January 27, 2011



SENECA CROSSING
SITE PLAN - SCHEME 1



Facility Plan Report

comfortably into the shape of the parcel, but yielding less than optimal orientation for later afternoon play.

A second large gazebo is located at the cricket field. In between both fields is a large, arc-shaped parking area, accessed from Brink Road providing 143 parking spaces. The parking lot is accessed in two locations from Brink Road. Situated between the parking lot and Brink Road is a 10,000 square foot skate spot for skateboarders. Enclosing each sports field is a paved path for walking, jogging or bike riding. The two paths connect adjacent to the parking lot where two fitness stations can be found. In addition, the path extends north, to link with the pedestrian sidewalk along Brink Road.

Throughout the entire site, multiple bioretention ponds and rain gardens are included to capture and infiltrate stormwater. Two of these bioretention areas are centrally located within each of the two parking areas and can accommodate all of the stormwater runoff from those paved surfaces. Also throughout the entire site are large areas of proposed reforestation, the widest of which can be found as a buffer between the park and the adjacent Seneca Forest Circle neighborhood. The reforested areas contain a combination of large native shade trees and some mixed evergreen species.



Seneca Crossing Local Park

Scheme 2

Similar to scheme 1, scheme 2 has a circular shaped lawn area, play area and small circular shaped parking lot west of Seneca Crossing Road. However in this scheme, the lawn is only half the circular shape, with the balance dedicated to community garden plots. The play area is reduced in size slightly, and the parking lot increases from 15 to 20 parking spaces. The small gazebo adjacent to the play area is proposed similar to scheme 1, however two additional picnic shelters are proposed for this area. One is within the center of the circle, between the lawn and community garden plots, and the other, on the southwest side of the circle. Water would be provided for garden use.

A second large unprogrammed lawn space, roughly 250 feet by 280 feet is located to the east of Seneca Crossing Drive. This space could be used for a variety of informal activities, such as pick-up ball games, Frisbee or picnicking. Adjacent to the lawn space is a second play area, roughly equal in size to the play area on the west side of Brink Road. A large gazebo is located nearby the play area. To the east of the open lawn space is a large parking area. This parking lot, accessed in a single location off Brink Road, can accommodate 160 cars, and is the largest park-

ing lot of all 4 schemes. Between the parking lot and Brink Road is a 10,000 square foot skate park, comparable in size to the proposed skate spot in scheme 1. Further east of the skate rink and parking lot are two multi-purpose sport fields, both of which are 320 feet by 210 feet. These fields can accommodate a variety of sports and activities. The fields are oriented north – south, a more optimal arrangement, however this reduces the end-to-end length. In between the fields are two large shelters that can house restroom facilities or offer other accommodations such as shade and seating.

Similar to scheme 1, a paved multipurpose path surrounds the sport fields and parking area, although this path is approximately 30% longer than the path in scheme 1. The path also connects to the pedestrian sidewalk along Brink Road but in two places rather than one. There are also two proposed fitness stations located at the southern side of the parking lot, intended for users of the path. Also similar to scheme 1 are multiple bioretention areas and rain gardens throughout the site as well as proposed reforestation, the heaviest of which is located along the Seneca Forest Circle neighborhood in Cedar Valley.



January 27, 2011



SENECA CROSSING
SITE PLAN - SCHEME 2



Facility Plan Report



February 9, 2011



SENECA CROSSING PERSPECTIVES - SCHEME 2



Scheme 3

Similar to schemes 1 and 2, scheme 3 includes an unprogrammed lawn area for a variety of informal activities in the area west of Seneca Crossing Drive. This lawn space is smaller than the proposed lawn of this area in scheme 1. Part of the reduction in size is due to the two proposed tennis courts located at the northeast portion of the open lawn. A large play area sits between the tennis courts and a small parking area, which can accommodate 16 cars. There are two proposed shelters that can provide opportunities for shade and seating. One is situated near the tennis courts and the other close to the play area.

To the east of Seneca Crossing Road are two 360 foot by 220 foot multi-purpose sports fields and a centrally located large 142-space parking lot. The parking is accessed by a single entrance/exit, resulting in fewer vehicular pedestrian potential conflict points along the park's frontage. It also has the potential to entering and exiting during peak events, however. The layout of the field and parking is similar to scheme 1, however neither field has the width for practice cricket. There is also a skate park proposed between Brink Road and the parking lot. This skate spot is reduced in size by to less than 6,000 square feet. A sec-

ond play area is proposed between the parking lot and the western sports field. This play area can provide opportunities for parents with young children to wait while an older sibling has sports practice or games. Two large gazebos or shelters can offer shade, seating or other facilities to those using the sports fields.

Encircling the fields and parking lot is a multi-use paved path, similar in location to the proposed path of scheme 1. This path encircles each field and connects along the southern portion of the parking lot, which is the location of the two proposed fitness stations. A separate pedestrian only park entrance is proposed off Seneca Forest Circle, entering the park near the stormwater management area and crossing the low are in a boardwalk to connect to the main trail loop.

As with the previous schemes, bioretention areas and rain gardens are found throughout the site, notably within the central portion of the large parking area, and where possible, large portions of the entire site are proposed to be reforested with large deciduous shade trees and evergreen trees, creating a buffer between the park and the Cedar Valley neighborhood.



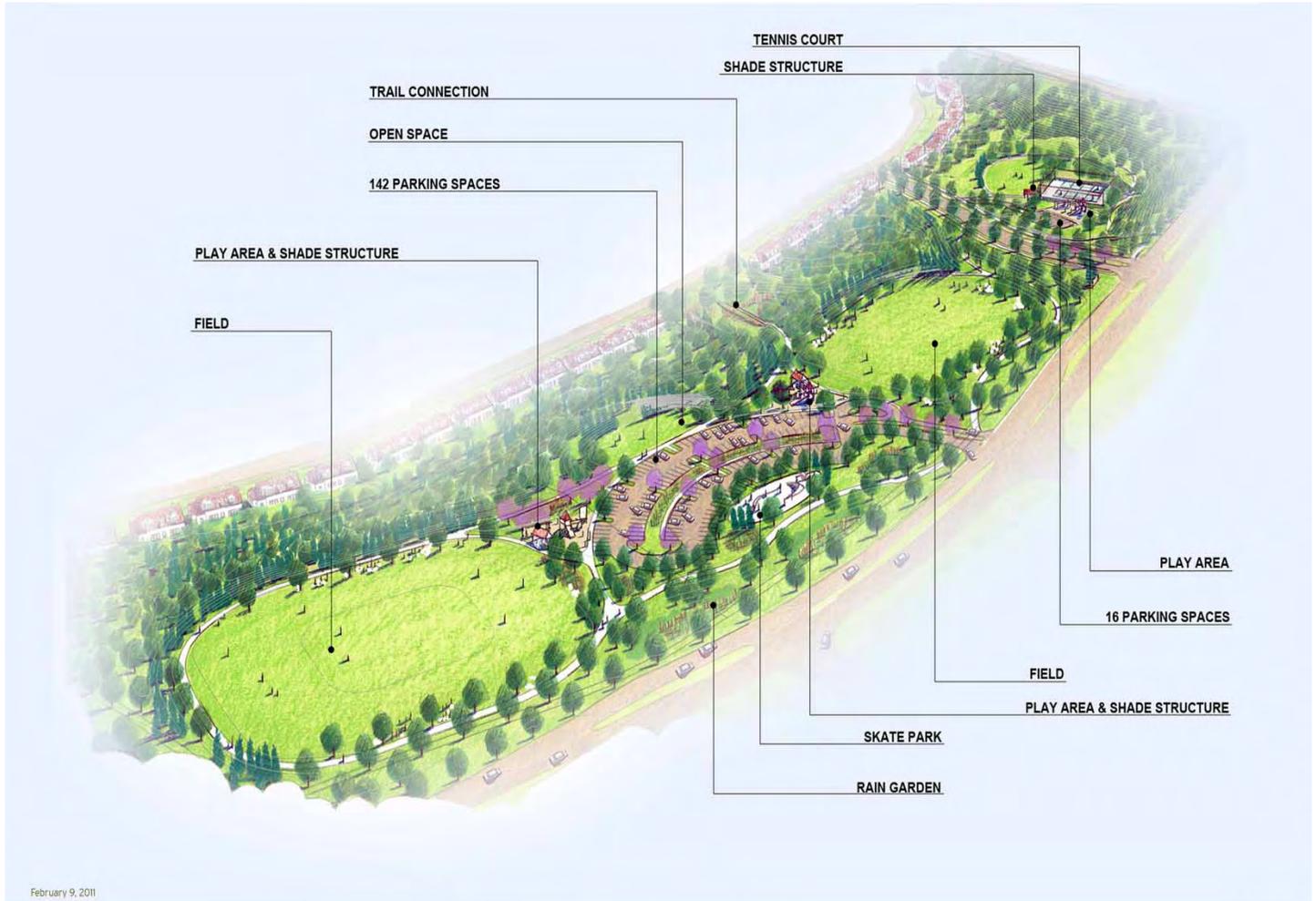
January 27, 2011



SENECA CROSSING
SITE PLAN - SCHEME 3



Facility Plan Report



February 9, 2011



SENECA CROSSING
PERSPECTIVES - SCHEME 3



Seneca Crossing Local Park

Scheme 4

Within scheme 4, the section west of Seneca Crossing Drive is similar to scheme 1, with a large curving open lawn space. This area is conceived of as primarily serving the local neighborhood, so both play areas serving both tots (less than 5 years old) and children (5 to 12 years old) are located here. A shade structure or gazebo is adjacent to the playground for parents to sit and watch small children play. Adjacent to this area is a small parking lot of 15 spaces, accessed from Seneca Crossing Road.

To the east of Seneca Crossing Drive is a 330 foot by 210 foot rectangular sized multipurpose sports field that can be used for a variety of sports and activities. Further east is a second sports field, this one sized to accommodate youth cricket games and practices as well as typical sports played on rectangular fields. In between the two fields is an elliptical open lawn space, approximately 120 feet by

230 feet. Between the open lawn and each of the sport fields is a proposed gazebo or shelter that will offer seating, picnic tables and shade to sports participants, spectators and other park visitors.

To the north of the oblong shaped open lawn is a 139 space parking lot. The parking lot connects to Brink Road in two locations. Encircling the sports fields and the open lawn is the paved multipurpose path. The path is similar in length and configuration as the path from scheme 1 and 3. Two fitness stations are located adjacent to the portion of the path that runs along the southern edge of the open lawn.

In keeping with the stormwater management strategies of the previous schemes, multiple small bioretention areas and rain gardens can be found throughout the site as well large areas of proposed reforestation, most notably along the Cedar Valley neighborhood.



January 27, 2011



SENECA CROSSING
SITE PLAN - SCHEME 4



Facility Plan Report



8. COMMUNITY OUTREACH

The Seneca Crossing Local Park facility planning process included a robust public participation effort that resulted in two extremely well attended work sessions and a significant volume of follow-up comments and messages. Feedback was sought in a structured manner during each of the two community meetings and used to craft the Program of Requirements, the initial four conceptual plans and the final preferred alternative. A final opportunity for public input will be provided when the facility plan is heard before the Planning Board in October 2011.

The public who attended the meetings represented a broad range of interests. They included curious neighborhood residents, concerned abutting property owners, organized advocates for specific sports (cricket and volleyball), and Germantown community members who used the forums to address broader community issues such as cut-through commuter traffic. Summaries of each of the public sessions follow.

Seneca Crossing Local Park Written Comments Received Before & After Public Meeting #1

Facility:	Number of requests:
<u>Tennis (4 – 6 courts)</u>	2
<u>Skate-park or Skate-spot</u>	9
<u>Dog-park Area</u>	2
<u>Pool</u>	1
<u>Playground</u>	1
<u>Recreation sports – league play</u>	1
<u>Cricket field</u>	4;
<u>Volleyball</u>	+ Petition/77 people; + Petition/38 people 1
<u>Include Parking</u>	1
<u>Include Restrooms and amenities</u>	1
<u>Place all facilities as close to Brink Rd as possible;</u> <u>Provide heavy buffer landscaping and plant soon</u>	1
<u>Do not provide a neighborhood path connection</u>	1
<u>Do Nothing – given very bad economy; especially do not include cricket; in favor of reforestation.</u>	5

Facility Plan Report

Seneca Crossing Local Park

Cedar Valley - Neighborhood Initiated Survey: Tabulations

Surveys received from addresses closest to park, and probably distributed to same:

50 surveys with name and/or address received (+ 9 surveys/ anonymous no name or address - not tabulated)

32= Seneca Forest Circle; 8= Virginia Pine Terr; 6= Settler's Circle; 2=Seneca Crossing Dr; 1= Hickory Forest Way; 1= Brink Road

Concern(s):

traffic, noise, crime, drugs, house depreciation, vandalism, loitering, rodents, water runoff, stream pollution

Proposed Park Use:	Strongly Approve	<<<	Indiffer-ent	>>>	Strongly Disapprove
<u>Regulation-size Cricket field including: batting cages, bathrooms, and sufficiently large parking space to have statewide tournaments</u>		1	3	4	43
<u>Football field/Soccer field (9:00-6:00 Sat-Sun) ie. Soccer-plex</u>	4	5	3	11	28
<u>Tennis courts</u> <i>(Note – tennis requests were for multiple courts)</i>	6	9	13	5	17
<u>Recreational sports league play (County, state)</u>	2	2	7	6	33
<u>Nature trail/walking trail/bike path/reforestation</u>	31	6	7	1	7
<u>Playground (aged 2-5 or aged 5-12)</u>	15	6	12	3	15
<u>Basketball</u>	5	2	4	7	30
<u>Parking Lot (25-100 vehicles)</u>	3	11	5	6	22
<u>No parking at all (therefore no league or spectator sports)</u>	25		7	2	10
<u>Picnic Area w/pavilions/barbeque pits</u>	6	8	9	4	19
<u>Community garden/ garden plots</u>	15	10	9	3	11
<u>Bathroom facilities/water fountains</u>	11	5	6	4	23
<u>Reforestation</u>	31	6	3	2	7
<u>Do nothing/ leave space as is</u>	25	7	6	5	7
Other facilities people added to neighborhood survey:					
<u>Neighborhood access</u> <i>(Note- many surveys also added comments, they did not want access from neighborhood)</i>					1
<u>Indoor/outdoor pool</u>	2				
<u>Skate-pipe or Skate-park</u>	1				
<u>Dog area</u>	1				
<u>Baseball field</u>	1				

**Note – survey does not include all facilities requested and does not portray all options fully (accurately)*

Seneca Crossing Local Park

First Public Meeting

Following the notice to proceed, initial site reconnaissance, and a meeting with PDCO team members, the project's first public meeting was scheduled for February 18, 2010 at 7 PM at the Upcounty Government Center. Staff introduced the project and the facility planning process, and then the consultant team presented existing features and conditions through photographs, analysis diagrams and summaries of completed NRI-FSD and other research. Attendees then participated in small group brainstorming sessions for approximately 20 minutes. Following that, the results of each group were shared with all participants, and staff and design team answered audience questions and recorded additional feedback. At the conclusion of the meeting, staff provided contact information so the public could continue to provide comments.

The brainstorming session employed the nominal group technique for small groups. Attendees were randomly divided into five groups and asked for their ideas concern-

ing what should be included in Seneca Crossing Local Park, and what issues should be addressed in the facility planning process. Responses were recorded on paper tablets at each group and discussed by small group members. After all participants had offered as many ideas as they wished, each group voted for the top ideas, using proportional voting, where participants each have a defined number of votes they can cast. A representative member from each group then summarized their group's preferences to the combined audience. The top five ideas or issues from each group are summarized below. In many instances, after the first three or four ideas, a cluster of ideas received the same ranking in importance. Ideas appear using the words their authors employed. A complete summary of the results is in the Appendix.

Group	Top idea	2nd	3rd	4th	5th
1	Cricket (not multi-purpose field)	Discourage parking in neighborhood	Tennis	Buffer landscaping between homes (lots)	multiple ideas - skate park, no pedestrian connection to neighborhood, no baseball, restroom, trails, no soccer,
2	Cricket field	Bike path/trail	Football field	Real rugby with real goal posts	multiple ideas - Tennis, landscape buffer, address speeding, parking
3	Cricket Field	Support Facilities for Field & Park (restrooms, vending machines, spectator seating, covered shelter, drinking fountain) pavilion & picnicking	Indoor Basketball	Adequate on-site parking – not on neighborhood streets (on Brink Road OK)	Tennis Courts
4	Cricket Field for team play – Teams from Mid-Atlantic Area - Cricket batting cages	Natural bike trails	natural tree area with walk	Rugby field	multiple ideas - nature oriented play, tennis court
5	Cricket Field: 150 yd. diameter; 30+ parking spaces; longest games are 4 hrs; Batting Cage – can be w/in field; Bleachers; Not multi-use field	No Park – undeveloped open space – mowed	Walking/bike trails – soft surface	Rugby Field – rectangular field – could be multi-use	Discourage parking in the neighborhood and access to the park from the neighborhood

Facility Plan Report

Questions raised at the conclusion of the meeting mirrored concerns raised independently in the break-out groups, including the issue of neighborhood traffic and general questions on the overall schedule for park development.

Subsequent Community Input

Following the meeting, staff received comments via telephone calls, emails and completed versions of the comment form distributed at the meeting. Staff consolidated these with comments received prior to the meeting – some interested parties were unable to attend and provided comments beforehand. The comments are summarized below:

Potential Facility (comments are in favor of facility unless noted otherwise)	Number of Comments
Skate-park or Skate-spot	9
Do Nothing – given weak economy; especially do not include cricket; in favor of reforestation.	5
Cricket field	4; in addition, petitions for cricket signed by 77 and 38 people
Tennis	2
Dog-park Area	2
Pool	1
Playground	1
Recreation sports – league play	1
Volleyball	1
Parking	1
Restrooms and amenities	1
Place all facilities as close to Brink Road as possible; provide heavy buffer landscaping and plant soon	1
Do not provide a neighborhood path connection	1

Staff also received copies of a survey, prepared anonymously by a community member and distributed (based on names and addresses of respondents) to residents near the park. Staff received 59 completed surveys, of which 9 were submitted without names or addresses and were not included in the tabulation. Of those received, 33 were from Seneca Forest Circle, 8 from Virginia Pine Terrace, 6 from Settler’s Circle, 2 from Seneca Crossing Drive and 1 from Brink Road. The significance of the survey results is questionable for several reasons. The survey did not fully or accurately represent all possibilities available to the community, and presented some potential program elements unfavorably. The sample size is representative mostly of immediate neighbors, and not the complete service area. Nevertheless the survey does provide additional insight into generally local issues related to the development of Seneca Crossing Local Park. Results below show each element included in the survey as described. For a complete summary of survey results, see Appendix.

Seneca Crossing Local Park

Proposed Park Use	Strongly Approve	<<<	Indifferent	>>>	Strongly Disapprove
Regulation-size Cricket field including: batting cages, bathrooms, and sufficiently large parking space to have statewide tournaments		1	3	4	43
Football field/Soccer field (9:00-6:00 Sat-Sun) ie. Soccer-plex	4	5	3	11	28
Tennis courts <i>(Note – tennis requests were for multiple courts)</i>	6	9	13	5	17
Recreational sports league play (County, state)	2	2	7	6	33
Nature trail/walking trail/bike path/reforestation	30	6	7	1	7
Playground (aged 2-5 or aged 5-12)	14	6	12	3	15
Basketball	5	2	4	7	30
Parking Lot (25-100 vehicles)	3	11	5	6	22
No parking at all (therefore no league or spectator sports)	25		7	2	10
Picnic Area w/pavilions/barbeque pits	6	8	9	4	19
Community garden/ garden plots	15	10	9	3	11
Bathroom facilities/water fountains	10	5	6	4	23
Reforestation	31	6	3	2	7
Do nothing/ leave space as is	25	7	6	5	7
Other Facilities Respondents added to the Survey Form					
Neighborhood access <i>(Note- many surveys also added comments that they did not want access from neighborhood)</i>					1
Indoor/outdoor pool	2				
Skate-pipe or Skate-park	1				
Dog area	1				
Baseball field	1				

Second Public Meeting

After the consultants and staff developed the four alternative schemes described in section 7, they presented them at a public meeting held on February 9, 2011 at 7 PM. at the Upcounty Center. Over 70 community members attended. Staff and consultants summarized the planning process to date, and then introduced the four concepts. The audience was then given the opportunity to comment or ask questions. Following that, community members were encouraged to review each of the four schemes in more detail. To facilitate that, staff and consultants had arranged copies of plans and illustrations of each scheme in a series of rooms so that participants could ask questions

or offer comments about individual schemes. The most repeated comments concerning the schemes included a preference for the loop trail shown in scheme 4, a preference for scheme 4, and support the vegetated buffer between houses and parking lot on Scheme 4 with location of parking lot close to Brink Road. Summaries of input received are included in the appendix.

Following the meeting, copies of each of the schemes were posted on the project website and comments solicited. Comments were most favorable to scheme 4. All comments were reviewed and considered in development of the preferred scheme.

9. INTEREST GROUP INPUT

The Seneca Crossing Local Park process included PDCO meetings at key points with separate meetings held to review specific topics. PDCO meetings were held before and after each public session, and to review and refine the four preliminary and one preferred plan concepts. Summaries of these meetings are included in Appendix C.

The development of the POR for Seneca Crossing Local Park included consideration of some potential features that required contact with advocacy groups or specialized expertise. Large numbers of cricket players attended the first public meeting and provided follow-up information on their specific needs. At the second meeting, volleyball enthusiasts were present, and similarly provided guidance on their preferences to accommodate a multi-court arrangement. Staff expertise was utilized to determine the suitability of including community gardens in the eastern portion of the site.

10. PREFERRED PLAN

The preferred plan was derived initially from Scheme 4, then incorporated a number of favored features from the other plans based on community input.

The western portion of the park, accessed off Seneca Crossing Drive is planned to provide an open lawn for play surrounded by a looping walk. Space for four volleyball courts is provided at the north end of this area, along with a small picnic shelter/gazebo, and an area for picnic tables. A potable water connection will be provided for a drinking fountain. Because Volleyball requires no permanent hard surface improvements, the area may be reprogrammed for other uses, such as community gardens, if required at a later date. This part of the park will be served by an approximate 40 space parking lot with a small drop-off/turn-around area at the north end.

A planted buffer area will be provided between the park's active areas and the adjacent residential lots. Other plantings include shade trees surrounding the walking

loop and at the parking area.

Visitors arriving to the east side of the park enter the approximately 144-space main parking area from either of two entrances located off of Brink Road. Each entrance has one inbound and two outbound lanes. For pedestrians, a multi-use trail extends across the property frontage along Brink Road, with an access trail linking the multi-use trail with the center of the park. Walkways also parallel the drive entrances. Pedestrians entering from the Cedar Valley neighborhood may enter from a trail spur that connects to Seneca Crossing Drive and dips down to the loop trail system. All trails are graded to be fully accessible.

At the center of the park is a large ellipse-shaped area encompassing playground at each end and an open lawn in the center. The ellipse is surrounded by a walking path. Between the ellipse and the parking lot, a long pergola with a walkway provides a welcoming central focal point and iconic place-making element. Shelters at each end of the ellipse provide shade and gathering spaces for users



May 18, 2011



SENECA CROSSING
SITE PLAN - PREFERRED SCHEME





May 18, 2011



SENECA CROSSING PERSPECTIVE - PREFERRED SCHEME



of both playgrounds and, the two, large adjacent sports fields located on the far ends of the ellipse. Exercise equipment is located on the trail connecting the two field areas.

Each rectangular field is designed within a large oval space, which then provides a generous sideline for coaches, players and spectator seating, as well as spaces for warming-up and equipment staging during games. The effective play areas are 320 feet by 210 feet on the west field, and 340 feet by 240 feet on the east field. Fields will be irrigated, and fencing will be provided along Brink Road and in areas near parking lots to prevent errant balls from reaching vehicular areas. Fields will be completely surrounded by portions of the major loop trail that traverses the site, providing full access for players

and spectators.

Between the western field and the west entry drive, near Brink Road, a small skate spot will be developed off the trail. This location will be highly visible for supervision, but removed from areas serving younger children.

A 150-foot wide, afforestation area, interrupted only by storm water management facilities, will be planted as a buffer between the southern edge of the loop trail and the adjacent residential lots in the Cedar Valley community. Shade trees will line all trails and sidewalks, and will shade the parking lots. Evergreen trees will be located at ends and corners of the sports fields to assist in keeping balls in play.

11. AGENCY APPROVALS

Multiple agencies were consulted on access to the Seneca Crossing Local Park site. On August 19, 2010, the design team submitted a Site Distance Evaluation to the Division of Traffic Engineering and Operations, Montgomery County Department of Public Works and Transportation. The application sought concurrence that the two existing curb cuts on Brinks Road and the existing single curb cut on Seneca Crossing Drive were adequate to serve the intended park use. Based on their review, the use of either or both of the Brinks Road entrances was approved, but staff requested that the distance from the entrance to the western portion of the park site on Seneca Crossing Drive be moved approximately 100 feet south of the current location to provide better site distance and separation from the Brinks Road intersection. The site distance evaluation was modified and a revised application submitted October 14, 2010, which was subsequently approved.

Montgomery County Planning Department's Area 3 Division's Transportation Planner conducted a traffic analysis of the proposed park and review of existing roadway conditions and planned park improvements. The Department determined that the park satisfies the Local Area Transportation Review Test (LATR) and will have no adverse effects on local pedestrian or vehicular facilities. Further, they found that the park will have adequate vehicular, pedestrian and bicycle accessibility. The traffic study evaluated three critical local intersections, at Maryland 27 and Brinks Road, Maryland 27 and Henderson Road and Maryland 355 and Henderson Corner Road. The study projects acceptable Critical Lane Volumes (CLVs) to be maintained at these intersections under both the background and total park development conditions.

The planning team met with representatives of Montgomery County Department of Permitting Services early in the development of storm water management alternatives for Seneca Crossing Local Park. Consultant team representatives met with Mr. Tom Weadon on November 20, 2010 to review strategies to discuss the adequacy of the previously constructed facilities on site. Based on this, the recommended concept plan retains the existing sand filter but

provides additional non-structural and micro-scale practices, including grass swales and micro-bioreten-tion facilities. The Stormwater Management Concept (SWM) was submitted to Montgomery County Department of Permitting Services on August 31, 2011 and is currently under review.

A Natural Resources Inventory/Forest Stand Delineation Plan (NRI/FSD,) 420101010 was prepared by staff and approved on March 16, 2010 by the Environmental Planning Division. The Environmental Planning reviewer determined that a preliminary Forest Conservation Plan (FCP) was required, therefore, based on the approved NRI/FSD and final design, a Preliminary Forest Conservation Plan (PFCP) was prepared and submitted August 1, 2011, and is currently under review.

In October 2009, a complete wetland delineation was performed for the site. A review of published information and a field survey using methodology from the 1987 Corps of Engineers Wetland Delineation Manual (Environmental Laboratory 1987) and the Draft Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (US Army Corps of Engineers, 2010), was conducted. Although there was hydrophytic vegetation and evidence of standing water, there was no presence of hydric soils. In order for a positive identification of a wetland, all 3 criteria must be present, therefore, it was determined that this site contains no wetlands as defined by the U.S. Fish and Wildlife Service.

APPENDIX

A. COST ESTIMATE

B. AGENCY APPROVAL

C. COMMUNITY INPUT

D. SOIL SURVEY

E. DRAWINGS

A. COST ESTIMATE

Facility Plan Report

CIP CATEGORY	ITEM NO.	ITEM	QUANTITY	UNIT	UNIT COST (Materials & Installation)	TOTAL COST
SI	SITE PREPARATION & DEMOLITION			SUBTOTAL		\$340,000.00
		Tree Protection Fencing (E&S Control devices)	20.00	ACRE	\$1,500.00	\$30,000.00
		Clearing & Grubbing / Tree Removal	20.00	ACRE	\$2,500.00	\$50,000.00
		Invasive plant removal	1	LS	\$25,000.00	\$25,000.00
		Mobilization	1	LS	\$200,000.00	\$200,000.00
		Construction Stakeout	1	LS	\$10,000.00	\$10,000.00
		Maintenance of Traffic	1	LS	\$10,000.00	\$10,000.00
		Geotechnical Inspections/Certifications	1	LS	\$15,000.00	\$15,000.00
SI	SEDIMENTATION & EROSION CONTROL			SUBTOTAL		\$0.00
		See Percentage of Construction Cost at End of Estimate				
SI	EARTHWORK			SUBTOTAL		\$1,101,625.00
		Strip & stockpile topsoil (actual useable amount is limited)	0.00	CY	\$10.00	\$0.00
		Excavation cut to fill	67,500.00	CY	\$10.00	\$675,000.00
		Fine Grading	48,000.00	SY	\$2.00	\$96,000.00
		Amend/Import and spread topsoil (finish grade 6")	13,225.00	CY	\$25.00	\$330,625.00
SI/U?	STORMWATER MANAGEMENT			SUBTOTAL		\$414,400.00
		Pipes (storm utility drainage piping)	980.00	LF	\$80.00	\$78,400.00
		Structures	9	EA	\$4,000.00	\$36,000.00
		Reconstruct stone rip-rap channel	1	LS	\$100,000.00	\$100,000.00
		Bio-retention Basins (3 in mulch, 48 in media soil, 6 in sand, 12 in gravel)	5	EA	\$40,000.00	\$200,000.00
U	UTILITIES			SUBTOTAL		\$421,700.00
		Irrigation (underground sprinklers, sports field)	2.00	FIELD	\$35,000.00	\$70,000.00
		Drinking Fountain	3.00	EA	\$18,000.00	\$54,000.00
		1" Water Main Tap - Outside Meter	1	EA	\$9,000.00	\$9,000.00
		3" Water Main Tap - Outside Meter	1	EA	\$26,700.00	\$26,700.00
		Meter Installation (WSSC owned Meter)	2	EA	\$35,000.00	\$70,000.00
		Water Main	800	LF	\$75.00	\$60,000.00
		WSSC System Development Charge (3" line)	1	LS	\$132,000.00	\$132,000.00
SI	VEHICULAR PAVEMENT			SUBTOTAL		\$349,200.00
		Asphalt paving (2" wearing course over 4" base course over 6" #57 stone)	7,800.00	SY	\$40.00	\$312,000.00
		Curb & Gutter (concrete)	1,360.00	LF	\$20.00	\$27,200.00
		Traffic Signage	1.00	ALLOW	\$10,000.00	\$10,000.00
SI	PEDESTRIAN PAVEMENT & HARDSCAPE			SUBTOTAL		\$409,250.00
		Concrete Sidewalk (4" concrete broom swept scored paving, including aggregate base)	7,250.00	SY	\$55.00	\$398,750.00
		Walls (Entry Walls and Signage, cavity wall masonry unit)	42	LF	\$250.00	\$10,500.00
C	RECREATION FACILITIES			SUBTOTAL		\$844,200.00
		Play structures (equipment for each play area)	2	EA	\$100,000.00	\$200,000.00
		Playground (resilient surface)	690.00	SY	\$180.00	\$124,200.00
		Soccer Field (Goal posts)	2.00	PAIR	\$3,000.00	\$6,000.00
		Exercise Equipment	9.00	EA	\$3,500.00	\$31,500.00
		Sand Volleyball	4.00	EA	\$25,000.00	\$100,000.00
		Skate Park	10,000.00	SF	\$35.00	\$350,000.00
		Field Fence	1,300	SF	\$25.00	\$32,500.00
C	STRUCTURES			SUBTOTAL		\$585,500.00

Seneca Crossing Local Park

	Gazebo, pavilion, sheds & other wood structures	2,000.00	SF	\$175.00	\$350,000.00
	Trellis (decorative metal)	1500	SF	\$150.00	\$225,000.00
	Restroom (enclosure)	3.00	EA	\$3,500.00	\$10,500.00
SI	SITE AMENITIES & FURNISHINGS			SUBTOTAL	\$159,900.00
	Benches	12.00	EA	\$2,000.00	\$24,000.00
	Trash/recycling Receptacles	20.00	EA	\$1,500.00	\$30,000.00
	Bicycle Rack	6.00	EA	\$1,500.00	\$9,000.00
	Drinking Fountain	3.00	EA	\$3,000.00	\$9,000.00
	Picnic Tables	12.00	EA	\$1,000.00	\$12,000.00
	Grill	3.00	EA	\$300.00	\$900.00
	Interpretive Signage	10.00	EA	\$2,500.00	\$25,000.00
	Allowance for Site Furnishings Upgrade and/or public art				\$50,000.00
SI	LANDSCAPING			SUBTOTAL	\$810,400.00
	Raingarden plantings	14,550.00	SF	\$15.00	\$218,250.00
	Reforestation (NATIVE SPECIES - (200) .75"-1" CAL/ACRE; (100) 1.5" - 2" CAL/ACRE; (33) 18" - 24" SHRUBS/ACRE)	5.10	ACRE	\$30,000.00	\$153,000.00
	Tree (shade or ornamental, 3" caliper)	290.00	EA	\$1,000.00	\$290,000.00
	Evergreen Trees (8' to 10' height)	55.00	EA	\$500.00	\$27,500.00
	Seed (sports field)	16,600.00	SY	\$0.75	\$12,450.00
	Lawn Seed (all other areas)	52,800.00	SY	\$1.50	\$79,200.00
	2 years plant maintenance and extended warranty	1	LS	\$30,000.00	\$30,000.00
	AS-BUILT DRAWINGS (For SWM, underground utilities, bridge footings)			SUBTOTAL	
		1	LS	\$35,000.00	\$35,000.00
	CONSTRUCTION SUBTOTAL				\$5,471,175.00
	SEDIMENTATION & EROSION CONTROL (5% of construction subtotal)			SUBTOTAL	
		1	LS	\$273,558.75	\$273,558.75
	CONSTRUCTION CONTINGENCY (30% of Construction Subtotal)				\$1,723,420.13
	CONSTRUCTION TOTAL				\$7,468,153.88
	LAND COSTS (Utility/Trail/Grading Easements, Purchase)		LS		\$0.00
	DESIGN CONTRACT WITH CONTINGENCY (10% of Construction Total)				\$746,815.39
	STAFF CHARGEBACKS FOR DESIGN (20% of Design Contract with Contingency)				\$149,363.08
	CONSTRUCTION MANAGEMENT & INSPECTIONS (3% of Construction Total)				\$224,044.62
	TOTAL PROJECT COST				\$8,588,376.96

B. AGENCY APPROVALS

1. NRI-FSD Approval Letter
2. NRI- FSD Report
- 2a. USFWS Online Certification
- 2b. MHT Historic Properties Review
- 2c. MDNR Environmental Review/
Wildlife and Heritage Service
3. Wetland Delineation Report
4. DWPT Sight Distance Evaluation



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

March 16, 2010

Ms. Heidi Sussmann
MNCPPC
9500 Burnett Ave.
Silver Spring, MD 20901

Dear Ms. Sussmann:

This letter is to inform you that Natural Resource Inventory/Forest Stand Delineation (NRI/FSD) 420101010, Seneca Crossing Park, is approved. A forest conservation plan can now be submitted to the Development Review Division in conjunction with any application to which it is a necessary component, or directly to Environmental Planning staff if not associated with an application before the Planning Board.

Since the property is subject to the Montgomery County Forest Conservation law there shall be no clearing of forest, understory, or tree removal on the subject site prior to the approval of a final forest conservation plan. If there are any subsequent modifications to the approved plan, not including changes initiated by a government agency, a separate amendment must be submitted to M-NCPPC for review and approval prior to the submission of a forest conservation plan.

If you have any questions regarding these actions, please feel free to contact me at douglas.johnsen@montgomeryplanning.org or by phone at (301) 495-4712.

Sincerely,

A handwritten signature in black ink that reads "Doug Johnsen".

Doug Johnsen, RLA

Cc: 420101030
Matthew Rescott

**Natural Resources Inventory/
Forest Stand Delineation Report for
Seneca Crossing Park
Montgomery County, Maryland**

Prepared for:

The Maryland-National Capital Park and Planning Commission
6611 Kenilworth Avenue
Riverdale, Maryland 20737



Prepared by:

Straughan Environmental Services, Inc.
9135 Guilford Road, Suite 100
Columbia, Maryland 21046

Under Contract To:

Lewis, Scully, Gionet, Inc.
1919 Gallows Road, Suite 110
Vienna, Virginia 22182

December 2009

TABLE OF CONTENTS

Section	Page
1 INTRODUCTION.....	1
1.1 PROJECT DESCRIPTION.....	1
1.2 STUDY AREA	1
2 METHODOLOGY.....	4
2.1 PRE-FIELD INVESTIGATION.....	4
2.2 FIELD INVESTIGATION	4
3 FINDINGS	6
3.1 PUBLISHED INFORMATION.....	6
3.1.1 Wetlands and “Waters of the U.S.”	6
3.1.2 Soils.....	6
3.1.3 Floodplains.....	11
3.1.4 Rare, Threatened, and Endangered Species	11
3.1.5 Cultural and Historic Resources	11
3.2 FOREST STAND CHARACTERIZATION	13
3.3 TREE INVENTORY	14
4 CONCLUSIONS.....	15
5 REFERENCES.....	16

LIST OF TABLES

Table	Page
3-1 Typical Soil Profiles	6
3-2 Soil Characteristics and Limitations	8
3-3 General Characteristics of Stand A.....	13
4-1 Forest Stand Summary	15

LIST OF FIGURES

Figure		Page
1	Site Location Map.....	2
2	Study Area Map.....	3
3	National Wetlands Inventory Map.....	9
4	Soil Survey Map.....	10
5	Flood Insurance Rate Map.....	12

APPENDICES

A	Natural Resources Inventory/Forest Stand Delineation Plan.....	A-1
B	Sample Plot Datasheets.....	B-1
C	Photographic Documentation.....	C-1
D	Regulatory Agency Correspondence.....	D-1
E	Qualified Professional Certification.....	E-1

1 INTRODUCTION

1.1 PROJECT DESCRIPTION

The Maryland-National Capital Park and Planning Commission (M-NCPPC) proposes to create Seneca Crossing Park, a 27.8-acre local park near Germantown in Montgomery County, Maryland (see Figure 1). Straughan Environmental Services, Inc. (SES), under contract to Lewis, Scully, Gionet, Inc. (LSG), conducted a Natural Resources Inventory (NRI) and a Forest Stand Delineation (FSD) to assist M-NCPPC in determining potential impacts to forest resources by reviewing published information and performing a field investigation within the study area. Once approved by M-NCPPC, the NRI/FSD will serve as the foundation of the Forest Conservation Plan (FCP) associated with the proposed park.

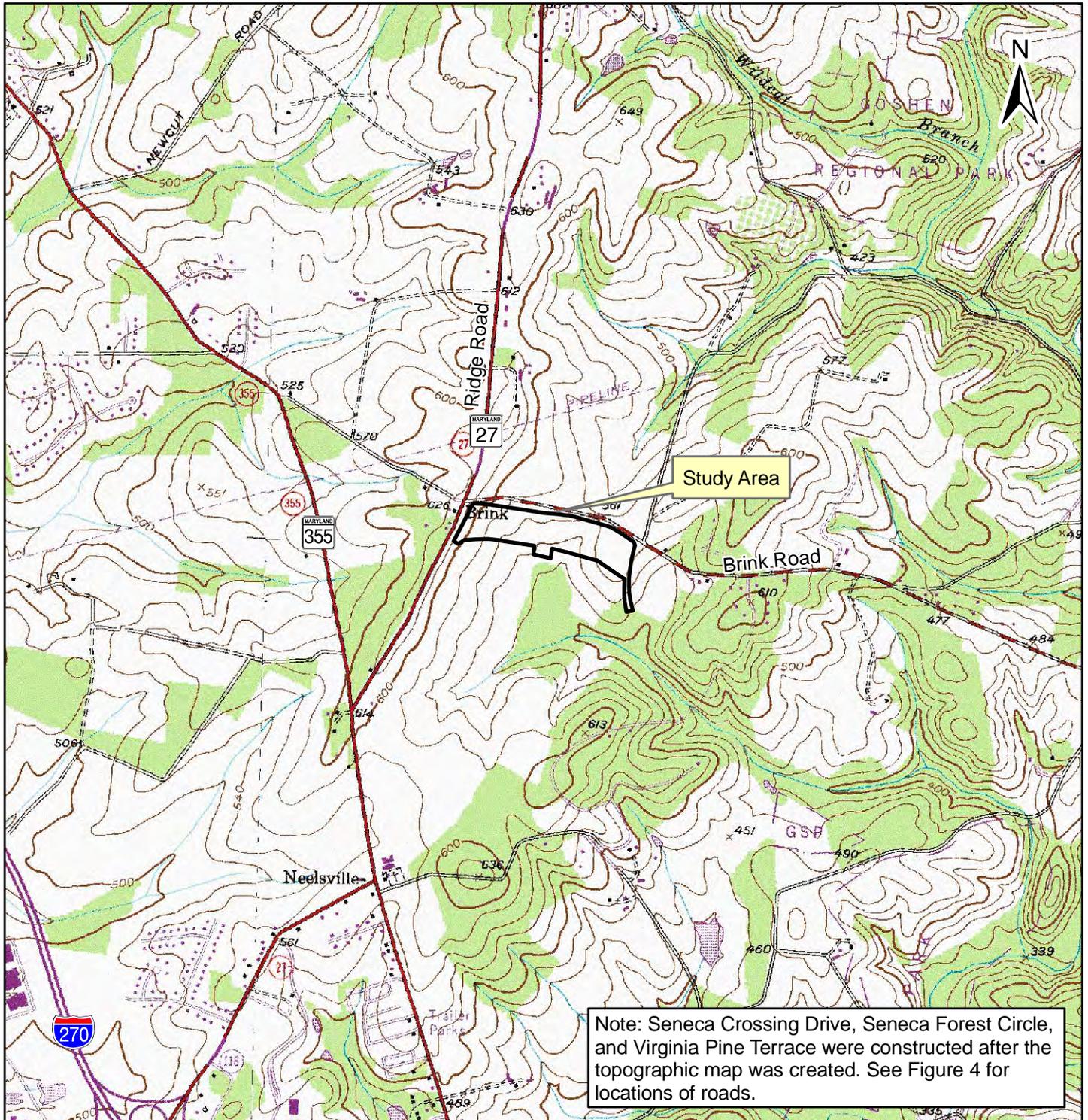
The Maryland Forest Conservation Act (FCA) recognizes the role forests play in preserving water and soil quality, in addition to wildlife habitat. The FCA requires landowners to conduct FSDs prior to development activities to identify on-site forest resources, and establishes a forest conservation threshold based upon land use and zoning. The threshold value represents desired forest cover retention after development. Forest clearing above the conservation threshold requires mitigation. Property owners are required to submit mitigation plans in the form of a FCP and/or Forest Management Plan (FMP). M-NCPPC, as the landowner, seeks to fulfill these requirements while continuing to accommodate renovations of the existing Kemp Mill Urban Park.

The FCA mandates that individual counties adopt FCA requirements that are as or more stringent than state FCA regulations. Montgomery County requires that an NRI, which includes an FSD, be conducted. Because the proposed project area is within Montgomery County and will be reviewed by the county, a complete NRI/FSD is required.

1.2 STUDY AREA

The study area for this investigation includes three parcels located adjacent to and south of Brink Road at its intersection with Maryland Route 27 (MD 27; Ridge Road) in Montgomery County, Maryland (see Figure 2). From MD 27, the study area extends approximately 2,400 feet east along Brink Road, and south to residential properties on Virginia Pine Terrace and Seneca Forest Circle. In total, the study area includes approximately 27.8 acres. Land use in the study area includes maintained turf and forest. Many of the trees within the study area appear to have been planted as part of a previous reforestation effort. The properties have been graded into three terraces separated by drainage swales. The study area is located within the Piedmont physiographic province and is within the Seneca Creek watershed, part of the greater Potomac River watershed.

Seneca Crossing Local Park



**Figure 2:
Study Area Map**

Seneca Crossing Park
Montgomery County, Maryland

Legend:

 Study Area

Scale: 1 inch = 2,000 feet



Source: USDA, NRCS. 2000. *Digital Raster Graphic Mosaic of Montgomery County, Maryland*. Fort Worth, TX.

2 METHODOLOGY

SES conducted a full FSD according to the guidelines set forth in the *State Forest Conservation Technical Manual* (Maryland Department of Natural Resources [MDNR], 1997), and the *Trees Approved Technical Manual* (M-NCPPC, 1992), which was developed as guidance for the implementation of the Montgomery County Forest Conservation Law.

2.1 PRE-FIELD INVESTIGATION

Prior to fieldwork, SES consulted the following resources to identify site-specific features and create an NRI/FSD Plan:

- *Soil Survey Geographic (SSURGO) Database for Montgomery County, Maryland* (United States Department of Agriculture [USDA], Natural Resources Conservation Service [NRCS], 2002);
- *Soil Survey of Montgomery County, Maryland* (Brown and Dyer, 1995);
- *National Wetlands Inventory (NWI) Map for Montgomery County, Maryland* (United States Fish and Wildlife Service [USFWS], 1981-2002);
- *Digital Flood Insurance Rate Map Database for Montgomery County, Maryland* (Federal Emergency Management Agency [FEMA], 2006);
- *Digital Raster Graphic Mosaic of Montgomery County, Maryland* (USDA, NRCS, 2000); and
- *USGS High Resolution State Orthoimagery for Montgomery County, Maryland* (United States Geological Survey [USGS], 2008).

SES corresponded with USFWS, MDNR and Maryland Historical Trust (MHT) to obtain data about the presence of rare, threatened, or endangered flora and fauna; and natural, cultural, and historic resources within the study area.

2.2 FIELD INVESTIGATION

SES conducted a full FSD to characterize forest stands within the study area using the sample plot method. SES collected data at one 0.1-acre sample plot for every four acres of forest, with a minimum of two sample plots for each forest stand. Sample plot locations within each stand were randomly selected prior to fieldwork. The approximate location of each sample plot is documented on the Natural Resources Inventory/Forest Stand Delineation Plan (see Appendix A).

SES established 37.25-foot fixed-radius sample plots (0.1-acre) during the site investigation. Orange pin flags were placed at the center of each sample plot and labeled according to stand and sample plot number. SES flagged points along the circumference of the sample plots at 90-degree intervals using either one-inch orange tape or orange pin flags, and recorded the presence

or absence of canopy, understory, and herbaceous cover at the center and four perimeter points of each sample plot. SES recorded the following information for each sample plot:

- Species and number of all trees within the sample plot with a minimum height of 20 feet and a diameter at breast height (DBH) greater than two inches;
- Dominant/co-dominant canopy species;
- Most common understory species;
- Number of dead trees;
- Percent cover in canopy, understory, and herbaceous strata;
- Size class of dominant canopy species;
- Successional stage of the stand;
- Percent invasive cover;
- Major invasive plant species;
- Percent invasive cover within the stand; and,
- Basal area.

In order to determine if the stand should be classified as a priority retention area, SES noted the following information for each sample plot:

- Location within sensitive areas, such as 100-year floodplains, intermittent and perennial streams and their associated buffers, steep slopes, and critical habitats;
- Contiguous forest;
- Items listed on the State or Federal rare, threatened, and endangered species list;
- Trees that are part of, or associated with, a historic site or are listed as a Champion Tree; and,
- Trees with 24-inch DBH or greater, or have a diameter which is 75% of the State Champion of that species.

Any stand noted to have any of the criteria for a priority retention area is to be left undisturbed unless it can be demonstrated that reasonable efforts were made to protect this area and the plan cannot be reasonably altered to avoid disturbance.

SES summarized the sample plot information for each stand on Sample Plot Datasheets (see Appendix B), provided a brief narrative description of each stand (refer to Section 3), photographed existing conditions (see Appendix C), and created a Natural Resources Inventory/Forest Stand Delineation Plan (see Appendix A) to depict pertinent information.

SES also conducted a field investigation to identify wetlands and other “waters of the U.S.” Methodology and findings from this investigation were documented in *Wetland Investigation Report for Seneca Crossing Park, Montgomery County, Maryland* (SES, 2009).

3 FINDINGS

3.1 PUBLISHED INFORMATION

3.1.1 Wetlands and “Waters of the U.S.”

The *NWI Map for Montgomery County, Maryland* (USFWS, 1981-2002) does not identify any wetlands or other “waters of the U.S.” within the study area (see Figure 3).

SES conducted a wetland investigation within the study area on October 30, 2009, and did not identify any wetlands or waterways (SES, 2009). As of this report, a jurisdictional determination by the U.S. Army Corps of Engineers (COE) and the Maryland Department of the Environment (MDE) is pending.

3.1.2 Soils

The *Soil Survey Geographic (SSURGO) Database for Montgomery County, Maryland* (USDA, NRCS, 2002) indicates that five soil series (Brinklow, Blocktown, Occoquan, Glenville, and Glenelg) occur within the study area (see Figure 4 and Table 3-1).

- Brinklow-Blocktown channery silt loams (16B) – gently sloping soils; approximately 50 percent Brinklow soil, 30 percent Blocktown soil, and 20 percent other soils.
 - Brinklow – moderately deep, well drained soils on broad ridgetops and side slopes in uplands.
 - Blocktown – shallow, well drained soils on uplands.
- Brinklow-Blocktown channery silt loams (16C) – strongly sloping soils; approximately 50 percent Brinklow soil, 30 percent Blocktown soil, and 20 percent other soils.
- Occoquan loam (17B) – deep, gently sloping, and well drained soils on broad ridgetops and side slopes.
- Glenville silt loam (5A) – very deep, moderately well drained or somewhat poorly drained soils in low areas on uplands and along drainageways.
- Glenelg silt loam (2C) – very deep, strongly sloping, and well drained soils on side slopes in uplands.

Table 3-1 TYPICAL SOIL PROFILES			
Soil Series	Depth (Inches)	Color	Texture
Brinklow	0-10	Brown (7.5YR 5/4)	Channery silt loam
	10-19	Strong brown (7.5YR 5/8)	Channery silt loam
	19-25	Variegated strong brown (7.5YR 5/8), reddish yellow (7.5YR 7/6), and yellowish red (5YR 5/6)	Channery loam

Seneca Crossing Local Park

Table 3-1 TYPICAL SOIL PROFILES			
Soil Series	Depth (Inches)	Color	Texture
	25-35	Reddish yellow (5YR 7/6)	Soft bedrock to very channery loam
	35	N/A	Hard phyllite bedrock
Blocktown	0-6	Yellowish red (5YR 4/6) channery silt loam	Channery silt loam
	6-17	Red (2.5YR 4/6)	Very channery silt loam
	17-21	Variegated red (2.5YR 4/6) and yellowish red (5YR 5/6)	Soft bedrock to extremely channery silt loam
	21	N/A	Hard phyllite bedrock
Occoquan	2-0	N/A	Organic material
	0-2	Dark grayish brown (10YR 4/2)	Sandy loam
	2-9	Pale brown (10YR 6/3)	Sandy loam
	9-17	Strong brown (7.5YR 5/8)	Loam
	17-53	Multicolored in shades of brown, yellow, red and white	Sandy loam saprolite
	53-72	N/A	Partially weathered granite gneiss
Glenville	0-9	Dark yellowish brown (10YR 4/4)	Silt loam
	9-19	Yellowish brown (10YR 5/6)	Silt loam
	19-25	Brown (10YR 5/3)	Silt loam
	25-33	Light brownish gray (10YR 6/2) and brown (10YR 5/3)	Silt loam
	33-39	Yellowish brown (10YR 5/4)	Silt loam
	39-82	Yellowish brown (10YR 5/4)	Channery loam
Glenelg	0-8	Brown (7.5YR 4/4)	Silt loam
	8-12	Strong brown (7.5YR 5/6)	Silt loam
	12-16	Yellowish red (5YR 5/6)	Silt loam
	16-28	Strong brown (7.5YR 5/6)	Silt loam
	28-35	Yellowish red (5YR 5/8)	Silt loam
	35-60	Yellowish red (5YR 5/8)	Loam

Source: USDA, NRCS. 2009. *Official Soil Series Descriptions by Name*. <http://ortho.ftw.nrcs.usda.gov/cgi-bin/osd/osdname.cgi>

Brinklow-Blocktown channery silt loams, Occoquan loam, Glenville silt loam, and Glenelg silt loam are listed in *Hydric Soils of Montgomery County, Maryland* (USDA, NRCS, 2009) as having five percent hydric inclusions of Baile in flats.

Table 3-2 provides additional information and limitations for each soil type.

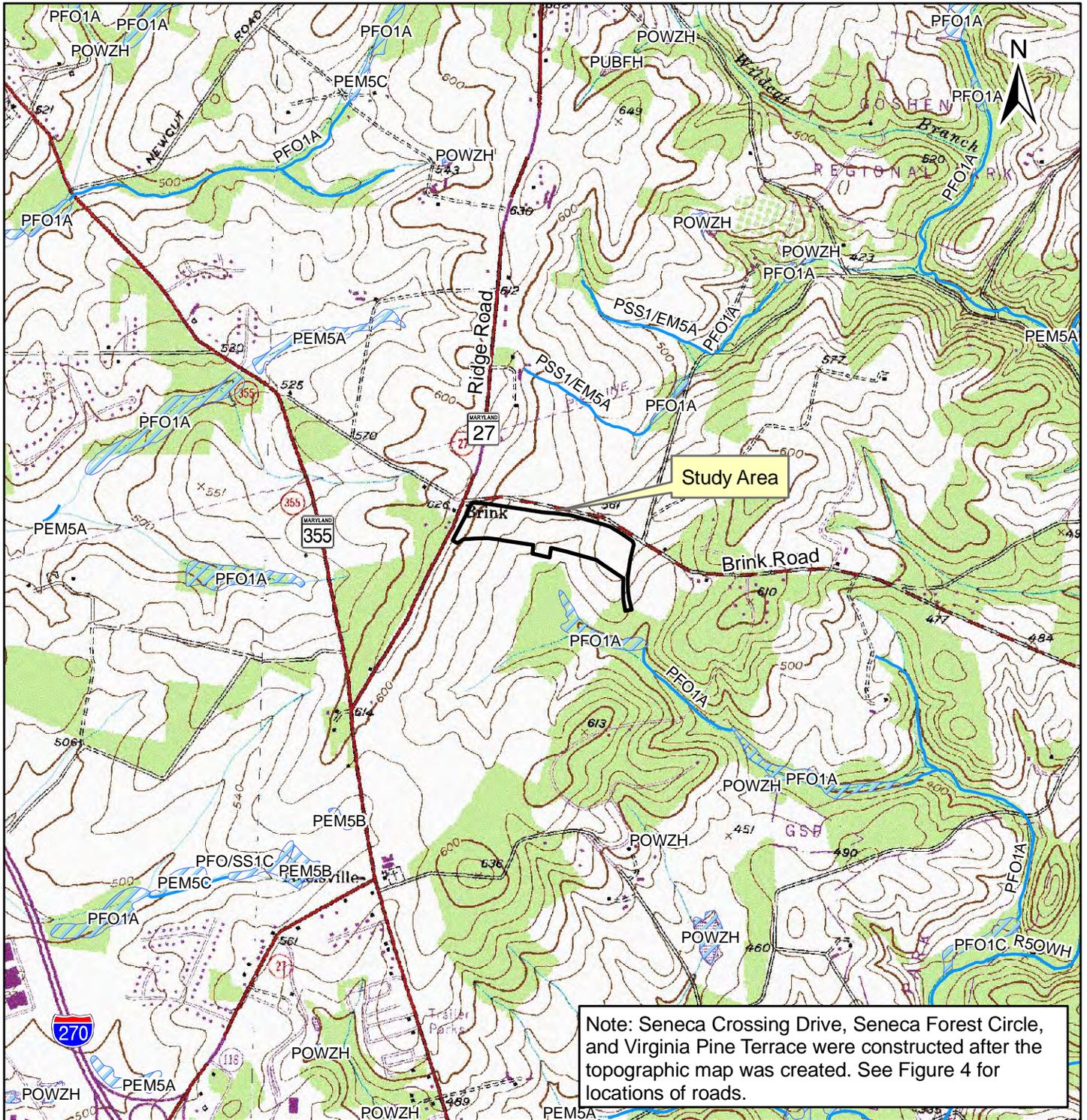
Table 3-2 SOIL CHARACTERISTICS AND LIMITATIONS				
Soil Type	Hydric Status	K-Value ^a	Prime or Unique Farmlands	Restrictions and Limitations ^b
Brinklow channery silt loam (16B)	Yes, hydric inclusions	0.28	Farmland of statewide importance	Somewhat limited due to shrink-swell, frost action, depth to hard bedrock, and low strength
Blocktown channery silt loam (16B)	Yes, hydric inclusions	0.24	Farmland of statewide importance	Somewhat limited due to frost action and depth to soft bedrock
Brinklow channery silt loam (16C)	Yes, hydric inclusions	0.28	Farmland of statewide importance	Somewhat limited due to slope, shrink-swell, frost action, depth to hard bedrock, and low strength
Blocktown channery silt loam (16C)	Yes, hydric inclusions	0.24	Farmland of statewide importance	Somewhat limited due to slope, frost action, and depth to soft bedrock
Occoquan loam (17B)	Yes, hydric inclusions	0.37	Prime farmland	Somewhat limited due to frost action
Glenville silt loam (5A)	Yes, hydric inclusions	0.32	Farmland of statewide importance	Very limited due to frost action and depth to saturated zone
Glenelg silt loam (2C)	Yes, hydric inclusions	0.32	Farmland of statewide importance	Somewhat limited due to slope, frost action, and low strength

a. K-value indicates the erodability factor associated with a soil type. Soils with K-values greater than 0.35 pose construction-related hazards.

b. Based on limitations for local roads and streets.

Source: USDA, NRCS. 2002. *Soil Survey Geographic (SSURGO) Database for Montgomery County, Maryland*. Fort Worth, TX.

Seneca Crossing Local Park



**Figure 3:
National Wetlands Inventory Map**

Seneca Crossing Park
Montgomery County, Maryland

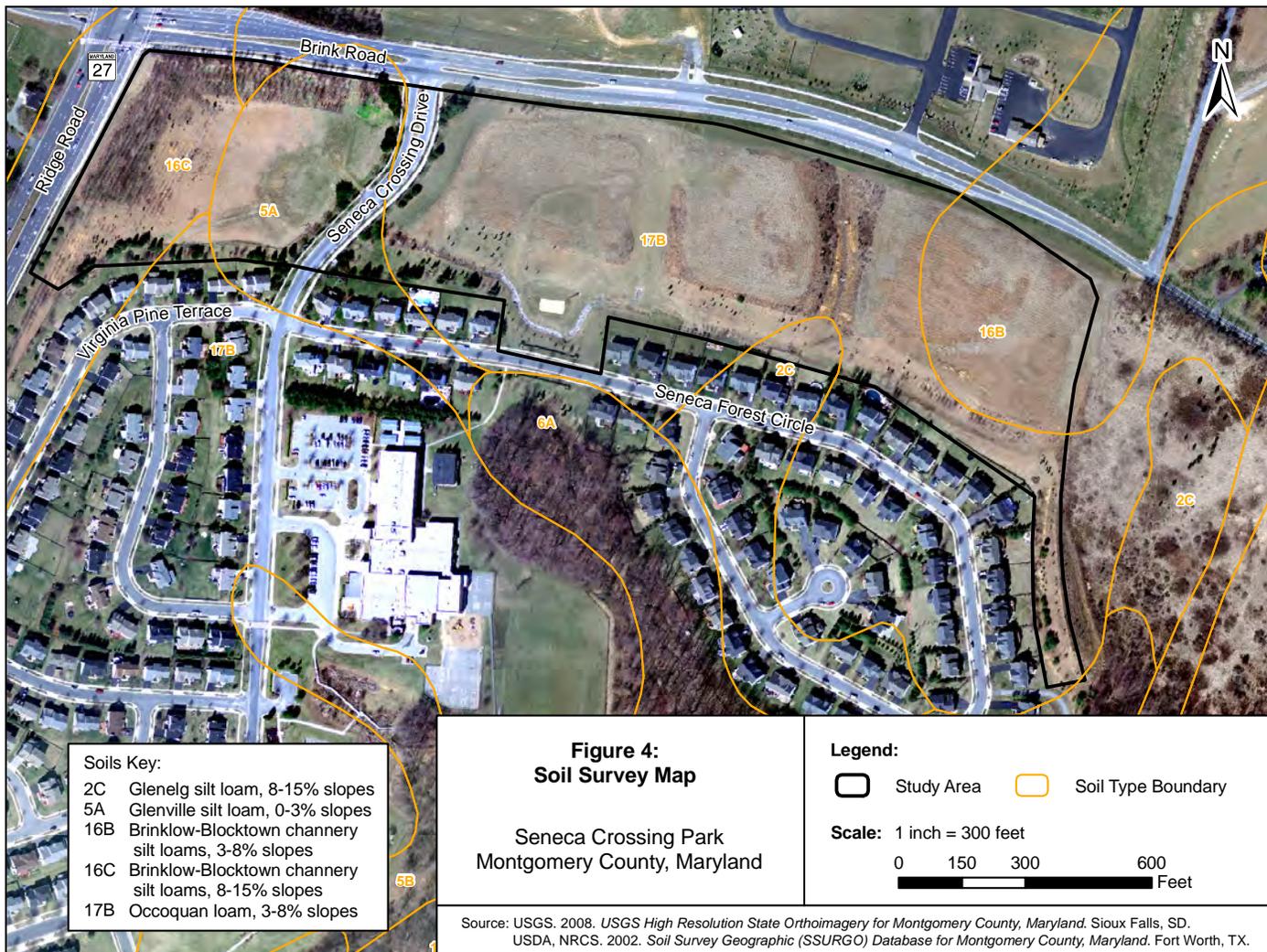
Legend:

-  Study Area
-  NWI Wetland
-  NWI Waterway

Scale: 1 inch = 2,000 feet



Source: USDA, NRCS. 2000. *Digital Raster Graphic Mosaic of Montgomery County, Maryland*. Fort Worth, TX.
USFWS. 1981-2002. *National Wetlands Inventory (NWI) Map for Montgomery County, Maryland*. St. Petersburg, FL.



3.1.3 Floodplains

The *Digital Flood Insurance Rate Map Database for Montgomery County, Maryland* (FEMA, 2006) indicates that the study area does not intersect the 100-year floodplain of any waterway (see Figure 5).

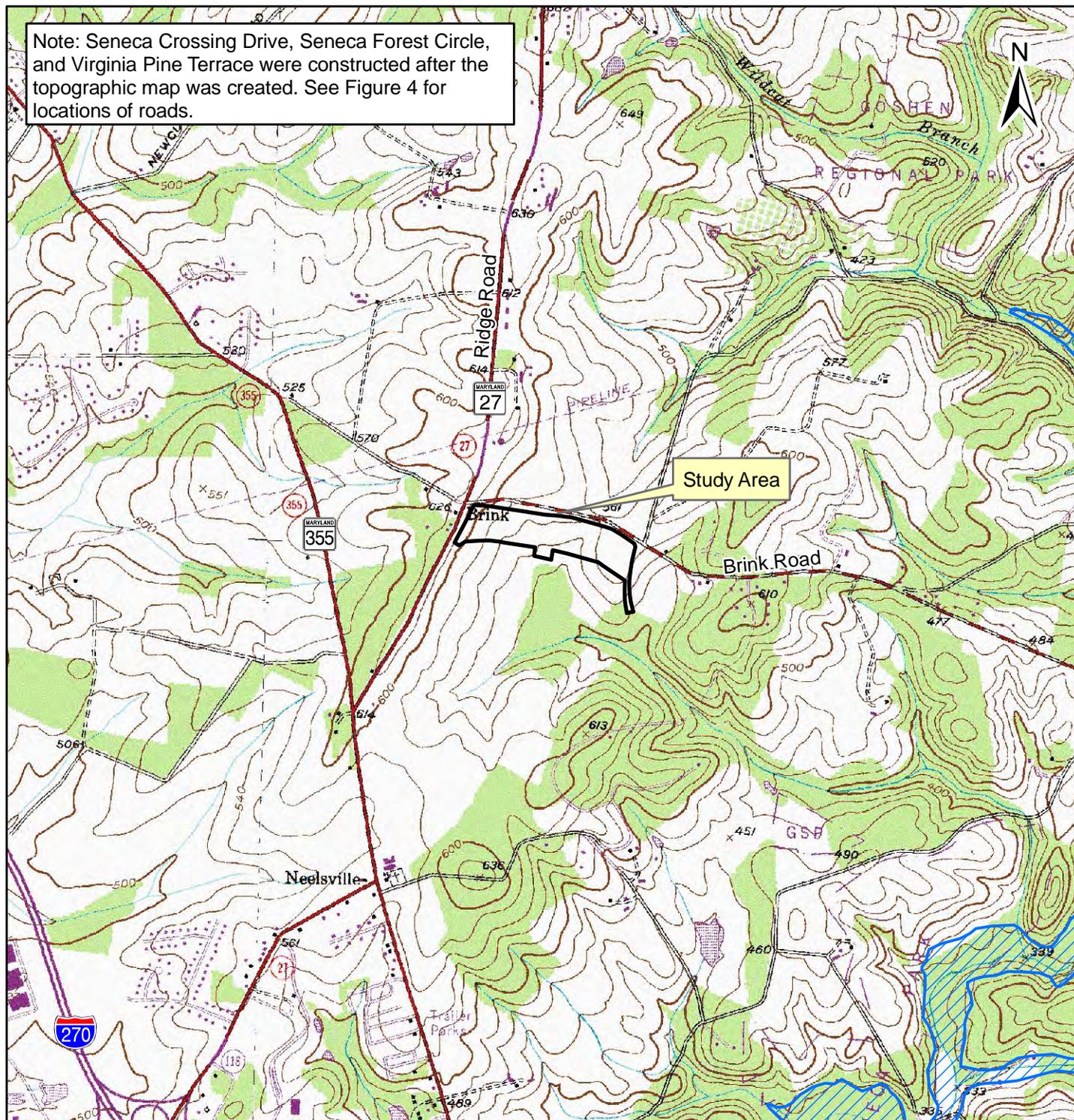
3.1.4 Rare, Threatened, and Endangered Species

The Nongame and Endangered Species Conservation Act (Annotated Code of Maryland 10-2A-01) governs the listing of rare, threatened, and endangered (RTE) species in the State of Maryland. The purpose of this law is to provide policy regarding the conservation of species of wildlife for human enjoyment and scientific purposes, as well as to ensure their perpetuation as viable components of their ecosystems. The Act states that “species of wildlife and plants normally occurring within the State which may be found to be threatened or endangered within the State should be accorded the protection necessary to maintain and enhance their numbers.”

SES requested information from the USFWS, and MDNR’s Wildlife & Heritage Division and Environmental Review Unit to identify any rare, threatened, or endangered species in or near the study area (see Appendix D). The USFWS stated that “except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project impact area. Therefore, no Biological Assessment or further Section 7 Consultation with the USFWS is required.” MDNR’s Wildlife and Heritage Division indicated that there are no State or Federal records for rare, threatened, or endangered species within the project area. SES is awaiting a response from MDNR’s Environmental Review Unit as of this report.

3.1.5 Cultural and Historic Resources

On November 5, 2009, SES sent a letter to the Maryland Historical Trust (MHT) requesting information to identify any historic structures or known archeological sites in or near the study area. MHT has determined that there are no historic properties affected by this undertaking (see Appendix D).



**Figure 5:
Flood Insurance Rate Map**

Seneca Crossing Park
Montgomery County, Maryland

Legend:

-  Study Area
-  100-Year Floodplain

Scale: 1 inch = 2,000 feet



Source: USDA, NRCS. 2000. *Digital Raster Graphic Mosaic of Montgomery County, Maryland*. Fort Worth, TX.
FEMA. 2006. *Digital Flood Insurance Rate Map Database, Montgomery County, Maryland*. Washington, DC.

3.2 FOREST STAND CHARACTERIZATION

SES conducted a field investigation on October 30, 2009, during which one forest stand and no significant trees were identified. SES gathered data from two sample plots to characterize the stand. The stand is delineated on the Natural Resources Inventory/Forest Stand Delineation Plan included in Appendix A and described below.

Stand A

On October 30, 2009, SES examined the general characteristics of Stand A. Stand A is approximately 2.19 acres in size and is located on a steep slope southeast and adjacent to the Brink Road/MD 27 intersection. This stand is bounded by Brink Road, MD 27, Seneca Crossing Drive, residential property, and maintained turf. This early successional stand is dominated by green ash (*Fraxinus pensylvanica*) and Northern red oak (*Quercus rubra*), which appear to have been planted. Due to the presence of steep slopes and highly-erodible soils, this stand is designated as a Priority 1 Retention Area. However, this stand is in poor health. Most of the green ash are dead or dying, presumably infested with emerald ash borer (*Agilus planipennis*). This stand also includes callery pear (*Pyrus calleryana*), tree of heaven (*Ailanthus altissima*), and mimosa (*Albizia julibrissin*), and dense areas of Japanese honeysuckle (*Lonicera japonica*), which are all considered invasive species. Table 3-3 summarizes the investigation results.

Table 3-3 GENERAL CHARACTERISTICS OF STAND A	
Topography	Moderately sloping
Approximate size within study area	2.19 acres
Wetlands	None
Endangered species habitat	None
Streams	None
Successional stage	Early
Dominant species/ co-dominant species	Green ash (<i>Fraxinus pensylvanica</i>) – dominant and co-dominant Northern red oak (<i>Quercus rubra</i>) – dominant Tree of heaven (<i>Ailanthus altissima</i>) – dominant Callery pear (<i>Pyrus calleryana</i>) – co-dominant Pin oak (<i>Quercus palustris</i>) – co-dominant Mimosa (<i>Albizia julibrissin</i>) – co-dominant Black cherry (<i>Prunus serotina</i>) – co-dominant
Size class of dominant species	2"-11.9" DBH
Basal area	70 square feet per acre
Percent canopy closure	90%
Common understory species	Callery pear (<i>Pyrus calleryana</i>) Staghorn sumac (<i>Rhus typhina</i>) Eastern red cedar (<i>Juniper virginiana</i>) American pokeweed (<i>Phytolacca americana</i>) Mimosa (<i>Albizia julibrissin</i>) Blackberry (<i>Rubus</i> sp.)

Table 3-3 GENERAL CHARACTERISTICS OF STAND A	
Common herbaceous species	Eastern red cedar (<i>Juniper virginiana</i>) Japanese honeysuckle (<i>Lonicera japonica</i>) Mimosa (<i>Albizia julibrissin</i>) Goldenrod (<i>Solidago</i> sp.) Garlic mustard (<i>Alliaria petiolata</i>) Japanese wineberry (<i>Rubus phoenicolasius</i>) Multiflora rose (<i>Rosa multiflora</i>) Grass sp. (Gramineae sp.)
Percent herbaceous cover	100%
Invasive species	Japanese honeysuckle (<i>Lonicera japonica</i>) Tree of heaven (<i>Ailanthus altissima</i>) Garlic mustard (<i>Alliaria petiolata</i>) Callery pear (<i>Pyrus calleryana</i>) Japanese wineberry (<i>Rubus phoenicolasius</i>) Multiflora rose (<i>Rosa multiflora</i>) Mimosa (<i>Albizia julibrissin</i>)
Percent invasive cover	53% (herbaceous); 48% (understory); 35% (canopy)
Number of standing dead trees greater than 6" DBH	6
Significant trees	None

3.3 TREE INVENTORY

SES conducted a survey to identify significant trees within the study area. A significant tree is defined as a tree exhibiting a diameter at breast height (DBH) of 24.0 inches or greater (M-NCPPC, 2002). There were no significant trees found within the study area.

4 CONCLUSIONS

SES identified one forest stand totaling approximately 2.19 acres within the study area (see Table 4-1). No significant trees were identified within the stand or the remainder of the study area. SES assigned the forest stand a retention priority of 1 due to the presence of steep slopes and highly-erodible soils.

Table 4-1 FOREST STAND SUMMARY			
Stand	Size (Acres)	Significant Trees	Retention Priority
A	2.19	0	1

5 REFERENCES

- Brown, James H. and Steve T. Dyer. 1995. *Soil Survey of Montgomery County, Maryland*. United States Department of Agriculture, Natural Resources Conservation Service. Washinton, D.C.
- ESRI. 2008. *ArcGIS Media Kit: ESRI Data and Maps*. Redlands, CA.
- Federal Emergency Management Agency (FEMA). 2006. *Digital Flood Insurance Rate Map Database for Montgomery County, Maryland*. Washington, DC.
- Maryland Department of Natural Resources (MDNR). 1997. *State Forest Conservation Technical Manual*, Third Edition. Maryland Department of Natural Resources, Annapolis, MD.
- Maryland-National Capital Park and Planning Commission (M-NCPPC). 1992. *Trees Approved Technical Manual*. Montgomery County Planning Department. Silver Spring, MD.
- Straughan Environmental Services, Inc. (SES). 2009. *Wetland Investigation Report for Seneca Crossing Park, Montgomery County, Maryland*. Columbia, MD.
- United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 2000. *Digital Raster Graphic Mosaic of Montgomery County, Maryland*. Fort Worth, TX.
- USDA, NRCS. 2002. *Soil Survey Geographic (SSURGO) Database for Montgomery County Maryland*. Fort Worth, TX.
- USDA, NRCS. 2009. *Hydric Soils of Montgomery County, Maryland*. Electronic Field Office Technical Guide (eFOTG). Fort Worth, TX. <http://www.nrcs.usda.gov/Technical/efotg/>
- USDA, NRCS. 2009. *Official Soil Series Descriptions by Name*. <http://ortho.ftw.nrcs.usda.gov/cgi-bin/osd/osdname.cgi>
- United States Fish and Wildlife Service (USFWS). 1981-2002. *National Wetlands Inventory (NWI) Map for Montgomery County, Maryland*. St. Petersburg, FL.
- United States Geological Survey (USGS). 2008. *USGS High Resolution State Orthoimagery for Montgomery County, Maryland*. Sioux Falls, SD.

APPENDIX A

**NATURAL RESOURCES INVENTORY/
FOREST STAND DELINEATION PLAN**

APPENDIX B

SAMPLE PLOT DATASHEETS

Natural Resources Inventory/Forest Stand Delineation B-1
Seneca Crossing Park

Straughan Environmental Services, Inc.
December 2009

Seneca Crossing Local Park

Property: <u>Seneca Crossing Park</u>		Prepared by: <u>MJR LT</u>														
Stand: <u>A</u>		Plot: <u>1</u>						Plot size: <u>1/10 AC</u>						Date: <u>10/30/09</u>		
Tree species with average height	Size class and crown position of trees > 20' height within sample plot															
	# of Trees 2-5.9" dbh			# of Trees 6-11.9" dbh			# of Trees 12-19.9" dbh			# of Trees 20-29.9" dbh			Size of Trees > 30" dbh			Total
	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	
<i>Juniper virginiana</i>			.													1
<i>Quercus palustris</i>				.												1
<i>Quercus rubra</i>			.													1
<i>Pyrus calleryana</i>		☒	..													16
<i>Fraxinus pennsylvanica</i>												9
Total # of trees per size class	22			6												28
# and size of standing dead trees	☒			..												14
Common Understory Species (3-20')							% Canopy Closure						% Invasive Cover			
<i>Pyrus calleryana</i>							C	N	E	S	W	T	H	U	T	
<i>Staghorn sumac</i>							Y	Y	Y	Y	Y	100%	5	75	50	
<i>American pokeweed</i>							% Understory Cover (3-20')						Basal Area in ft ² /acre:			
Common Herbaceous Species (0-3')							C	N	E	S	W	T	80			
<i>Solidago</i> sp. <i>Mustard</i> sp.							Y	Y	Y	N	Y	80%	Plot Successional Stage: <i>early</i>			
<i>Wineberry</i> * <i>Grass</i> sp.							% Herbaceous Cover (0-3')									
<i>Juniper virginiana</i>							C	N	E	S	W	T				
Y							Y	Y	Y	Y	Y	100%				
Comments (health, structure, habitat, etc.):																
Most of the green ashes are dead or dying (most likely Emerald ash borer)																
Sheet ___ of ___																

Facility Plan Report

Property: <u>Seneca Crossing Park</u>		Prepared by: <u>MZ, LT</u>															
Stand: <u>A</u>		Plot: <u>2</u>		Plot size: <u>1/10 Ac</u>		Date: <u>10/30/09</u>											
Tree species with average height	Size class and crown position of trees > 20' height within sample plot															Total	
	# of Trees 2-5.9" dbh			# of Trees 6-11.9" dbh			# of Trees 12-19.9" dbh			# of Trees 20-29.9" dbh			Size of Trees > 30" dbh				
	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other		
<i>Quercus rubra</i>				••												3	
<i>Pyrus calleryana</i>		•	••													3	
<i>Fraxinus pennsylvanica</i>	•	••	••													6	
<i>Ailanthus</i>				••	•											3	
<i>Mimosa</i>		••	••													6	
<i>Prunus serotina</i>		••			••											4	
Total # of trees per size class	17			8												25	
# and size of standing dead trees	••			•												7	
Common Understory Species (3-20')							% Canopy Closure					% Invasive Cover					
<i>Juniper virg.</i> <i>Mimosa</i> <i>Pyrus calleryana</i> <i>blackberry</i>							C	N	E	S	W	T	H	U	T		
							Y	N	Y	Y	Y	80%	100	20	20		
Common Herbaceous Species (0-3')							% Understory Cover (3-20')					Basal Area in ft ² /acre:					
<i>Jap. honeysuckle</i> <i>Mimosa</i> <i>multiflora rose</i>							C	N	E	S	W	T	60				
							N	Y	Y	Y	N	60%					
							% Herbaceous Cover (0-3')					Plot Successional Stage:					
							C	N	E	S	W	T	early-mid.				
							Y	Y	Y	Y	Y	100%					
Comments (health, structure, habitat, etc.):																	
Most of the green ashes are dead; generally unhealthy stand w/ exception of the oaks (planted)																	
Sheet ___ of ___																	

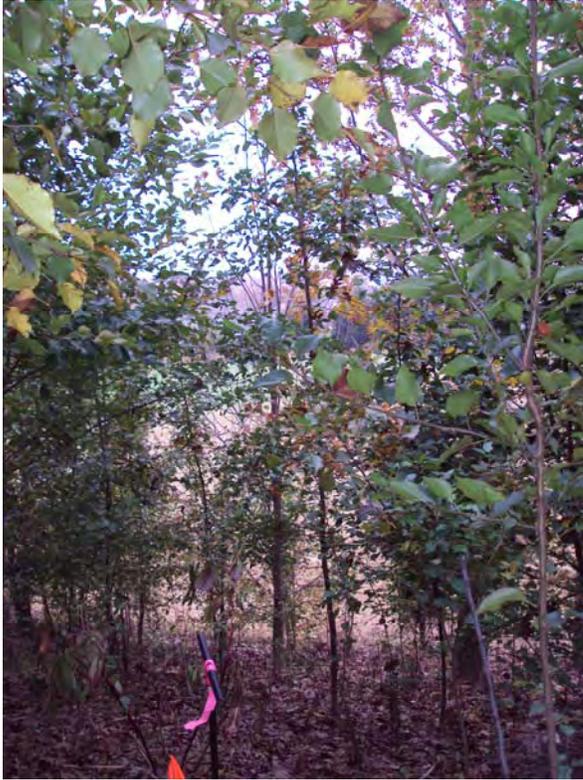
APPENDIX C

PHOTOGRAPHIC DOCUMENTATION

Natural Resources Inventory/Forest Stand Delineation C-1
Seneca Crossing Park

Straughan Environmental Services, Inc.
December 2009

Photograph 1



Date: October 30, 2009

Comments: Stand A Sample Plot 1 facing south toward Virginia Pine Terrace.

Photograph 2



Date: October 30, 2009

Comments: Stand A Sample Plot 2 facing east towards Seneca Crossing Drive.

Seneca Crossing Local Park

Photograph 3



Date: October 30, 2009

Comments: Stand A facing northwest towards the Brink Road – MD 27 intersection.

Facility Plan Report

APPENDIX D

REGULATORY AGENCY CORRESPONDENCE

Natural Resources Inventory/Forest Stand Delineation D-1
Seneca Crossing Park

Straughan Environmental Services, Inc.
December 2009

Seneca Crossing Local Park

USFWS Chesapeake Bay Field Office -- Online certification letter

<http://www.fws.gov/chesapeakebay/EndSppWeb/ELEMENTS/onlineletter...>



United States Department of the Interior
U.S. Fish & Wildlife Service
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401
410/573 4575



Online Certification Letter

Today's date:

Project:

Dear Applicant for online certification:

Thank you for choosing to use the U.S. Fish and Wildlife Service Chesapeake Bay Field Office online list request certification resource. This letter confirms that you have reviewed the conditions in which this online service can be used. On our website (www.fws.gov/chesapeakebay) are the USGS topographic map areas where **no** federally proposed or listed endangered or threatened species are known to occur in Maryland, Washington D.C. and Delaware.

You have indicated that your project is located on the following USGS topographic map

Based on this information and in accordance with section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*), we certify that except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project area. Therefore, no Biological Assessment or further section 7 consultation with the U.S. Fish and Wildlife Service is required. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

This response relates only to federally protected threatened or endangered species under our jurisdiction. For additional information on threatened or endangered species in Maryland, you should contact the Maryland Wildlife and Heritage Division at (410) 260-8540. For information in Delaware you should contact the Delaware Natural Heritage and Endangered Species Program, at (302) 653-2880. For information in the District of Columbia, you should contact the National Park Service at (202) 535-1739.

The U.S. Fish and Wildlife Service also works with other Federal agencies and states to minimize loss of wetlands, reduce impacts to fish and migratory birds, including bald eagles, and restore habitat for wildlife. Information on these conservation issues and how development projects can avoid affecting these resources can be found on our website (www.fws.gov/chesapeakebay).

We appreciate the opportunity to provide information relative to fish and wildlife issues, and thank you for your interest in these resources. If you have any questions or need further assistance, please contact Chesapeake Bay Field Office Threatened and Endangered Species

Facility Plan Report

USFWS Chesapeake Bay Field Office -- Online certification letter

<http://www.fws.gov/chesapeakebay/EndSppWeb/ELEMENTS/onlineletter...>

program at (410) 573-4531.

Sincerely,

Leopoldo Miranda
Field Supervisor



STRAUGHAN ENVIRONMENTAL SERVICES, INC.



November 5, 2009

200904298

F
W/E

Ms. Elizabeth Cole, Administrator
Project Review and Compliance
Office of Preservation Services
Maryland Historical Trust
100 Community Place
Crownsville, Maryland 21032

TJT / DCH

RE: Montgomery County Department of Transportation
[redacted] — SENECA CROSSING PARK
Montgomery County, Maryland

Dear Ms. Cole:

Straughan Environmental Services, Inc. (SES) has been contracted by Lewis, Scully, Gionet, Inc. (LSG) to assist Maryland-National Capital Park and Planning Commission in preparing a Forest Stand Delineation and Forest Conservation Plan for the proposed Seneca Crossing Park project in Montgomery County, Maryland. The proposed project includes development of Seneca Crossing Park, a recreational park in the vicinity of Brink Road and MD 27. In addition to the Forest Stand Delineation and Forest Conservation Plan, this project also requires a Joint Federal/State permit application. We are requesting information from your office regarding cultural, historical, and archeological resources within the study area.

A study area map is attached for your reference. The study area consists mainly of open field (maintained grass) adjacent to residential properties and roadway. If you have any questions regarding this request please call me at (301) 362-9200 or email at mrescott@straughanenvironmental.com

Sincerely,
STRAUGHAN ENVIRONMENTAL SERVICES, INC.

Matt Rescott
Environmental Scientist

Attachment

The Maryland Historical Trust has determined that there are no historic properties affected by this undertaking.
Dixie Henry Date 12/8/09

Archives, 12/8/09 (12)
Adjacent to 18, 19, 23 -
1001
5001
1001
1001

9135 GUILFORD ROAD, SUITE 100
COLUMBIA, MARYLAND 21046-2579
301.362.9200 FAX 301.362.9245

HBE:IA TJT 11/30/09



Martin O'Malley, Governor
Anthony G. Brown, Lt. Governor
John R. Griffin, Secretary
Eric Schwaab, Deputy Secretary

November 30, 2009

Matt Rescott
Straughan Environmental Services, Inc.
9135 Guilford Rod, Suite 100
Columbia, MD 21046-2579

RE: Environmental Review for Seneca Crossing Park, development of recreational park in vicinity of Brink Road and MD 27, Montgomery County, MD.

Dear Mr. Rescott:

The Wildlife and Heritage Service has determined that there are no State or Federal records for rare, threatened or endangered species within the boundaries of the project site as delineated. As a result, we have no specific comments or requirements pertaining to protection measures at this time. This statement should not be interpreted however as meaning that rare, threatened or endangered species are not in fact present. If appropriate habitat is available, certain species could be present without documentation because adequate surveys have not been conducted.

Thank you for allowing us the opportunity to review this project. If you should have any further questions regarding this information, please contact me at (410) 260-8573.

Sincerely,

A handwritten signature in black ink that reads "Lori A. Byrne".

Lori A. Byrne,
Environmental Review Coordinator
Wildlife and Heritage Service
MD Dept. of Natural Resources

ER# 2009.1915

APPENDIX E

QUALIFIED PROFESSIONAL CERTIFICATION

Natural Resources Inventory/Forest Stand Delineation E-1
Seneca Crossing Park

Straughan Environmental Services, Inc.
December 2009



Robert L. Ehrlich, Jr., Governor

Michael S. Steele, Lt. Governor

C. Ronald Franks, Secretary

February 14, 2006

Matthew L. Rescott
1945 Mt. View Rd
Marriottsville, MD 21104

Dear Mr. Rescott:

The Maryland Department of Natural Resources has reviewed your application for qualified professional status for the purpose of developing Forest Stand Delineations and Forest Conservation Plans. We are happy to inform you that you meet the requirements of COMAR 08.19.06.01 for qualified professional status.

Your name will be included on a list of qualified professionals to be sent to the jurisdictions with authority to review Forest Stand Delineations and Forest Conservation Plans.

Participation by professionals like you is key to successful implementation of the Forest Conservation Act. Thank you for submitting your application.

Sincerely,

A handwritten signature in cursive script that reads "Steven W. Koehn".

Steven W. Koehn



**Wetland Investigation Report
for
Seneca Crossing Park
Montgomery County, Maryland**

Prepared for:

The Maryland-National Capital Park and Planning Commission
6611 Kenilworth Avenue
Riverdale, MD 20737



Prepared by:

Straughan Environmental Services, Inc.
9135 Guilford Road, Suite 100
Columbia, Maryland 21046

Under Contract to:

Lewis, Scully, Gionet, Inc.
1919 Gallows Road, Suite 110
Vienna, VA 22182

December 2009

TABLE OF CONTENTS

Section	Description	Page
1	INTRODUCTION.....	1
1.1	PROJECT DESCRIPTION	1
1.2	STUDY AREA DESCRIPTION	1
2	METHODOLOGY	4
2.1	WETLAND INVESTIGATION	4
3	FINDINGS	5
3.1	PUBLISHED INFORMATION	5
3.2	FIELD INVESTIGATION	10
4	CONCLUSIONS	13
5	REFERENCES.....	14

LIST OF FIGURES

Figure	Description	Page
1	Site Location Map	2
2	Study Area Map	3
3	National Wetlands Inventory Map.....	7
4	Soil Survey Map.....	8
5	Flood Insurance Rate Map	9
6	Wetland Location Map.....	12

LIST OF TABLES

Table	Description	Page
2-1	References for Identification of Jurisdictional Waters and Wetlands	4
3.1-1	Typical Soil Profiles.....	5
3.1-2	Precipitation Data	10
3.2-1	Wetland Plant Indicator Definitions	10
3.2-2	Sample Plot UPL-1 General Information	11
3.2-3	Sample Plot UPL-1 Dominant Vegetation	11
3.2-4	Sample Plot UPL-1 Soil Description.....	11

LIST OF APPENDICES

Appendix A: Photographs A-1
Appendix B: Datasheets B-1

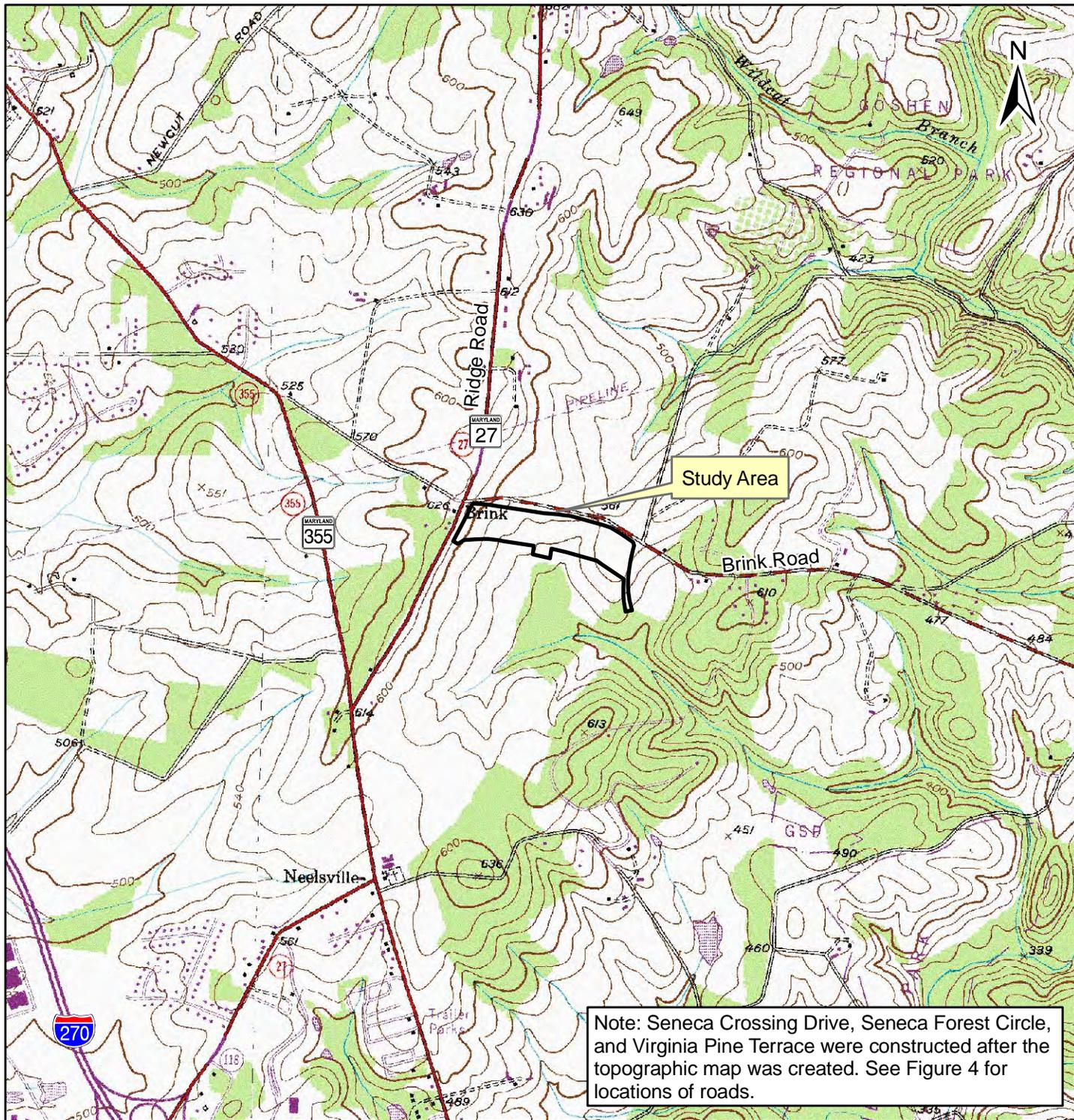
1 INTRODUCTION

1.1 PROJECT DESCRIPTION

The Maryland-National Capital Park and Planning Commission (M-NCPPC) proposes to create Seneca Crossing Park, a recreational park in the vicinity of Brink Road and MD 27 (Ridge Road) in Montgomery County, Maryland (see Figure 1). A wetland investigation of the study area was conducted to assist M-NCPPC in determining potential impacts to wetlands and other “waters of the U.S.” The wetland delineation was based on a review of published information and a field investigation.

1.2 STUDY AREA DESCRIPTION

The study area for this investigation includes three parcels located adjacent to and south of Brink Road at its intersection with MD 27 in Montgomery County, Maryland (see Figure 2). It extends approximately 2,400 feet east along Brink Road from the intersection with MD 27, and south along MD 27 and Seneca Crossing Drive to residential properties on Virginia Pine Terrace and Seneca Forest Circle, and is bordered by undeveloped land to the east. In total, the study area includes approximately 27.8 acres. Land use in the study area includes open space (maintained turf) and forest. Many of the trees within the study area appear to have been planted as part of a previous reforestation effort, although this has not been confirmed. The parcels have been graded into four terraces with drainage swales between each one. The study area is located within the Piedmont Plateau physiographic province and is within the Middle Potomac River watershed.



**Figure 2:
Study Area Map**

Seneca Crossing Park
Montgomery County, Maryland

Legend:

 Study Area

Scale: 1 inch = 2,000 feet

0 1,000 2,000 4,000
 Feet

Source: USDA, NRCS. 2000. *Digital Raster Graphic Mosaic of Montgomery County, Maryland*. Fort Worth, TX.

2 METHODOLOGY

2.1 WETLAND INVESTIGATION

A review of published information was conducted to identify wetlands and other “waters of the U.S.” in the study area. This information is presented in Table 2-1. A field investigation was conducted to confirm the published information and to document the presence of wetlands within the study area.

All fieldwork was performed according to the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and the *DRAFT Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region* (U.S. Army Corps of Engineers, 2010) using the routine on-site method. The manual outlines a three-parameter approach to delineating wetlands. All three parameters (hydrophytic vegetation, hydric soils, and hydrology) must be evident to classify an area as a wetland, unless the site has been disturbed (atypical) or is considered a problem area. In the case of disturbed or problem areas, only two parameters must be evident to classify those areas as wetlands. Each wetland and waterway was classified into system, subsystem, class, and subclass according to *Classification of Wetlands and Deep Water Habitats of the United States* (Cowardin, et al., 1979).

“Waters of the U.S.” are defined by the U.S. Army Corps of Engineers as “coastal and inland waters, lakes, rivers, and streams that are navigable waters of the United States, including their adjacent wetlands” and “tributaries to navigable waters of the United States, including adjacent wetlands” (*Corps of Engineers Wetlands Delineation Manual* [Environmental Laboratory, 1987]).

Table 2-1 REFERENCES FOR IDENTIFICATION OF JURISDICTIONAL WATERS AND WETLANDS		
Document	Date	Reference
<i>Soil Survey Geographic (SSURGO) Database for Montgomery County, Maryland</i>	2002	United States Department of Agriculture, Natural Resource Conservation Service (USDA, NRCS)
<i>National Wetlands Inventory Map for Montgomery County, Maryland</i>	1981-2002	United States Fish and Wildlife Service (USFWS)
<i>Digital Flood Insurance Rate Map Database, Montgomery County, Maryland</i>	2006	Federal Emergency Management Agency (FEMA)
<i>Hydric Soils of Montgomery County, Maryland</i>	2007	USDA, NRCS
<i>Monthly Weather Summary for Washington National, DC</i>	2009	National Oceanic and Atmospheric Administration (NOAA)
<i>Digital Raster Graphic Mosaic of Montgomery County, Maryland</i>	2000	USDA, NRCS
<i>USGS High Resolution State Orthoimagery for Montgomery County, Maryland</i>	2008	United States Geological Survey (USGS)

3 FINDINGS

3.1 PUBLISHED INFORMATION

The *NWI Map for Montgomery County, Maryland* (USFWS, 1981-2002) identifies no wetlands or waterways within the study area (see Figure 3).

The *Soil Survey Geographic (SSURGO) Database for Montgomery County, Maryland* (USDA, NRCS, 2002) indicates that five soil series (Brinklow, Blocktown, Occoquan, Glenville, and Glenelg) occur within the study area (see Figure 4 and Table 3.1-1).

- Brinklow-Blocktown channery silt loams (16B, 16C) – gently sloping soils; about 50 percent Brinklow soil, 30 percent Blocktown soil, and 20 percent other soils.
 - Brinklow – moderately deep, well drained soils on broad ridgetops and side slopes in uplands.
 - Blocktown – shallow, well drained soils on uplands.
- Occoquan loam (17B) – deep, gently sloping, and well drained soils on broad ridgetops and side slopes.
- Glenville silt loam (5A) – very deep, moderately well drained or somewhat poorly drained soils in low areas on uplands and along drainageways.
- Glenelg silt loam (2C) – very deep, strongly sloping, and well drained soils on side slopes in uplands.

Table 3.1-1 TYPICAL SOIL PROFILES			
Soil Series	Depth (Inches)	Color	Texture
Brinklow	0-10	Brown (7.5YR 5/4)	Channery silt loam
	10-19	Strong brown (7.5YR 5/8)	Channery silt loam
	19-25	Variegated strong brown (7.5YR 5/8), reddish yellow (7.5YR 7/6), and yellowish red (5YR 5/6)	Channery loam
	25-35	Reddish yellow (5YR 7/6)	Soft bedrock that crushes to channery loam
	35	N/A	Hard phyllite bedrock
Blocktown	0-6	Yellowish red (5YR 4/6)	Channery silt loam
	6-17	Red (2.5YR 4/6)	Very channery silt loam
	17-21	Variegated red (2.5YR 4/6) and yellowish red (5YR 5/6)	Soft bedrock that crushes to extremely channery silt loam
	21	N/A	Hard phyllite bedrock
Occoquan	2-0	N/A	Organic material
	0-2	Dark grayish brown (10YR 4/2)	Sandy loam

Seneca Crossing Local Park

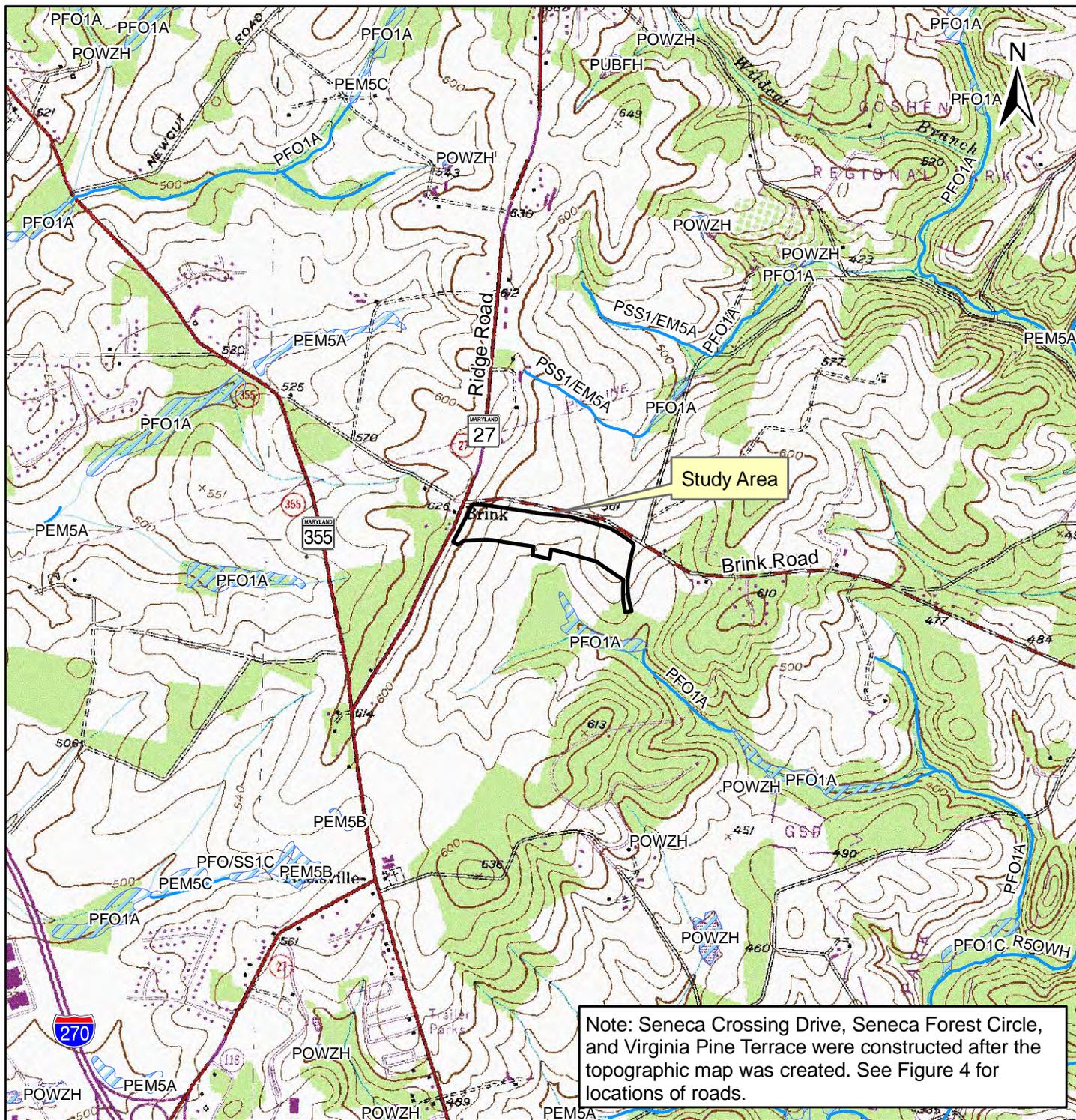
Table 3.1-1 TYPICAL SOIL PROFILES			
Soil Series	Depth (Inches)	Color	Texture
	2-9	Pale brown (10YR 6/3)	Sandy loam
	9-17	Strong brown (7.5YR 5/8)	Loam
	17-53	Multicolored in shades of brown, yellow, red and white	Sandy loam saprolite
	53-72	N/A	Partially weathered granite gneiss
Glenville	0-9	Dark yellowish brown (10YR 4/4)	Silt loam
	9-16	Yellowish brown (10YR 5/6)	Silt loam
	16-19	Yellowish brown (10YR 5/6)	Silt loam
	19-25	Brown (10YR 5/3)	Silt loam
	25-33	Light brownish gray (10YR 6/2) and brown (10YR 5/3)	Silt loam
	33-39	Yellowish brown (10YR 5/4)	Silt loam
	39-82	Yellowish brown (10YR 5/4)	Channery loam
Glenelg	0-6	Brown (7.5YR 4/3)	Loam
	6-10	Brown (7.5YR 4/4)	Clay loam
	10-18	Strong brown (7.5YR 5/8)	Clay loam
	18-25	Strong brown (7.5YR 5/6)	Clay loam
	25-30	Yellowish brown (10YR 5/6)	Clay loam
	30-42	Yellowish red (5YR 5/6) and yellowish brown (10YR 5/6)	Loam
	42-54	Yellowish red (5YR 5/6) and yellowish brown (10YR 5/6)	Loam
	54-76	Strong brown (7.5YR 5/8), brownish yellow (10YR 6/8), and yellow (10YR 7/6)	Extremely channery sandy loam

Source: USDA, NRCS. 2009. *Official Soil Series Descriptions by Name*. <http://ortho.ftw.nrcs.usda.gov/cgi-bin/osd/osdname.cgi>

Brinklow-Blocktown channery silt loams, Occoquan loam, Glenville silt loam, and Glenelg silt loam are listed in *Hydric Soils of Montgomery County, Maryland* (USDA, NRCS, 2007) as having five percent hydric inclusions of Baile in flats.

The *Digital Flood Insurance Rate Map Database, Montgomery County, Maryland* (FEMA, 2006) indicates that the study area is not located within a floodplain (see Figure 5).

The *USGS High Resolution State Orthoimagery for Montgomery County, Maryland* (USGS, 2008) shows open field (maintained grass), drainage swales, and forested land within the study area (see Figure 4).



**Figure 3:
National Wetlands Inventory Map**

Seneca Crossing Park
Montgomery County, Maryland

Legend:

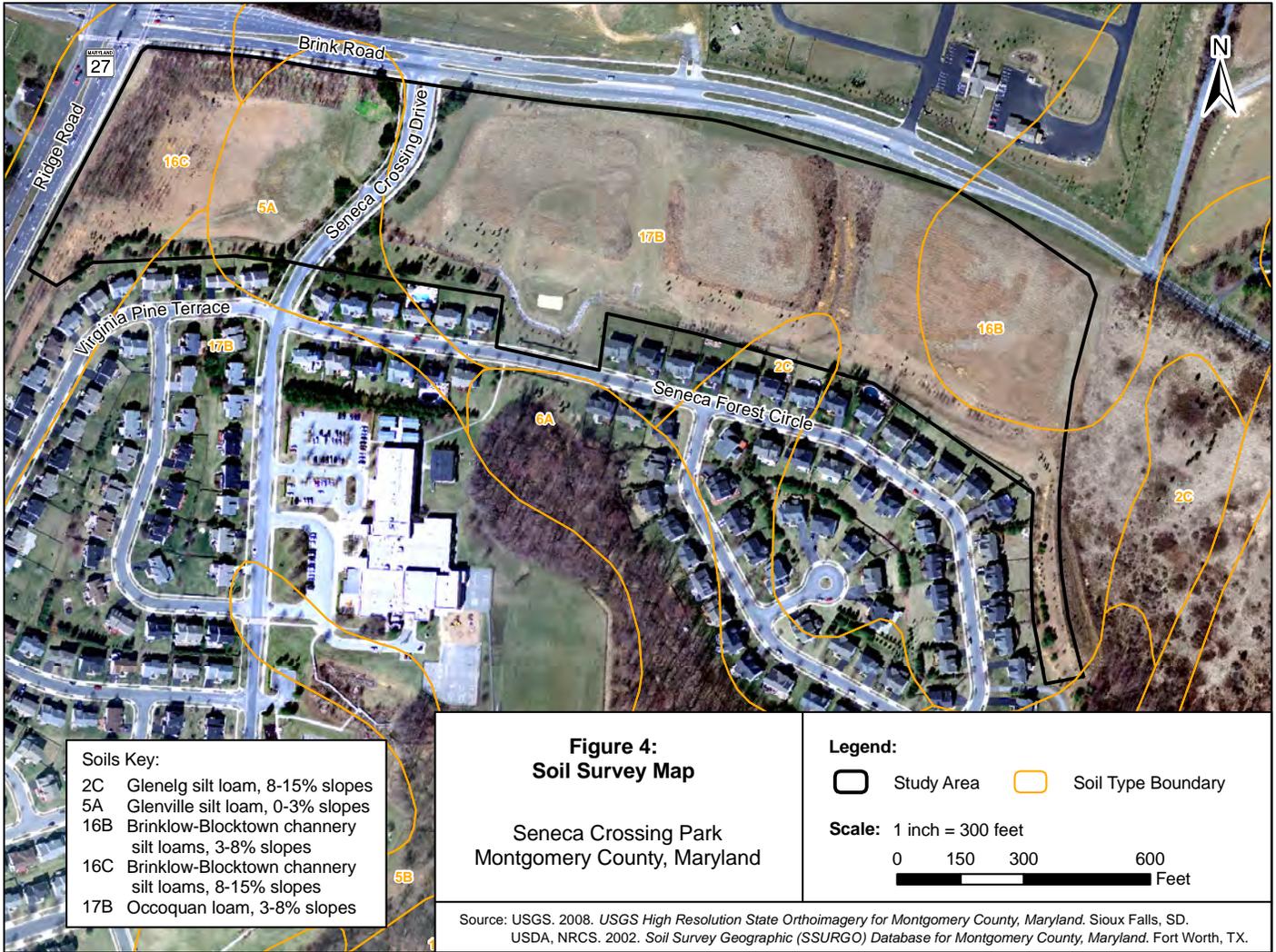
-  Study Area
-  NWI Wetland
-  NWI Waterway

Scale: 1 inch = 2,000 feet



Source: USDA, NRCS. 2000. *Digital Raster Graphic Mosaic of Montgomery County, Maryland*. Fort Worth, TX.
USFWS. 1981-2002. *National Wetlands Inventory (NWI) Map for Montgomery County, Maryland*. St. Petersburg, FL.

Seneca Crossing Local Park



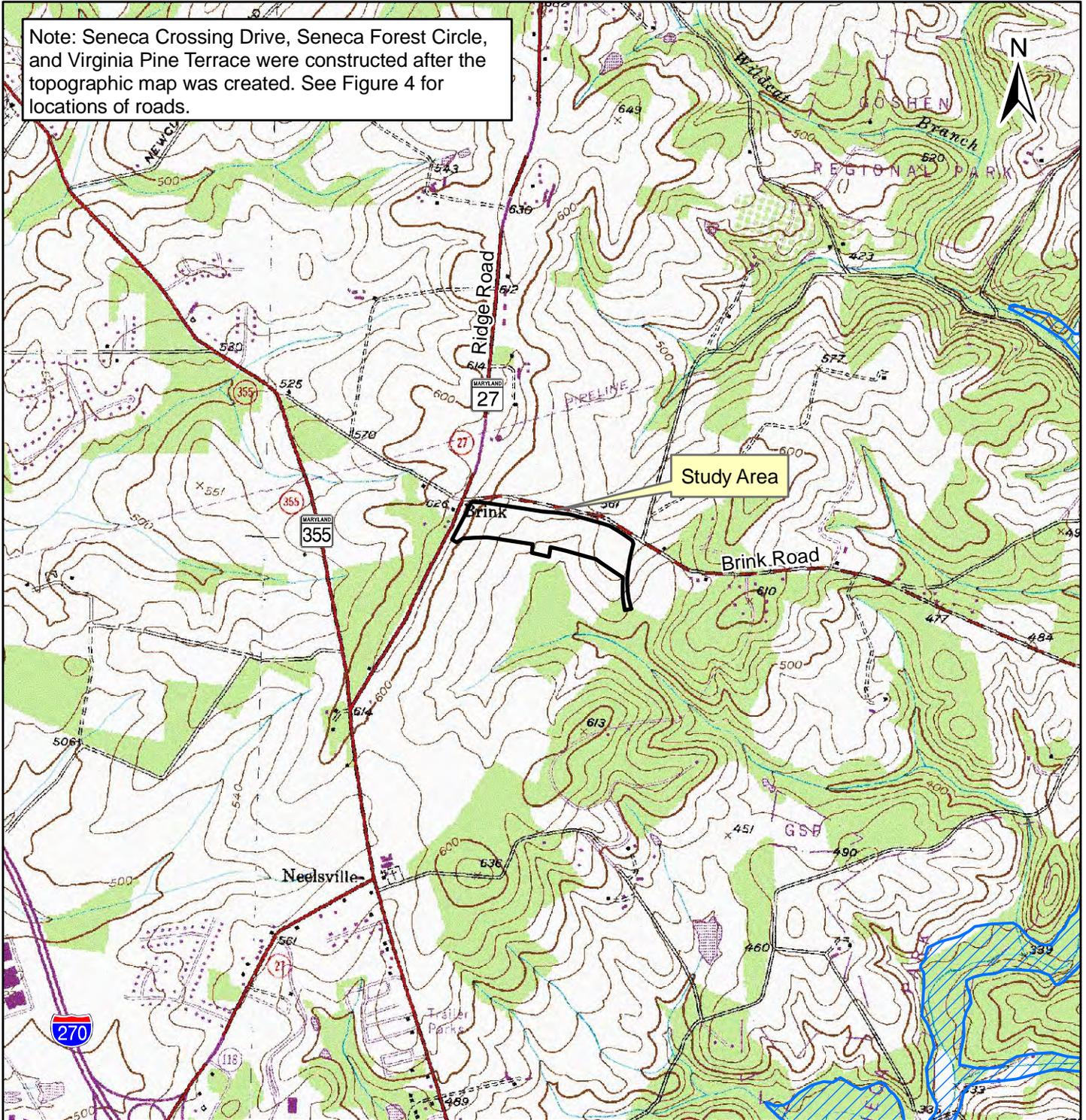


Figure 5:
Flood Insurance Rate Map

Seneca Crossing Park
Montgomery County, Maryland

Legend:

-  Study Area
-  100-Year Floodplain

Scale: 1 inch = 2,000 feet



Source: USDA, NRCS. 2000. *Digital Raster Graphic Mosaic of Montgomery County, Maryland*. Fort Worth, TX.
FEMA. 2006. *Digital Flood Insurance Rate Map Database, Montgomery County, Maryland*. Washington, DC.

The *Monthly Weather Summary for Washington National, DC* (NOAA, 2009) reports 8.89 inches of precipitation fell between September 1 and October 30, 2009, 1.98 inches above the normal value (see Table 3.1-2). A trace amount of rainfall was recorded on October 29, 2009, the day before the field investigation.

Table 3.1-2 PRECIPITATION DATA			
Time period	Observed Value	Normal Value	Depart from Normal
Month to date total (inches) ¹	5.58	3.12	2.46
October 29, 2009 (inches) ²	Trace	0.10	-0.10
Previous month to date total (inches) ³	8.89	6.91	1.98

¹ For time period October 1 through 30, 2009

² Day prior to wetland delineation field investigation

³ September 1 through October 30, 2009

3.2 FIELD INVESTIGATION

An investigation was conducted within the study area on October 30, 2009. When describing the vegetation for the area sampled, certain abbreviations are used to represent the indicator status for each vegetative species. These indicators are presented in Table 3.2-1.

Table 3.2-1 WETLAND PLANT INDICATOR DEFINITIONS	
Indicator Status	Definition
OBL	Occurs with an estimated 99% probability in wetlands.
FACW	Estimated 67% to 99% probability of occurrence in wetlands.
FAC	Equally likely to occur in wetlands and non-wetlands (34% to 66% probability of occurrence).
FACU	Estimated 67% to 99% probability of occurrence in non-wetlands, 1% to 33% probability of occurrence in wetlands.
UPL	Greater than 99% occurrence in non-wetlands in this region, may occur in wetlands in other regions.
UNK	Unknown indicator status.
NI	Insufficient information available to determine an indicator status.
NA	Not available
+	Frequency occurs in the higher end of a category.
-	Frequency occurs in the lower end of a category.
*	Tentative assignment based on limited information from which to determine the indicator status.

Source: Resource Management Group, Inc. Environmental Planners and Consultants. 1999. *National List of Plant Species that Occur in Wetlands, Region 1 - Northeast*.

No wetlands or waterways were identified during the field investigation. The upland sample plot is described below and illustrated in Figure 6. Photographic documentation is presented in Appendix A, and datasheets are presented in Appendix B.

Sample Plot UPL-1

On October 30, 2009, SES examined soils, vegetation, and hydrology at Sample Plot UPL-1. Sample Plot UPL-1 is located approximately 525 feet southeast of the Brink Road/MD 27 intersection. Table 3.2-2 summarizes the investigation results, Table 3.2-3 presents dominant vegetation, and Table 3.2-4 summarizes soil data.

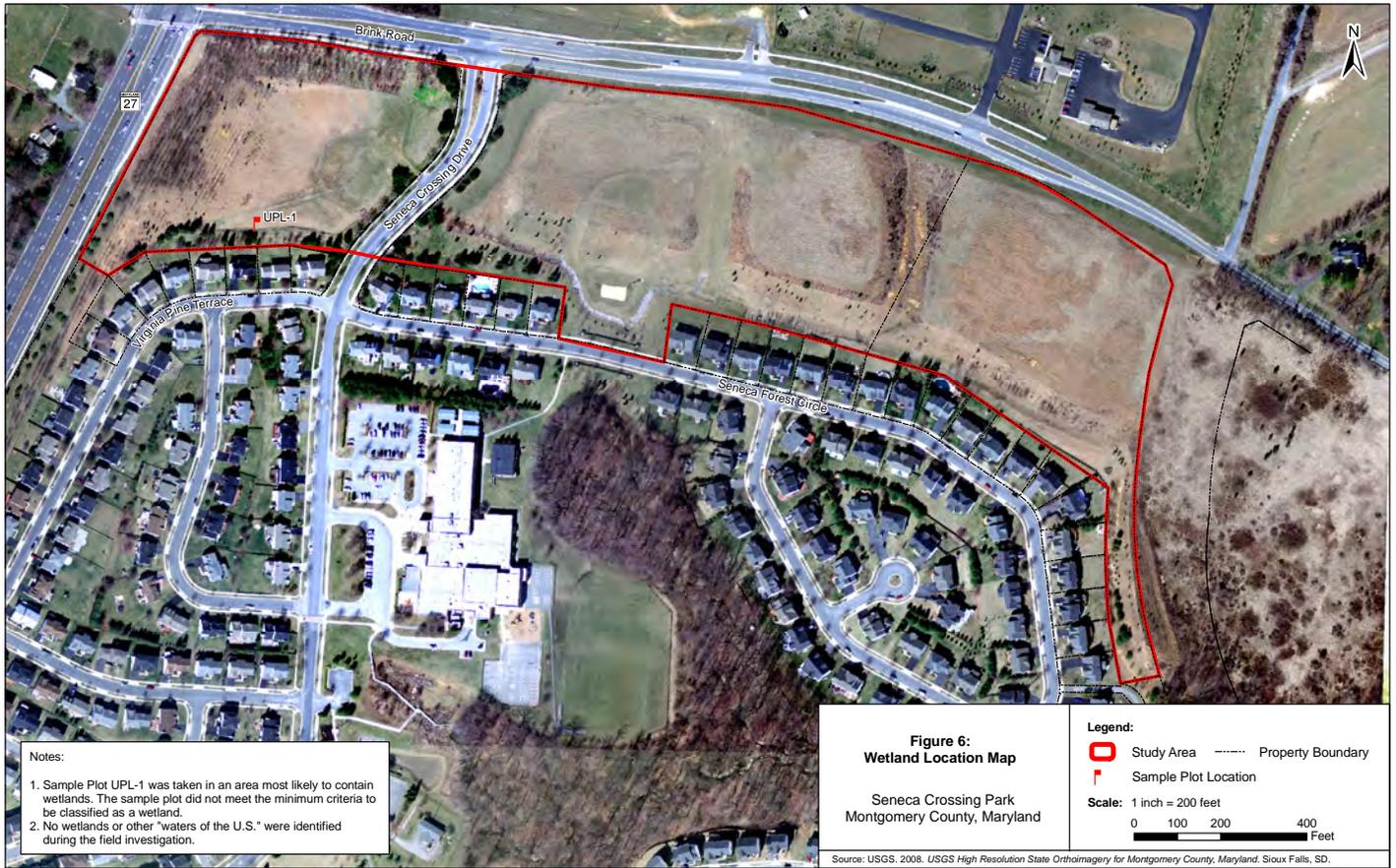
Table 3.2-2 SAMPLE PLOT UPL-1 GENERAL INFORMATION	
Parameter	Status
Classification	Upland
Sample Plot Location	Approximately 525 feet southeast of the Brink Road/MD 27 intersection
Hydrology Indicators	Saturated at surface
Hydrophytic Vegetation	Dominance Test = 100% (see Table 3.2-3 and Appendix B)
Hydric Soils	None (see Table 3.2-4 and Appendix B)

Table 3.2-3 SAMPLE PLOT UPL-1 DOMINANT VEGETATION		
Common Name	Botanical Name	Indicator Status
Broadleaf cattail	<i>Typha latifolia</i>	OBL
Pennsylvania smartweed	<i>Polygonum pennsylvanicum</i>	FACW
Curlytop knotweed	<i>Polygonum lapathifolium</i>	FACW

Table 3.2-4 SAMPLE PLOT UPL-1 SOIL DESCRIPTION			
Depth (in.)	Color	Description	Mottles
0-3	Black (10YR 2/1)	Fibrous silt loam	None
3-8	Yellowish red (5YR 4/6)	Gravelly loam	None
8-13	N/A	Fill material	None
13+	Refusal		

Conclusion: Sample Plot UPL-1 does not exhibit hydric soils; therefore the sample plot only satisfies two of the three mandatory wetland criteria. The sample plot was taken within a man-made drainage ditch created in uplands. No streams were identified in this area on either the *Soil Survey of Montgomery County, Maryland* (Brown, 1995) or the *Digital Raster Graphic Mosaic of Montgomery County, Maryland* (USDA, NRCS, 2000). SES classified the area as upland.

Seneca Crossing Local Park



4 CONCLUSIONS

The Maryland-National Capital Park and Planning Commission (M-NCPPC) proposes to create Seneca Crossing Park, a recreational park in the vicinity of Brink Road and MD 27 in Montgomery County, Maryland. A review of published information and a field investigation were conducted based on the 1987 *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and the *DRAFT Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region* (U.S. Army Corps of Engineers, 2010) to identify wetlands and other “waters of the U.S.” within the study area. Based on the results of the investigation, no wetlands or other “waters of the U.S.” were identified within the study area.

5 REFERENCES

- Brown, James H. and Steve T. Dyer. 1995. *Soil Survey of Montgomery County, Maryland*. United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). Washinton, D.C.
- Cowardin, L.M., V. Carter, F. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deep Water Habitats of the United States*. United States Fish and Wildlife Service, Washington, DC.
- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. United States Department of the Army, Waterways Experiment Station, Vicksburg, MS.
- ESRI. 2008. *ArcGIS Media Kit: ESRI Data and Maps*. Redlands, CA.
- Federal Emergency Management Agency. 2006. *Digital Flood Insurance Rate Map Database, Montgomery County, Maryland*. Washington, DC.
- National Oceanic and Atmospheric Administration, National Climatic Data Service. 2009. *Monthly Weather Summary for Washington National, DC*.
<http://www.weather.gov/climate/index.php?wfo=lwx>
- Resource Management Group, Inc. Environmental Planners and Consultants. 1999. *National List of Plant Species that Occur in Wetlands, Region 1 - Northeast*.
- United States Army Corps of Engineers. 2010. *DRAFT Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region*. Ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-10-XX. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- USDA, NRCS. 2000. *Digital Raster Graphic Mosaic of Montgomery County, Maryland*. Ft. Worth, TX.
- USDA, NRCS. 2002. *Soil Survey Geographic Database (SSURGO) for Montgomery County Maryland*. Ft. Worth, TX.
- USDA, NRCS. 2007. *Hydric Soils of Montgomery County, Maryland*. Electronic Field Office Technical Guide (eFOTG). Ft. Worth, TX. <http://www.nrcs.usda.gov/Technical/efotg/>
- USDA, NRCS. 2009. *Official Soil Series Descriptions by Name*.
<http://ortho.ftw.nrcs.usda.gov/cgi-bin/osd/osdname.cgi>
- United States Fish and Wildlife Service. 1981-2002. *National Wetlands Inventory Map for Montgomery County, Maryland*. St. Petersburg, FL.
- United States Geological Survey. 2008. *USGS High Resolution State Orthoimagery for Montgomery County, Maryland*. Sioux Falls, SD.

Facility Plan Report

APPENDIX A PHOTOGRAPHS

Wetland Investigation Report for
Seneca Crossing Park

A-1

Straughan Environmental Services, Inc.
December 2009

Seneca Crossing Local Park

Photograph 1



Date: October 30, 2009

Comments: Sample plot UPL-1 facing east towards Seneca Crossing Road.

Photograph 2



Date: October 30, 2009

Comments: Facing west towards UPL-1 from Seneca Crossing Road.

Facility Plan Report

APPENDIX B DATASHEETS

Wetland Investigation Report for
Seneca Crossing Park

B-1

Straughan Environmental Services, Inc.
December 2009

Seneca Crossing Local Park

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont **(DRAFT)**

Project/Site: _____ City/County: _____ Sampling Date: _____

Applicant/Owner: _____ State: _____ Sampling Point: _____

Investigator(s): Matt Rescott, Lisa Thurston Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____

Slope (%): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u>	<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No _____ Depth (inches): _____ Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No _____
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Facility Plan Report

VEGETATION – Use scientific names of plants.

Sampling Point: _____

	Absolute % Cover	Dominant Species?	Indicator Status	
<u>Tree Stratum</u> (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
	_____ = Total Cover			Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
<u>Sapling Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
	_____ = Total Cover			
<u>Shrub Stratum</u> (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
	_____ = Total Cover			
<u>Herb Stratum</u> (Plot size: _____)				Definitions of Vegetation Strata: Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
	_____ = Total Cover			
<u>Woody Vine Stratum</u> (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	_____ = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet.)



MONTGOMERY COUNTY, MARYLAND
 DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
 DEPARTMENT OF PERMITTING SERVICES

SIGHT DISTANCE EVALUATION

Facility/Subdivision Name: Seneca Crossing Preliminary Plan Number: 1- n/a

Street Name: Seneca Crossing Drive Master Plan Road Classification: Primary ✓

Posted Speed Limit: 25 mph

Street/Driveway #3: Park Entrance* Street/Driveway #2 (: _____)

Sight Distance (feet) OK?
 Right 300.00' Yes
 Left 250.00' Yes

Sight Distance (feet) OK?
 Right _____
 Left _____

Comments: Seneca Crossing Drive is a 2 lane undivided roadway at entrance 3R.

Comments: _____

GUIDELINES

Classification or Posted Speed (use higher value)	Required Sight Distance in Each Direction*
Tertiary - 25 mph	150'
Secondary - 30	200'
Business - 30	200'
→ Primary - 35	250' ←
Arterial - 40	325'
(45)	400'
Major - 50	475'
(55)	550'

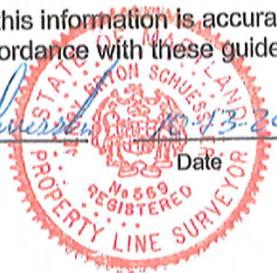
Sight distance is measured from an eye height of 3.5' at a point on the centerline of the driveway (or side street) 6' back from the face of curb or edge of traveled way of the intersecting roadway where a point 2.75' above the road surface is visible. (See attached drawing)

*Source: AASHTO

ENGINEER/ SURVEYOR CERTIFICATE

I hereby certify that this information is accurate and was collected in accordance with these guidelines.

Joseph A. Schuster
 Signature Date
569



Montgomery County Review:

Approved *
 Disapproved:

By: gme
 Date: 11/19/10

Prop. LS/ P.E. MD Reg. No.

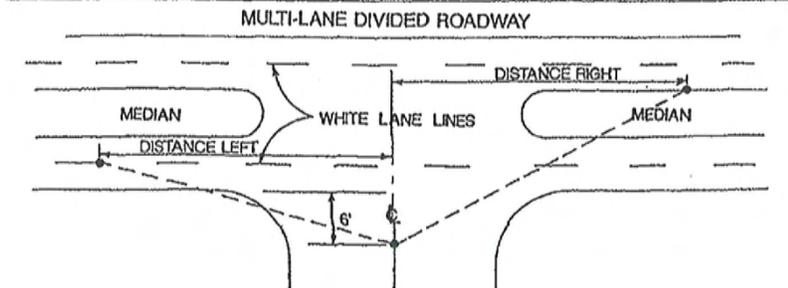
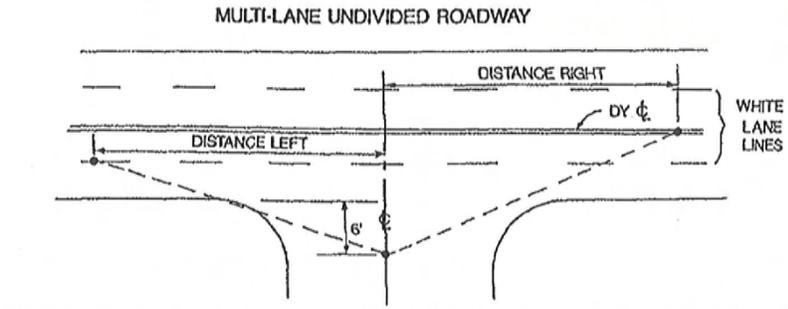
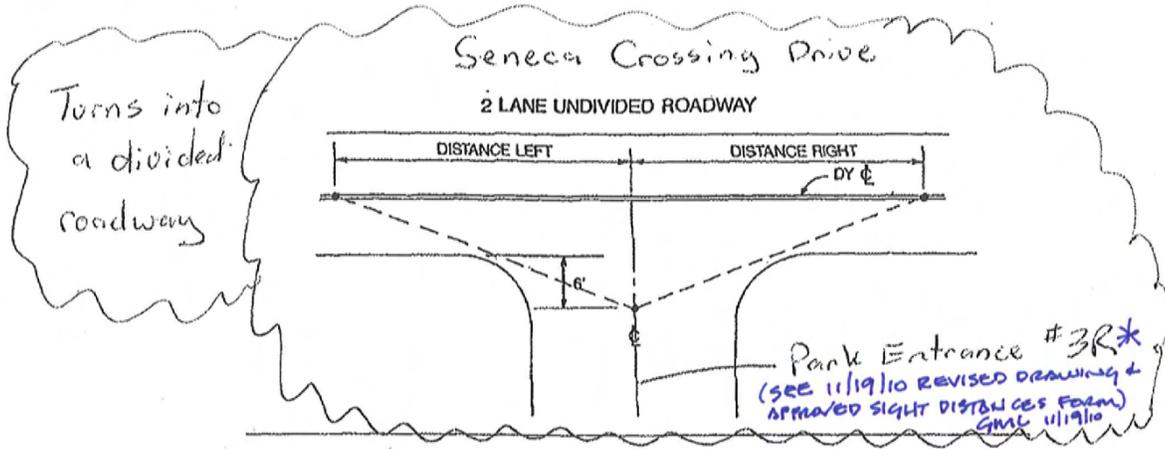
Form Reformatted:
 March, 2000

* SEE ATTACHED DRAWING FOR APPROVED ENTRANCE LOCATION
 gme

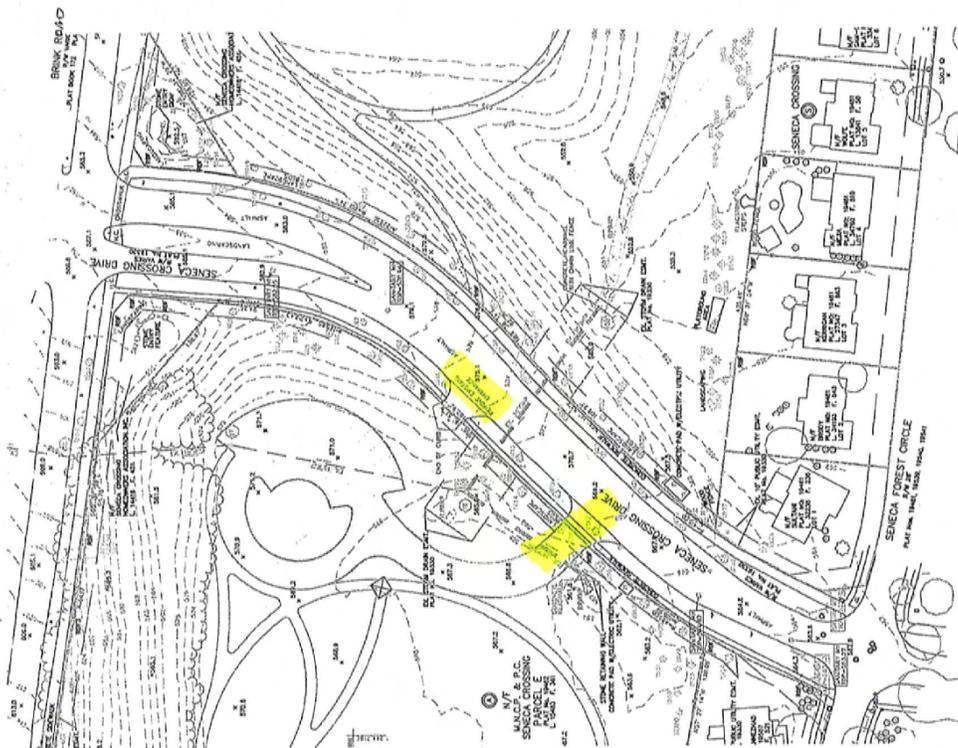
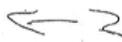


MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DEPARTMENT OF PERMITTING SERVICES

SIGHT DISTANCE EVALUATION ATTACHMENT



Form Reformatted:
March, 2000





MONTGOMERY COUNTY, MARYLAND
 DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
 DEPARTMENT OF PERMITTING SERVICES

SIGHT DISTANCE EVALUATION

Facility/Subdivision Name: Seneca Crossing Preliminary Plan Number: 1-

Street Name: Brink Road Master Plan Road Classification: Arterial

Posted Speed Limit: 40 mph

Street/Driveway #1 (Park Entrance) Street/Driveway #2 (Park Entrance)

Sight Distance (feet)	OK?	Sight Distance (feet)	OK?
Right <u>800.00'</u>	<u>yes</u>	Right <u>500.00'</u>	<u>yes</u>
Left <u>650.00'</u>	<u>yes</u>	Left <u>1,140.00'</u>	<u>yes</u>

Comments: Brink Road is a multi lane divided roadway at this entrance.

Comments: Brink Road is a multi lane divided roadway to the left of this entrance and converts to a 2 lane undivided roadway at the right.

GUIDELINES

Classification or Posted Speed (use higher value)	Required Sight Distance in Each Direction*	Sight distance is measured from an eye height of 3.5' at a point on the centerline of the driveway (or side street) 6' back from the face of curb or edge of traveled way of the intersecting roadway where a point 2.75' above the road surface is visible. (See attached drawing)
Tertiary - 25 mph	150'	
Secondary - 30	200'	
Business - 30	200'	
Primary - 35	250'	
Arterial - 40	325'	
(45)	400'	
Major - 50	475'	
(55)	550'	

*Source: AASHTO

ENGINEER/ SURVEYOR CERTIFICATE

I hereby certify that this information is accurate and was collected in accordance with these guidelines.

Greg B. Shurtz
 Signature Date: 6-18-2010
569
 PLS/P.E. MD Reg. No.
 Prop. 65



Montgomery County Review:

Approved
 Disapproved:

By: David C. Adams
 Date: 22 Dec 2010

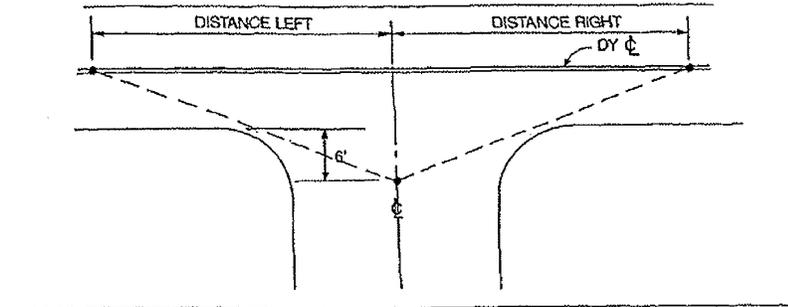
Form Reformatted: March, 2000



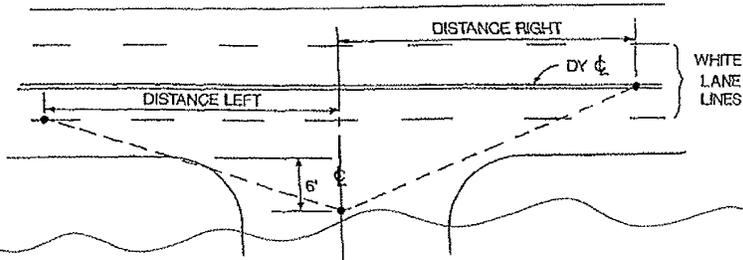
MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DEPARTMENT OF PERMITTING SERVICES

SIGHT DISTANCE EVALUATION ATTACHMENT

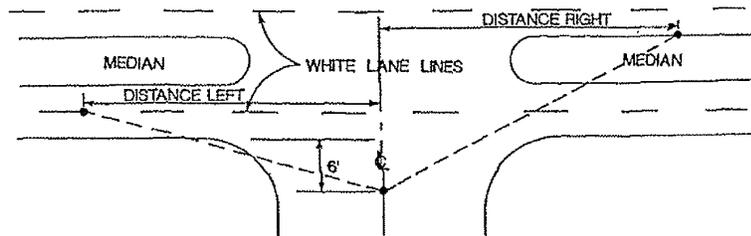
2 LANE UNDIVIDED ROADWAY



MULTI-LANE UNDIVIDED ROADWAY



MULTI-LANE DIVIDED ROADWAY



BRINK ROAD

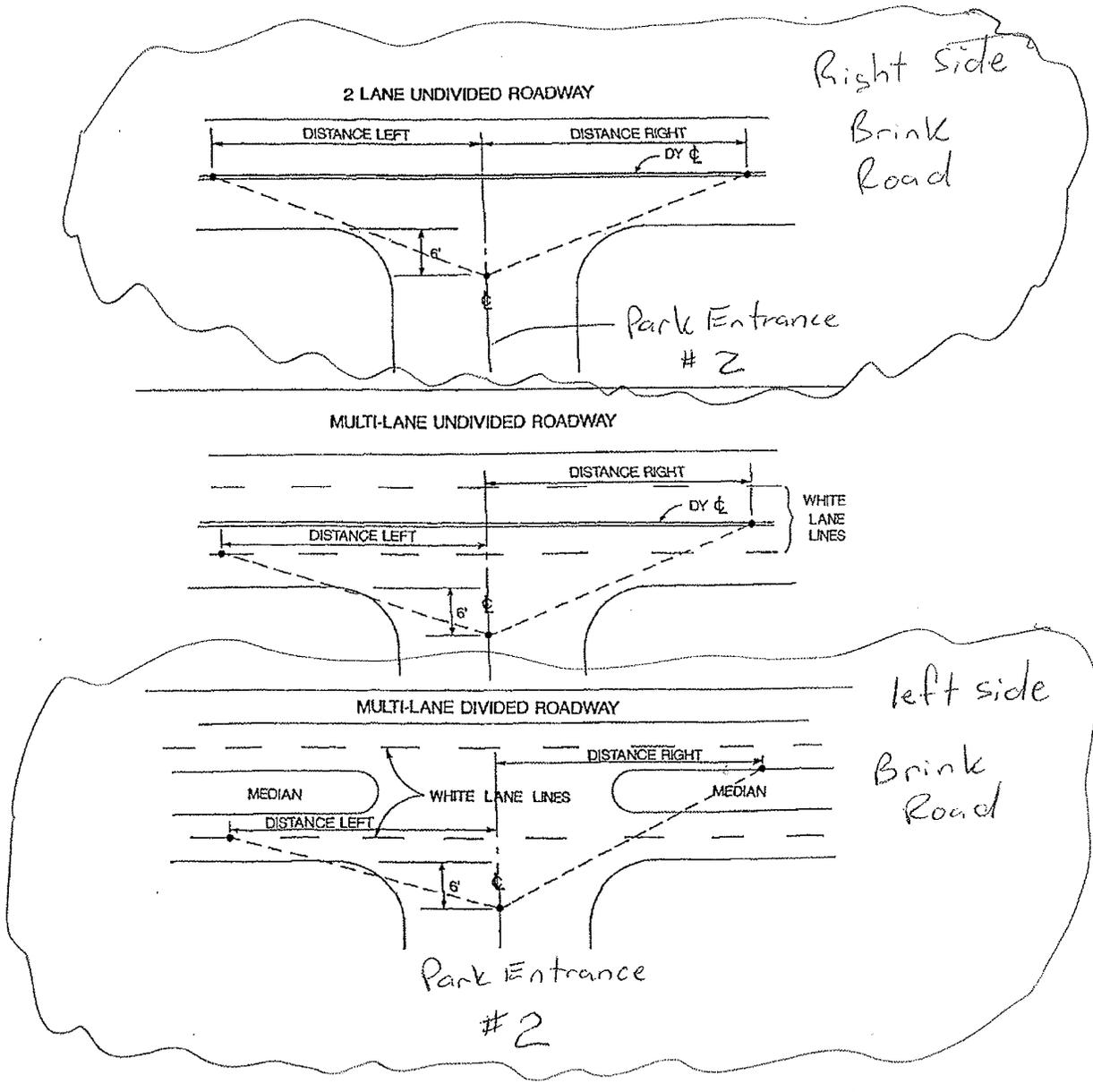
Park Entrance #1

Form Reformatted:
March, 2000



MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DEPARTMENT OF PERMITTING SERVICES

SIGHT DISTANCE EVALUATION ATTACHMENT



Form Reformatted:
March, 2000

Facility Plan Report

Montgomery County Maryland
 Department of Permitting Services
 Phone 240-777-6300



255 Rockville Pike, 2nd Floor
 Rockville, Maryland 20850-4166
 Fax (240) 777-6339

<http://www.montgomerycountymd.gov/permittingservices/>

Application for Stormwater Management Concept

Stormwater Concept # _____

Project Name/Subdivision: Seneca Crossing Park

Property Size/Area: 27.8 Acres

Property Address/Location: 11400 Brink Road Germantown / MD 20876
Address City/State Zip

Owner/Applicant Information:

Name: Maryland-National Capital Park and Planning Commission Linda Komcs
Firm Name and Contact Person Contact ID #

Mailing Address: 6611 Kenilworth Avenue

City: Riverdale State: MD Zip: 20737 - Phone: 301-495-3589

Engineer Information:

Name: Burgess & Niple Inc Paul Reynolds
Firm Name and Contact Person Contact ID #

Mailing Address: 3204 Tower Oaks Boulevard

City: Rockville State: MD Zip: 20852 Phone: 301-468-9400

Type of Application:

New **Resubmittal*** **Revision*** **Reconfirmation*** **Administrative Waiver**

* For Resubmittal, Revision and Reconfirmation provide original Stormwater Concept #: _____

Stormwater Management Provided:

- | | |
|---|---|
| <input type="checkbox"/> Onsite Management
Onsite Quantity Acres <u>22.7</u>
Onsite Quality Acres <u>22.7</u> | <input type="checkbox"/> Waiver Request
Waive Quantity Acres _____
Waive Quality Acres _____ |
| <input type="checkbox"/> Onsite Management/Waiver Combination
Onsite Quantity Acres _____
Onsite Quality Acres _____ | Waive Quantity Acres _____
Waive Quality Acres _____ |
| <input type="checkbox"/> SPA Preliminary Water Quality Plan | <input type="checkbox"/> SPA Final Water Quality Plan |

Preliminary Plan #: _____ WSSC Map Grid: 230NW11 Tax Map #: FV

Total Disturbed Area (in acres): 22.7 Proposed Impervious Area (in acres): 3.46

Current Zoning: _____ Proposed Zoning: _____

Watershed: Upper Great Seneca Creek Tributary: Great Seneca Creek State Class: _____

Lot(s): _____ Block(s): A

Parcel(s): _____ Subdivision: 086

Municipality: Montgomery County Liber: 15483 Folio: 376

I declare and affirm, under penalty of perjury, that to the best of my knowledge, information and belief all matters and facts in this application are correct. I declare that I am the owner of the property or duly authorized to make this application on behalf of the owner.

Signature: Paul Reynolds Paul Reynolds 8/31/2011
Signature of Applicant (Property Owner or Authorized Agent) Printed Name Date

C. COMMUNITY MEETINGS

1. Public Meeting #1- (Feb. 18, 2010)
2. Public Meeting #2 - (Feb. 9, 2011)

PUBLIC NOTICE

COMMUNITY MEETING
Proposed New Park:
Seneca Crossing Local Park

Montgomery Parks, M-NCPPC, invites you to participate in a meeting to determine the design for a new park, Seneca Crossing Local Park. It is located along Brink Road at the intersection with Ridge Road (Route 27) in Germantown.

This community meeting is the first step in facility planning for the new park. The purpose of the meeting is to obtain your input and ideas. We will discuss site conditions and opportunities, and present 4 concepts that illustrate a variety of options and ideas for the park. Your input will be used to help us develop alternative plans for the park, which will be presented for additional public review at a later date.

WHEN: Thursday, February 11, 2010

SNOW DATE: Thursday, February 18, 2010 (Meeting will be rescheduled for this date, if Montgomery County schools are closed due to weather)

TIME: 7:00 p.m. - 9:00 p.m.

**WHERE: Up-County Government Center
12900 Middlebrook Road
Germantown, MD**

DIRECTIONS: From Interstate 270 take Route 118 West. Make a right onto Middlebrook Road. Take the first left into parking lot for the Up-County Government Center. Go to Meeting Room A on the first floor.



SENECA CROSSING LOCAL PARK

To submit written comments or for more information contact:

Heidi Sussmann, Landscape Architect/Project Manager
Montgomery County Department of Parks
9500 Brunett Avenue
Silver Spring, MD 20901
E-mail: Heidi.Sussmann@MontgomeryParks.org
Phone: (301) 495-2547

www.ParkProjects.org



LSG LANDSCAPE
ARCHITECTURE

TO: Heidi Sussman, M-NCPPC
 FROM: Molly Guenzer, LSG
 703-821-2045 x110
 DATE: March 1, 2010
 PROJECT: Seneca Crossing Facility Plan
 LSG JOB NO. 28041.02
 RE: Meeting Minutes, Community Meeting #1, February 18, 2010

Present from the design team and M-NCPPC:

Heidi Sussman, M-NCPPC

Donald Brew, M-NCPPC Park Police

Wendy Hanley, M-NCPPC

Art Nelligan, M-NCPPC

Kim Paniati, M-NCPPC

Clare Runkles, M-NCPPC

Also see attached sign-in sheets.

Mark Gionet, LSG

Molly Guenzer, LSG

Dipti Gadgil, LSG

Mel Willis, Burgess and Niple

Matt Rescott, Staughan Environmental

1. The meeting convened at approximately 7:15 p.m. at the Upcounty Government Center. Over fifty community members attended.
2. Heidi Sussman opened the meeting by greeting all attendees, introducing the design team and Parks staff, summarizing the mission and projects of the Parks Division, and giving a brief description of the site and its context. She stated that the site was acquired for use as parkland by M-NCPPC in 1988 from Winchester Homes, the developer of the neighborhood now known as Cedar Valley. Heidi explained that the developer graded the site into three plateaus; that each plateau borders Brink Road and is approximately level with Brink Road; and that the future park was always envisioned to be accessed from Brink Road. She proceeded to describe the sides of the plateaus as steeply sloped except on the Brink Road frontage, including some steep slopes on the south sides, facing the neighborhood. Man-made drainage ways run between the plateaus, drop down to flow at the base of the plateaus along the site's southern boundary, and empty into a storm-water management area near the site's frontage along Seneca Forest Circle.
3. Mark Gionet described the Facility Plan process, defined a "local park", and described the site in detail. His presentation was supported by powerpoint graphics.
4. Matt Rescott presented the findings of the Natural Resource Inventory/Forest Stand Delineation (NRI/FSD). He repeated that the site is almost entirely engineered so there are few (if any) natural features. Matt said that in general the site is divided into three level open plateaus along Brink Road, divided by drainage-ways and bordered by steep slopes toward the south border of the park. These slopes drop down to man-made drainage-ways that exist all along this south side of the park, flowing into a storm water management area, which drains into an existing stream located entirely off-site. There are no wetlands on the site. Matt reported that there is one forest stand in the northwest corner of the site, apparently the result of a reforestation project; it is in poor health

Facility Plan Report

M E M O R A N D U M
Seneca Crossing Facility Plan
Community Meeting #1, 2/18/10
March 24, 2010
page 2

with a great deal of invasive species. He mentioned that the remainder of existing trees on site are also apparent reforestation now in poor condition. There are no significant trees on-site.

5. Mel Willis spoke about SWM issues for this project and possible solutions. He stated that the park project would not alter drainage patterns on the site or downstream. He assured attendees that the project would not result in new or additional runoff into their back yards. There was a question from the audience concerning flooding from the drainage swale behind the 3rd house east of the stormwater pond. Mr. Willis stated that drainage will improve, since stormwater will be designed to infiltrate into the ground via bio-retention swales instead of flowing overland towards houses.
6. Mel Willis discussed transportation and access issues. He described roadway improvements completed a few years ago, including additional lanes and median improvements on Brink Road and sidewalk improvements along Brink Road. Brink Road currently has two existing median cuts, whose location will determine the placement of vehicular entrances to the park. There is also an existing curb cut from Seneca Crossing Drive into the west parcel of the park, but its usefulness is uncertain. If vehicular access to this area is required, and if the existing curb cut in this location does not meet sight distance requirements, a new curb cut located elsewhere would be needed.
7. Mark Gionet discussed typical considerations which shape a facility plan. He described a "three-legged stool" of fundamental questions for the plan: What will the site support? What does the community want? And what are the planning goals for the area? He summarized possible program elements for the park and presented four illustrative concepts showing possible arrangements of facilities typical for a local park. He also explained that, as a local park, Seneca Crossing would be for day use only and would not be lighted.
8. The meeting split up into five small groups for a twenty-minute brainstorming exercise. The meeting as a whole then re-convened and one member of each group presented the group's findings. (For results see attachment.)
9. The meeting closed with an impromptu speech by Officer Donald Brew, asking the public to contact the Park Police if they suspected any improper activity in any parks.
10. Members of the audience posed the following questions during various parts of the presentation. *Answers from the design team and M-NCPPC staff are shown in italics.*
 - Will the existing stream on site be preserved?
It is a man-made drainage way and will be retained.
 - Will the existing vegetation on site be preserved?
There is no significant vegetation in the site interior, and any important trees providing screening along the property lines will be preserved. Buffer landscaping will also be added all along the southern border of the park, between the park and the neighborhood.
 - Where will the main entrance into the park be located - on Brink Road or on Seneca Crossing Drive?
The main entrance(s) will be from Brink Road at one or both existing curb cut(s). It is possible that a secondary vehicular entrance will provide access from Seneca Crossing Drive into the smaller separate area of the park, if needed.

Seneca Crossing Local Park

M E M O R A N D U M
Seneca Crossing Facility Plan
Community Meeting #1, 2/18/10
March 24, 2010
page 3

- Where will the drop-off areas be located?
The design team said they will study this issue as part of the facility planning process.
- Where will parking be located?
The design team said they will study this issue as part of the facility planning process, but it will be accessed directly from Brink Road.
- When was the property acquired? What is the history of the site? What was there before its current state?
The design team said that the property was acquired in 1998 from Winchester Homes as part of their proffer to build the adjacent neighborhood, now called Cedar Valley. The parcel has been slated for use as a local park since before the land transfer, and Winchester rough-graded the site to its current form in order to facilitate subsequent park development, including construction of sports fields. MNCPPC staff said that the grading filled the park site with excavation from the neighborhood construction, and the site may have been pasture land prior to grading by Winchester Homes.
- Does the site have any historical significance and if so how will that influence the design?
MNCPPC staff reported that the site has no historical significance.
- When will the park be built?
Mark Gionet explained that the current facility plan project will constitute only about 30% of the overall design process. At the earliest, construction of the park could start in five years.

11. The following comments were also received from the public over the course of the meeting:

- The project should include reforestation especially adjacent to houses.
- A traffic study should be conducted of traffic along Brink Road.
- There are already too many vehicles, from outside the neighborhood, going too fast, along Seneca Crossing Drive. Drivers use Seneca Crossing Drive to cut through the neighborhood (from Rt. 355 to Brink Road thus avoiding Ridge Road). This is a hazard to pedestrians including children from inside the neighborhood.
- Several attendees expressed concerns about conflicts between pedestrian and vehicular circulation within the park.
- Many attendees stressed the need for adequate parking to be included within the park.
- Little or no pedestrian access should be provided from Seneca Forest Circle into the park. Otherwise park visitors will park on the residential streets, instead of in the park, and take all the parking spaces.
- The elementary school should be used for overflow parking.
- The elementary school should not be used for overflow parking.
- Park noise that can be heard from the neighborhood should be kept to a minimum.
- Noisy elements such as tennis courts, playing fields, and parking should be located away from the neighborhood.
- The park should have amenities such as water fountains, bike stands, and benches.

Facility Plan Report

M E M O R A N D U M
Seneca Crossing Facility Plan
Community Meeting #1, 2/18/10
March 24, 2010
page 4

- The park should provide restroom facilities.
- The landscaping at the park should be well-maintained.
- The facility should be well-lit at night. Mark Gionet and Heidi Sussman explained that local parks do not operate at night and the only lighting might be the minimum required for security.
- The park should be well-policed, possibly with its own dedicated officer, to prevent graffiti, vandalism, and other illicit activities such as have occurred at the elementary school.
- When was the property acquired?

12. The meeting adjourned at 9:15 p.m.

Attachments:

Breakout Group Results
Sign-in Sheets

SIGN-IN SHEET
 SENECA CROSSING LOCAL PARK
 Public Workshop



February 18, 2010
 7:00 P.M. - 9:00 P.M.
 Up-County Government Center

NAME	ADDRESS	E-MAIL	AFFILIATION
CHERIAN EAPEN	23118 Birch Mead Rd, Clarksburg	cherian.eapen@hotmail.com	erickel
MARIL WALLIS	1109 Springs Street Suite 1109	maril.wallis@montgomerypark.org	
BILL LASS	21350 Village Green Cir		
Nitin N. Sawant	911 Clopper Rd, Apt. A2, 4 Burg	nitinsawant_00@yahoo.com	Cricket
Raman Vijay	9351 Penrose St, Frederick, MD 21704	vkraman7@gmail.com	Cricket
Matthew Wessel	1547 Century Blvd.	m.wessel@rogers.com	Rodgers Consulting
Robert Goldberg	21404 DAWNS HOLLOW, Lexington, KY 40511	ringoldberg@att.net	
VIJAY KUMAR	229 PAINTED POST LN	VIJAY_KR@yahoo.com	HIGHTY INDIAN CRICKET
Roshan Muhsin	12052 Chestnut Glen Rd	Roshanm@hotmail.com	Cricket
ALBERTO LACAZE	18525 SENECA FOREST CIR	FAMILY@LACAZE.ORG	
KISHORE KAKANI	23108 BIRCH MEAD ROAD, Clarksburg	kishorekaku@telco.com	Cricket
Anthony Hoffman	11534 Seneca Forest Circle	Anthony.Hoffman@aol.com	resident
HARSHA RAJASIMHA	8 CAPRICORN CT DERWOOD	hrajasim@vt.edu	Cricket / Resident
Prabhu Shankar	20104 Sunnyside Terr Germantown	netkraft@hotmail.com	Cricket
JOSEPH A KUMAR	6428 EARLHAM DRIVE, BETHESDA	JKumar@IMF.ORG	CRICKET
Tariq Mannan	20508 Golf Course Dr	tariq839@gmail.com	Cricket
AFTHAB ZAINUDEEN	308 FLEECE FLOWER, 20878	afthab@gmail.com	Cricket
RAZEEN MANNAN	20508 Golf Course Dr 20878	razeen@verizon.net	Cricket
RAJESH THONDUPU	379 W. Side Dr, 20878	thondupu@gmail.com	Cricket

NAME	ADDRESS	E-MAIL	AFFILIATION
Marcy Wolfe	11603 Seneca Forest Circle	marcyawolfe@aol.com	
Kim Panah	MNCPPL		
STANLEY MATHIAS	11533 SENECA FOREST CIRCLE		
Niel Rawool	19411 Rayfield Dr,	nrawool@hotmail.com	
Tom Costa	11706 Tall Pines Dr.	TOMCOSTA@Juno.COM	
Kevin Hutto	22709 Timber Creek Ln.	clarksburgsports@verizon.net	
Gary Unterberg	19847 Century Blvd #200	gunterberg@rogers.com	
Hayman 7422	23352 Rowinham Rd.	HAYMAN.MAN@montgomerypark.org	
PAVIN TANWASSEE	23346 RAINBOW ARCH DR. Clarksburg	PAVINANDCHITRAE@YAHOO.COM	BOYD'S CRICKET CLUB
Usman Hashim	2111 Bridle Dr.	ushashim@apc.com	BOYD'S CRICKET
Othanne Nessel	11604 Seneca Forest Circle	demondeacs4@yahoo.com	
Neal A. London	11532 Seneca Forest Cir	nac/london@aol.com	Resident
Val Jensen	11630 Scarlet Lap Cir	valerie.jensen@fda.hhs.gov	neighbor.
Sayed Moulana	20320 Rosemeadow Ct	samoulana@gmail.com	
SUNIL NAGABHUSANA	13641, Palmetto Circle,	Sunil.Nadur@hotmail.com	
SHASHIKANITH PEDDI	379, W. Side Dr, Apt 302, 20878	peddistashi@gmail.com	
SIDDHAR KAMATAM	547 WIDEOR 20878		
Dharmendra Charne	317 W side Dr 20878	dharm-142000@yahoo.com	
UPUL ABENARNA	13502 Derry Glen Ct. #102	upul212@yahoo.com	IMF CRICKET CLUB

20876

PUBLIC NOTICE

COMMUNITY MEETING
Proposed New Park
Seneca Crossing Local Park

Montgomery Parks, M-NCPPC, invites you to participate in a second meeting to provide input on design options for a new park, Seneca Crossing Local Park. This park is comprised of 28 acres located along Brink Road at the intersection with Ridge Road (Route 27) in Germantown.

This community meeting is the next step in facility planning for the new park. We will discuss project background and present 4 plans that illustrate a variety of options and ideas for the park. The purpose of the meeting is to obtain your input and ideas on the alternatives. Your input will be used to help us develop a preferred plan for the park, which will be presented to the Montgomery County Planning Board for approval in Summer 2011.

WHEN: Thursday, January 27, 2011

SNOW DATE: Wednesday, February 9, 2011 (Meeting will be rescheduled for this date, if Montgomery County schools are closed due to weather)

TIME: 7:00 p.m. - 9:00 p.m.

WHERE: Up-County Government Center
12900 Middlebrook Road
Germantown, MD

DIRECTIONS: From Interstate 270 take Route 118 West. Make a right onto Middlebrook Road. Take the first left into parking lot for the Up-County Government Center. **Go to Meeting Room A on the first floor.**



SENECA CROSSING LOCAL PARK

To submit written comments or for more information contact:

Heidi Sussmann, Landscape Architect/Project Manager
Montgomery County Department of Parks
9500 Brunett Avenue
Silver Spring, MD 20901
E-mail: Heidi.Sussmann@MontgomeryParks.org
Phone: (301) 495-2547

www.ParkProjects.org



TO: Heidi Sussmann, M-NCPPC
 FROM: Dave Norden, LSG
 703-821-2045 x112
 DATE: Revised March 8, 2011
 PROJECT: Seneca Crossing Facility Plan
 LSG JOB NO. 28041.02
 RE: Meeting Minutes, Community Meeting #2, February 9, 2011

Present from the design team and M-NCPPC:

Heidi Sussmann, M-NCPPC
 Tricia McManus, M-NCPPC
 Wendy Hanley, M-NCPPC
 Art Nelligan, M-NCPPC
 Kim Paniati, M-NCPPC

Clare Runkles, M-NCPPC
 Mitra Pedoeem, M-NCPPC
 Mark Gionet, LSG
 Dave Norden, LSG
 Mel Willis, Burgess and Niple

Also see attached sign-in sheets.

1. The meeting convened at approximately 7:00 p.m. at the Upcounty Government Center. Over seventy community members attended.
2. Heidi Sussman opened the meeting by greeting all attendees, introducing the design team and Parks staff, and giving a brief description of the site and the project context.
3. Mark Gionet led a presentation which outlined the Facility Plan process, defined the Seneca Crossing park type in the context of other amenities in the Montgomery Parks system, and described the site in detail. He then described the features and arrangement of four alternative concepts in detail. Some questions were asked and are noted below.
4. Mark Gionet discussed typical considerations which shape a facility plan. He described a “three-legged stool” of fundamental questions for the plan: What will the site support? What does the community want? And what are the planning goals for the area? He summarized possible program elements for the park and presented four illustrative concepts showing possible arrangements of facilities typical for a local park. He also explained that, as a local park, Seneca Crossing would be for day use only and would not be lighted.
5. Mel Willis responded to questions regarding SWM issues for this project and gave possible solutions. He stated that the park project would not alter drainage patterns on the site or downstream. He assured attendees that the project would not result in new or additional runoff into their back yards. There was a question from the audience concerning flooding from the drainage swale behind the 3rd house east of the stormwater pond. Mr. Willis stated that drainage will improve, since stormwater will be designed to infiltrate into the ground via bio-retention swales instead of flowing overland towards houses.
6. Mel Willis responded to questions regarding transportation and access issues. He described roadway improvements completed a few years ago, including additional lanes and median

Seneca Crossing Local Park

MEMORANDUM
Seneca Crossing Facility Plan
Community Meeting #2, 2/9/11
page 2

improvements on Brink Road and sidewalk improvements along Brink Road. Brink Road currently has two existing median cuts, whose location will determine the placement of vehicular entrances to the park. There is also an existing curb cut from Seneca Crossing Drive into the west parcel of the park which will be maintained for access for any possible parking facilities serving that area of the park. The location of the existing curb cut doesn't have proper sight distance, so the currently proposed location is shifted further away from the intersection than the existing curb cut.

7. Members of the audience provided the following comments during the presentation.

- Reduce surface runoff and minimize water going into the swale near the residential yards.
- One neighbor requested information about a stormwater structure removed in the park behind his house.
- One neighbor does not want the park developed stating it's a waste of tax dollars and that fields are available at nearby Ridge Road Park.
- Many neighboring residents do not want the walking connection to the neighborhood shown in Scheme 3.
- Several neighbors voiced concern about non-residents using their neighborhood open space.
- Concerns were expressed about public currently parking on Seneca Crossing Drive and this continuing following park development, and requested that no parking signs be posted.
- Several residents requested adding more tennis or volleyball courts to the area that shows two proposed courts. It was noted that M-NCPPC currently has one tennis court at Ridge Road.
- Several residents suggested that the recommendation for fields is based on the desire of M-NCPPC to generate income through permit fees. The park manager indicated that the permit fees are \$5/hr. for the field, which covers a small part of administrative costs but not operating and maintenance costs for the fields.
- There were questions about how the usage of fields is allocated. Permit holders have first preference, and unpermitted fields are available for use by anyone. Some questioned if tennis and volleyball courts would also be subject to permitting.
- There were questions regarding how much parking is needed. The parking for fields is typically allocated at 60-75 spaces per field, and all schemes included 145-165 spaces.
- There was a suggestion that the buffer planting be implemented first, since the park development is likely to occur in the long term.
- One resident asked about the appearance of the surface swale through the wooded buffer. The center of the swale would need to be periodically mowed to keep the drainage way clear, but trees can be planted along both sides of the swale.
- There were questions about how the project is funded and what projects would compete for funding with this one. Staff indicated that there is no guarantee of funding and that since this is a new park it is likely to be funded near the end of the six-year cycle. It could be 7-10 years before the park is built.
- There were requests to coordinate with DOT to address cut-through traffic in the community and speeding.
- One neighbor inquired if the parking lots would have area lighting.
- Neighbors asked where and by how many lanes vehicles would enter and leave the park to and from Brinks Road.

Facility Plan Report

M E M O R A N D U M
Seneca Crossing Facility Plan
Community Meeting #2, 2/9/11
page 3

8. The attendees were then encouraged to visit four stations showing illustrative plan and perspective views of each alternative concept and record all comments onto the note pads provided. Project team members were stationed throughout to answer questions.
9. The meeting adjourned at 9:15 p.m.

Attachments:

- Breakout Group Results
- Sign-in Sheets

M E M O R A N D U M
Seneca Crossing Facility Plan
Community Meeting #2, 2/9/11
page 4

COMMENTS FROM SCHEME 1 STATION	
Number of People Making Comment	Comment
1	Provide volley-ball (3), 2 nd tennis with hitting wall in or out of court together on east side
1	Ensure flat areas around volley-ball - extend to contain balls
1	Provide 2 parking in/egress points
1	Likes option 4 open oval 2 nd loop walk
1	Pathway walking on Seneca Crossing
1	Like skate park
1	Keep entry feature at Seneca Crossing
1	Use loop trail for bikes
1	Swim/pool
1	1 - pkg. too close to buffer
1	Don't build this park - use the funding for other hard usages, schools, police

Seneca Crossing Local Park

M E M O R A N D U M
Seneca Crossing Facility Plan
Community Meeting #2, 2/9/11
page 5

COMMENTS FROM SCHEME 2 STATION	
Number of People Making Comment	Comment
1	Skate park - much larger, not tiny layout as shown
1	Skate park - there's definitely room for a <u>large</u> one
1	I like the community garden idea!
1	I like the volley ball
1	I live on Seneca Crossing and am concerned about traffic and stormwater. I will send the history to Heidi. There is a long history
1	Parking is not as attractive as the other options
1	Concern about maintenance of community gardens - prefer tennis court and volley-ball
1	Parking for east field is unacceptable. People will park on Seneca Forest Circle and cut through
1	One entrance for 72 cars per field per game = disaster
1	Needed: Additional barrier/fence between park and houses on Seneca Forest - especially since trees won't be planted/grown large enough for barrier for many years after park is built.
1	Like the ample parking, but switch closer to Brink and move skate park back
1	Like smaller fields, hopefully less usage because of smaller size
1	Would like large/tall fencing in addition to trees to buffer houses
1	Don't build the park and use funding for other things, schools, police, fire, etc.
1	House 11525 - tried to plant - poor soil and slope - all trees died
1	Buffer is important; swale and slope - want trees on hill top (not just slope)
1	Don't make slope steeper - more runoff, harder to grow trees
1	Are OK with park, but want good buffer
1	Like open space/community garden concept best in Scheme #2

Seneca Crossing Local Park

M E M O R A N D U M
Seneca Crossing Facility Plan
Community Meeting #2, 2/9/11
page 7

COMMENTS FROM SCHEME 4 STATION	
Number of People Making Comment	Comment
1	Likes Scheme 1 and 4
5	Likes Scheme 4 (no car crossings of internal pathway)
5	Likes loop path on Scheme 4, because it does not conflict with parking or road
3	Likes expansive separation and vegetated buffer between houses and parking lot on Scheme 4 with location of parking lot close to Brink Road.
1	Resident who backs up to the park indicated that the community tried to plant a number of trees on the slope for Arbor Day, and residents followed up with watering but had no success. They indicated that special measures may need to be taken to grow trees on the slope. (Park manager confirmed that soils are very bad and need amendments, which could be the reason for past planting failures.)
2	Likes skate park as an activity in the park
2	Skateboarding could be a problem in the park (noisy), but would accept it, provided it's located close to the road and away from homes
1	May not need a playground, since there are others nearby. Demographics probably would support more activities for older kids.
1	Consider multiple play areas in the park, near the ball fields as well as near activities in the small separated area of the park
2	Likes community garden in the small separated area
2	Likes volleyball and tennis in the small separated area at the west side of the park
2	Likes tennis in the small separated area
2	One volleyball net would not be enough. Need multiple nets with surrounding flat areas so that ball does not get away. The small separated area at the west side of the park is good, because it is self-contained. One resident proposed 6 lighted courts, and indicated that they could be located elsewhere, possibly at Ridge Road.
1	Provide a path to connect the entire park (across Seneca Crossing Drive)
1	Provide drinking fountain
1	Consider security for parking lot after dark (lighting)
1	In Schemes 1, 2, and 3, move the parking lot further from homes and more towards Brink Road, more like Scheme 4
1	For all schemes, include tall fencing to buffer houses in addition to trees Provide infant swings in playground;



LSG LANDSCAPE ARCHITECTURE

MEETING ATTENDANCE

PROJECT: Seneca Crossing
 MEETING DATE: February 9, 2011

	NAME	ADDRESS / EMAIL	PHONE
1	TATY SITES	21114 VIRGINIA PINE TER	301-540-168
2	Day Barth	Jedaya@frontiernet.net OBRIENTWIN@AOL.COM	
3			240-446-7748
4	Megory Floyd	11709 Virginia Pine Dr Germantown, MD 20876	301-461-4631
5	DAVID RUSSIN	21227 Hickory Forest Way	301-528-9279
6	Justin Turner	1998 Caravan Drive	240-686-0029
7	Robert Linfahan	41 piccadilly ct	301-277-6145
8	TERESA RICCI	19458 Caravan Dr	240-686-0029
9	Jim Barton	11519 Seneca Forest Cir	301-540-2514
10	Ron McDermott	11521 Schock For Cir	301-528-9646
11	Michael Chaney	12807 Pinnacle Drive #33	240-472-7601
12	MARIL NISHAN	11435 Seneca Forest Cir	301-540-0876
13	MAM NISHAN	11435 Seneca Forest Cir	301-540-0876
14	Cherian Eapen	23118 BIRCH MEADOW 20871	301-515-3254
15	Lisa Spoungle	21216 Seneca Crossing Dr	240-423-4454
16	Brandon Evans	13013 wisteria 20876 circle	301-220-1759
17	Jennifer Brady	11609 Seneca Forest Cir	301-916-5734
18	Bethanne Nessel	11604 Seneca Forest Cir	301-515-7575
19	Shuk-lwan McNamee	24528 Quick Fox Ln	301-916-9367
20	Emma Boers	21213 Virginia Pine Ter	301-601-2948
21	Gi Kim	M-NCPPC	301-495-4538
22	DENNIS CHRISTVERMI	21106 Virginia Pine Ter	301-528-2468
23	KAREN PRISZNER@CONCAST.NET	20876	
24	Anthony Hoffman	11534 Seneca Forest Cir	301-916-4371
25	Patty Mellon	11576 Dromie Wy	301-540-0853
26	Sean Olarewaju	1200 Chalet Dr #3	240-549-5500
27	PAVIN TANWASSEE	23346 RAINBOW ARCH DR.	301-528-0554
28			
29			
30			

2



LSG LANDSCAPE ARCHITECTURE

MEETING ATTENDANCE

PROJECT: Seneca Crossing

MEETING DATE: February 9, 2011

	NAME	ADDRESS / EMAIL	PHONE
1	VENY KERRIGAN	11607 Seneca Forest Circle	210 426 5338
2	GERALD HODGES	11711 VIRGINIA PINE DRIVE	301-496-1342
3	Gina Glinkemeyer	11535 Seneca Forest Circle	301-528-2969
4	Pam Bruce-Steskal	11713 Virginia Pine Dr	242-528 301-528-8559
5	DOROTHY BRADY	11517 Seneca Forest Circle	301-528-9001
6	Sarah Weinstein / Aron Ilkovich	21220 Seneca Crossing Dr.	240-477-5022
7	Eric Stinger	47 Cross Ridge Ct	301-528-8690
8	Mike Dugas	308 Windcliff Ct	301-978-9099
9	Kirk Hinckley	11506 Seneca Forest Cir	301-525-4893
10	JOHN (SKIP) SELORAY	19802 Fawn Vista Way	740 338 0462
11	Jovan Vest	Jovan Vest Way	270 426 7800
12	Ken Bondeson The Gazette	9030 Compton Ct	
13	MIKE JAMES	21100 SILVER BIRCH LN	301-271 681-9272
14	Chuck Benjamin	11616 Tall Pines Dr	301.528.7815
15	Charles + Elaine Garfinkel	20837 Scottsburn Dr	301-972-0183
16	Edward Under	12409 Goddardham Way	240-601-5141
17	Ydandut Alberto Lacoe	11525 Seneca Forest Circle	301-540-3214
18	MANISH LODAYA	18200 ENDORA CIRCLE	301-528-8272
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			

Veny Kerrigan
@ email
ccm

3



MEETING ATTENDANCE

PROJECT: Seneca Crossing
 MEETING DATE: February 9, 2011

	NAME	ADDRESS / EMAIL	PHONE
1	Jeff McArthur	11602 Seneca Forest Circle	301-515-8619
2	Doug SIEVERS	15429 PEACH LEAF DR	301 990-1578
3	DON CRENSHAW	21230 VIRGINIA PINE	301 528 6323
4	Jon Goeman	21750 Firstfield rd	(301) 337 5067
5	Jordan Bearaft	13300 country Ridge Dr	240-750-4247
6	Scott Turner	R10451@vericom.net	240 686-0029
7	Bill Nicholson	11415 Seneca Forest Circle	301-509-3209
8	Kurt Wolfe	11603 Seneca Forest Cir	301-515-7432
9	Mary Wolfe	TR	
10	Deon odom		
11	Deon odom	sexylodan000@gmail.com	240-750-8194
12	Gabe Watter	Crabland@verizon.net	301 540 8398
13	Wendy Stanley	LBKP	301-528-3451
14	Sangath Sankant	6 Seneca Forest Cir	301 515 5366
15	Ron Wells	1222 Tracy Hofm Rd 20824	301 540 8257
16	Lisa Murdoch	21214 Seneca Crossing Dr	301 972-4284
17	MICHAEL RIEGEL	8101 SNATTER SC RD	301 670-2454
18	Jose Quintanilla		
19	Raymond Stevenson	18900 binder dr	202 520 3629
20	Robert Taris	18900 binder dr	
21	Mike Nessett	11604 Seneca Forest Cir	301 515 5757
22	Andy McGoren	13015 Middlebrook Rd.	240 228 1928
23	Sheri Beauregard	Silver Birch Lane	301 64 3574
24	TO JO SEBASTIAN	11628 TALL PINES DR	301-515-2028
25	Tom Costa	11706 Tall Pines Dr	301-916-0606
26	Doug Grinkemeyer	11535 Seneca Forest Cir	301-528-2969
27	VIJAY KUMAR	229 PAINTED POST LN	301-524-6038
28			
29			
30			

D. TECHNICAL REPORTS

1. Soil Survey



CAPITOL DEVELOPMENT DESIGN, INC.
ENGINEERS PLANNERS SURVEYORS

4600 Powder Mill Road, Suite 200, Beltsville, Maryland 20705 Tel:(301) 937-3501 Fax:(301) 937-3507

June 9, 2010

LSG Landscape Architecture, Inc.
Attn: Mr. Mark Gionet, ASLA, AICP
Principal
1919 Gallows Road, Suite 110
Vienna, VA 221812
703-821-2045

Email: mgionet@lsginc.com

**REF: Geotechnical Engineering Report
Seneca Crossing Local Park
Brink Road at Ridge Road,
Germantown, Maryland**

Dear Mr. Gionet:

Capital Development Design Inc. (CDDI) is pleased to submit this geotechnical investigation report for the above referenced project based on our proposal dated September 17, 2009 and your authorization dated October 2, 2009. Per information provided to us, this development consists of improvements, including new landscaping, to an existing local park. To obtain information of the subsurface conditions, nine (9) soil test borings were drilled to a depth of 20 feet each below the ground surface, five (5) infiltration tests were performed and soil laboratory testing was also performed on selected samples. The following report sections discuss the results of field and laboratory studies, and provide design recommendations and construction methods for the proposed construction.

All samples obtained from soil test borings will be retained in our laboratory for a period of thirty (30) days from the date of this report. After that time, the samples will be discarded unless other disposition is requested by the client.

It has been a pleasure serving you on this project. If you have any questions regarding this report, or if we can be of further service in any way, please contact us.

Very truly yours,
Capitol Development Design, Inc.


Koré Tall, MSCE
Geotechnical Division Manager


Victor Chen, P.E.
State of Maryland



SITE CONDITIONS

The proposed site is located south of Brink Road and east of Ridge Road in Germantown, MD. The site is partly with small trees, but mostly grass-covered. The grades at the site vary from about EL 552 in the south to about EL 582 in the north.

PROPOSED CONSTRUCTION

The proposed construction consists of improving the existing park with new landscape and grading. Some portions of the park may have Stormwater management areas, paved areas, ball fields, playgrounds, field structures and sitting benches.

SUBSURFACE EXPLORATION

Subsurface Investigation

A total of nine (9) soil test borings and five (5) infiltration borings were drilled for the subsurface study. Borings were drilled each to depth of 20 feet below the existing ground surface in May of 2009. Infiltration test holes were drilled to a depth of 10 feet below grade. Soil borings were staked out in the field and surface elevations were provided by Burgess and Niple, Inc. The test boring and infiltration boring location plan is included in the Appendix.

Borings were drilled using an ATV-mounted drill rig, B-57. Test borings were advanced by using hollow-stem augers and soil samples were obtained using the Standard Penetration Tests (SPT) in accordance with ASTM D1586. SPT samples were obtained for each boring at depth intervals of every 2.5 feet in the upper 10 feet and at every 5 feet thereafter. A representative portion of each split spoon sample was placed in a glass jar and was transported to our laboratory.

In the split-barrel sampling procedure, a 2.0-inch O.D. split-barrel sampling spoon is driven into the ground with a 140-pound hammer, free falling a distance of 30 inches. The blows required to advance the sampling spoon to a specified distance are reported as the penetration resistance values. The values are shown on boring logs at the depths of their occurrence. The N-value is the sum of standard penetration resistance values that advanced through the last 12-inches of sampling. The N-value is an indication of the relative density of in-place granular soils and or the consistency of cohesive soils.

Groundwater level was monitored in the boring during, at completion and after 24 hours. Samples obtained from the boring were inspected by a geotechnical engineer and the field log was edited accordingly. The final logs that indicated the subsurface conditions encountered are included in the Appendix.



Laboratory Testing Program

Based upon the project characteristics and the results of the field investigation, a laboratory-testing program was conducted on a selected representative soil samples. Natural moisture contents were performed on selected soil samples, and results are included in the boring logs. Atterberg limits, sieve analysis were also conducted on selected samples. The lab test results are in the Appendix.

GENERAL SUBSURFACE CONDITIONS

Subsurface Soil Conditions

Various soil types were grouped into the major zones noted on the boring log. A brief explanation of the terms and notes used in the log is included with this report. The stratification lines designating the interfaces between earth materials on the boring log are approximate; in-situ, the transitions may be gradual. Detailed soil description and depth of various soil strata are given in the boring logs, together with SPT blowcounts with depth. In general, the encountered soils are summarized as follows:

- Topsoil: Zero to 1.5 inches thick topsoil layer was encountered in borings. Topsoil is defined as the more high-organic, weathered surficial soils horizon capable of supporting vegetation.
- Stratum A: Existing fill. Consisting of brown silt, trace crushed stone and/or weathered rock fragments. Encountered in Borings B-2, B-4, B-6, B-7 and B-9 below the ground surface and extended to depths of 2.5 to 5.0 feet below grade. N-values in this layer ranged from 5 blows per foot to 50 over 1 inch of spoon penetration, indicating medium stiff to very hard soils.
- Stratum B: Consisted of brown and gray SILT (ML), SILT, trace weathered rock fragments (ML) and SILT with sand (ML). Encountered in all the borings below Stratum A or the ground surface and interbedded with Stratum C. This Stratum extended to depths of depths of 0.5 to 20 feet below grade, the maximum depth of the borings. N-values in this layer ranged from 5 to 37 blows per foot of spoon penetration, indicating medium stiff to hard soils.
- Stratum C: Consisted of brown silty SAND with gravel (SM), poorly graded SAND with silt (SP-SM) and silty sand with gravel (SM). Encountered below the ground surface and interbedded with Stratum A. This Stratum was encountered in borings B-2, B-3 and B-5 below Stratum B, and extended to depths of 15 to 18.5 feet below grade. The N-values ranged from 18 to 35 blows per foot of spoon penetration, indicating firm to dense soils.
- Stratum D: Consisted of brown weathered ROCK. This Stratum was encountered in



borings B-5 and B-8 below Strata B and C, and extended to a depth of 20 feet below grade, the maximum depth of the borings. The N-values ranged from 50 blows over 6 inches to 50 blows over 1 inch of spoon penetration, indicating firm to very dense rock.

Weathered rock is defined as rock-like material with an N value of 60 or more. Denser portions of weathered rock may require blasting for removal.

Geology

The existing silt fill of Stratum is believed to have been previously placed at the site during previous development. The natural silt and sand of Strata B and C and the weathered rock of Stratum D are residual soils of the parent bedrock. Bedrock was not encountered within the depths of the borings. Density of the residual soil generally increases with depth.

Groundwater Observations

Groundwater observations were made in every borehole during drilling, after completion and after 24 hours of drilling operations. As noted on the boring logs groundwater was encountered only in Boring B-1 during the drilling at a depth of 8.8 feet below grade. The other borings were dry. After 24 hours groundwater was encountered only in Boring B-1 at a depth of 7.4 feet below grade. The borings caved at depths of 8.6 to 16.8 feet below grade. The caved depths observations are presented at the lower left hand corner of the boring logs. Fluctuations in the level and quantity of ground water will occur due to variations in rainfall, temperature, soil permeability and other factors not evident at the time of the water level measurements recorded on the boring logs in the Appendix.

SOIL LABORATORY TESTING

Laboratory tests were performed in our soil laboratory on selected samples and the results are summarized as follows:

Stratum B: One sample recovered from this stratum was tested. The gradation tests indicated that the sample consisted of 26.3 percent sand and 73.7 percent fines. The sample was non plastic and was classified as SILT with sand (ML).

Stratum B: Three (3) samples recovered from this stratum were tested. The gradation tests indicated that the samples consisted of 0 to 36.4 percent gravel, 48.6 to 94.3 percent sand and 5.7 to 27.6 percent fines. The samples were non-plastic and classified as silty SAND with gravel(SM) and poorly graded SAND with silt (SP-SM). The samples were non plastic.

The samples were classified according to ASTM D-2487. The soil laboratory test results are presented in the Appendix at the end of this report.



OUTSIDE LABORATORY TESTING OF COMPOSITE SOIL SAMPLES TESTING

A total of fourteen (14) soil samples were obtained in the field at different locations (see boring location plan in the Appendix) and were tested at Centauri labs in Frederick, MD for PH, organic content, nitrogen, potassium and phosphorous content. The test results are presented in the Appendix at the end of this report.

ANALYSIS AND RECOMMENDATIONS

FOUNDATION RECOMMENDATIONS

Footings

If field structures are planned at the site, spread footings are considered suitable for support of the structures as detailed below:

The existing fill material of Stratum A is not recommended for footing support. We recommend that footings be supported on natural soils of Strata B, C and D or newly placed compacted fill. Spread footings may be designed for a soil bearing pressure of 2,500 psf when founded on the natural soils of Strata B, C and D or on new compacted structural fill (controlled fill). Wall footings should be at least 18 inch wide for consideration of puncher failure. A safety factor of at least 2.5 was considered against shear.

Settlement of footings is not expected to exceed 1 inch and differential settlement between the adjacent footings should not exceed half this amount.

Perimeter footings and footings in any unheated areas should be founded at least 2.5 feet below the final exterior grade for frost protection.

Floor Slab

An earth supported floor slab is considered suitable. We recommend that a 4-inch gravel base along with a 6 mil plastic be placed under the slab as a moisture barrier. Wire mesh is also recommended in the slab.

A modulus of subgrade reaction (Ks) of 150 kcf is recommended for the floor slab design. Controlled fill for slab support is expected to be required for the proposed building. Recommendations regarding placement of controlled fill are included in the "Site Grading" section.

BELOW-GRADE WALLS

Lateral Earth Pressure

If below-grade walls are considered at the site, the walls should be designed to resist lateral earth pressures. An equivalent fluid pressure of 46H (psf) is recommended for the design of the below-grade wall. Any surcharge occurring adjacent to the wall should be considered for the design



(Horizontal Pressure from Surcharge = 0.37 x Vertical Surcharge).

Backfill

Materials classified as ML, SM, SP, SW or more granular soils in accordance with ASTM D-2487 are considered suitable for backfill. Materials larger than 3 inches in diameter should not be used for backfill. The existing fill and the on-site natural soils of Strata B, C and D are generally considered suitable for backfill. All materials proposed for backfill should be tested and approved by the geotechnical engineer prior to use.

Backfill should be placed in lifts not exceeding 8 inches in loose thickness and be compacted to at least 95 percent of the maximum dry density as determined by ASTM D-698. In non-structural areas, the backfill should be compacted to at least 85 percent of the maximum dry density per ASTM D-698. Backfill should not be placed against below-grade walls until the strength of the concrete wall reaches at least 75 percent of the design strength or adequate bracing is installed. Backfill placed within 5 ft from below-grade walls should be compacted with a light weight hand operated tamper to avoid overloading on the wall during compaction.

SITE GRADING

Site preparation will include removal of grass covered surficial soil with organics and trees. Depth of stripping and undercutting will be determined at site during construction and it is expected to be on the order of zero to 1.5 inches. Following stripping and any cut, and before any fill is placed, the subgrade should be proof-rolled with a pneumatic roller, loaded tandem-wheel dump truck, or similar equipment. Areas identified during the proofrolling process as soft or exhibiting "pumping" tendencies should be undercut, processed and recompacted or removed and replaced with suitable fill, whichever is appropriate.

Fill and backfill for general areas should be free of organics and debris and rock fragments in excess of 3-in. in any dimension. In the upper 18 inches of fill, maximum particle size should be limited to about 1.5 inches. As per ASTM D-2478 classification, select fill should consist of low-plasticity sandy lean clay (CL), lean CLAY (CL), clayey SAND (SC), poorly graded SAND (SP), clayey gravel (GC), SILT (ML), Silt with sand (ML), sandy SILT (ML) with a liquid limit and plasticity index of less than 40 and 15 respectively, or an approved alternate.

Fill soils should be compacted to at least of 95 percent of the maximum Modified Proctor dry density (ASTM D-698) in structural areas and to at least 85 percent of the same standard in grass areas, with a moisture content range of minus to plus 2 percent of optimum. Fill should be placed in a nominal 8-inch-thick loose lifts. Each lift of fill should be properly compacted, tested and approved prior to placing subsequent lifts.

IN-SITU INFILTRATION TESTS

Five locations were selected for in-situ infiltration tests. The tests locations are shown on the boring location plan. The infiltration borings, I-1 to I-5, were drilled to a depth of 10 feet below grade as directed by Mr. Mel Willis of Burgess and Niple, Inc. A 4-inch diameter PVC pipe was installed



Facility Plan Report

Geotechnical Engineering Report
 Project Name: Seneca Crossing Local Park, Germantown, MD
 CDDI Job No.: 09-041

June 9, 2010

Page 7 of 8

inside each hole with a pipe stickup of 1 foot and the holes were soaked with 2 feet of water for 24 hours on May 19, 2010. The next day (May 20, 2010), the holes were dry, with the exception of Infiltration hole I-1 where groundwater was encountered at 8.5 feet below grade, and infiltration were performed by adding two more feet of water and measuring the water drop every hour for four (4) consecutive hours. The results of the infiltration tests are summarized below as follows:

In-Situ Infiltration Test Results

Infiltration Test Location	I-1	I-2	I-3	I-4	I-5
Soil Type Below Test elevation	Saturated SILT (ML)	Poorly Graded SAND with silt (SP-SM)	Silty SAND with gravel (SM)	Weathered Rock fragments	Silt with Sand (ML)
Water remaining in test hole 24 hours after the presoaking from top of pipe (inches)	101.5	None	None	None	None
Water Depth from top of pipe at the beginning of the infiltration test (inches)	No infiltration Test	108.0	108.0	108.0	108.0
Water depth from top of pipe (inches) after 1 hr	No infiltration Test	111.2	111.8	110.1	110.5
Water depth from top of pipe (inches) after 2 hr	No infiltration Test	114.2	114.9	112.2	112.7
Water depth from top of pipe (inches) after 3 hr	No infiltration Test	116.9	118.0	114.2	114.8
Water depth from top of pipe (inches) after 4 hr	No infiltration Test is feasible	119.6	121.0	116.2	116.9
Infiltration Rate (inch/hr)	No infiltration Test is feasible	2.7	3.0	2.0	2.1
Recommended Infiltration Rate (inch/hr)	No infiltration Test is feasible	2.0	2.0	1.0	2.0

Actual infiltration rates ranged from 2.0 to 3.0 inch per hr, except at Infiltration hole I-1 where infiltration was not feasible due to the high groundwater table. Based on the in-situ infiltration tests, the recommended infiltration rates at each test location are shown on the above table. In general, an infiltration of less than 0.5 inches per hour is not considered to be feasible for infiltration practice. The groundwater table is estimated to be at least 3 ft below the bottom of the infiltration pits at infiltration holes I-2 to I-5.



CONSTRUCTION CONSIDERATIONS

Positive surface drainage should be established at the start of work, be maintained during construction and following completion of the project to prevent surface water ponding and subsequent saturation of subgrade soils. Prolonged exposure or saturation of subgrade soils by ponding or runoff water may result in significant changes in strength and compressibility characteristics.

Depending upon weather conditions during and prior to construction, groundwater may be encountered in the excavation areas. Any seepage into the construction excavation could be controlled by pumping from sump pits. During site preparation, surface runoff should be directed away from the construction areas. A geotechnical engineer or designated representative should monitor the site preparation and grading work. Subsurface conditions significantly at variance with those encountered in the borings should be brought to the attention of CDDI geotechnical engineer.

GENERAL COMMENTS

The soil classifications presented in this report are based upon the data obtained from the soil borings performed at indicated locations and from any other information discussed in this report. This report does not reflect any variations that may occur across the site. The nature and extent of such variations may not become evident until construction. If variations appear evident, the conclusion and recommendations of this report should then be reviewed by CDDI geotechnical engineer in light of the new information.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No other warranties, either expressed or implied, are intended or made. In the event that any changes in the nature, design or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and the conclusions of this report modified or verified in writing by CDDI geotechnical engineer.



APPENDIX

1. General Notes
2. Boring Plan
3. Boring Logs
4. Lab Test Results



GENERAL NOTES

Drilling and Sampling Symbols



N = Standard penetration, blows per foot of a 140 lbs hammer for 30" drop
 RQD = Rock Quality Designation
 LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index

Cohesionless Soils

If the sand or silt content of a soil is great enough, the soil becomes non-cohesive or semi-cohesive. The soil classification becomes SAND or SILT with the other soil constituents being modifying.

Based on N-Value

0 to 4 Blows.....Very Loose	30 to 59 Blows.....Dense
5 to 9 Blows.....Loose	Over 60 Blows.....Very Dense
10 to 29 Blows.....Medium Dense	

Cohesive Soils

If clay content is sufficient so that clay dominates soil properties, then CLAY becomes the major soil constituent as modifier. Other minor soil constituents may be added according to classification breakdown for cohesion less soils: i.e. silty clay, trace of some sand, trace of gravel.

Based on N-Value

0 to 3 Blows.....Very Soft	16 to 30 Blows.....Stiff
4 to 5 Blows.....Soft	30 to 60 Blows.....Very Stiff
6 to 16 Blows.....Firm	Over 61 Blows.....Hard

Based on Penetrometer Value

Below 0.25.....Very Soft	1.00 to 1.99.....Stiff
0.25 to 0.49.....Soft	2.00 to 3.99.....Very Stiff
0.50 to 0.99.....Firm	Over 4.00.....Hard

Quantity Modifiers

<u>Term</u>	<u>% of Dry Weight</u>
trace	0 to 10
little	11 to 20
some	21 to 35
and/with	36 to 50

Particle Size Identifications

Boulder	Over 8 inch diameter
Cobbles.....	3 inch to 8 inch
Gravel.....	Coarse.....1 inch to 3 inch
	Medium.....1/2 inch to 1 inch
	Fine.....4.75 mm to 1/2 inch
Sand.....	Coarse.....2 mm to 4.75 mm
	Medium.....0.425 mm to 2 mm
	Fine.....0.075 mm to 0.425 mm
Silt/Clay.....	Below 0.075 mm

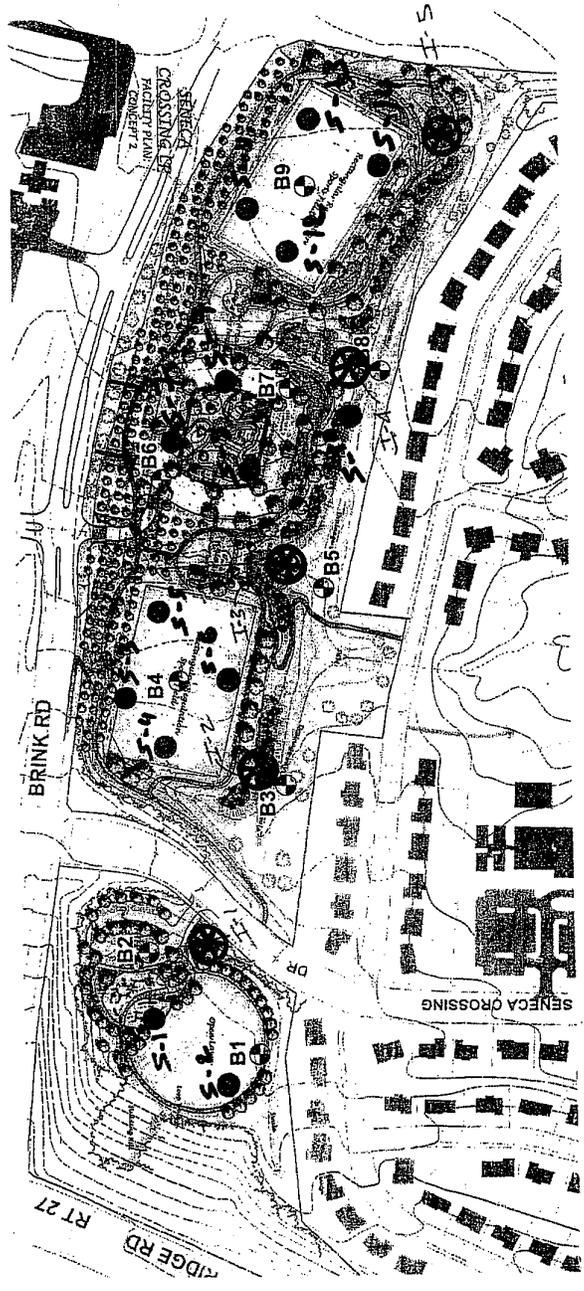


BORING LOCATION PLAN



BURGESS & NIPLE 3301 TOWER OAKS BLVD., SUITE 300 ROCKVILLE, MARYLAND 20853 PHONE: (301) 484-9000 FAX: (301) 484-9693		SENeca CROSSING SOIL BORING EXHIBIT	REVISIONS NO. DESCRIPTION DATE _____ _____ _____	PROJECT NO. 4822 DATE 01/01/10 CLIENT SENeca CROSSING DRAWN BY JAY CHECKED BY JAY DATE 01/01/10 SCALE 1"=100'
--	--	--	--	---

SOIL BORING EXHIBIT
(9 BORINGS)



- Test Borings B1 to B9
- ⊗ Infiltration holes I-1 to I-5
- Composite Soil Samples S-1 to S-14

BORING LOGS



Seneca Crossing Local Park

TEST BORING LOG

PROJECT : Seneca Crossing Local Park LOCATION: Brink Road at Ridge Road, Germantown, MD CLIENT : Burgess and Niple, Inc. HAMMER : 140 lbs@ 30 inches drop	BORING NO : B-1 ELEVATION : 565.8 DATE DRILLED: 5-18-2010 PROJECT NO : 09-041
--	--

DEPTH (FT)	SPT Blows/6"	DESCRIPTION	ASTM	STRA- TUM	MOIS- TURE (%)
0	3-6-7	0'			
1		Brown SILT, moist	ML	B	22.8
2	5-10-10				
3					
4					
5	5-6-11				21.2
6					
7					
8	8-7-7	Gray between 7.5 and 9.0'			
9					
10	5-6-7				26.9
11					
12					
13					
14					
15	9-8-11				
16					
17					
18					
19	6-11-12				
20		20.0'			
21		Bottom of Boring at 20.0 feet			
22					
23					
24					
25					
26					
27					
28					
29					
30					

WATER ENCOUNTERED	AT:	8.8'
AFTER 24 Hours	WATER	AT: 7.4"
	CAVED	AT: 8.7'

NOTE:

Facility Plan Report

TEST BORING LOG

PROJECT : Seneca Crossing Local Park LOCATION: Brink Road at Ridge Road, Germantown, MD CLIENT : Burgess and Niple, Inc. HAMMER : 140 lbs@ 30 inches drop	BORING NO : B-2 ELEVATION : 569.1 DATE DRILLED: 5-18-2010 PROJECT NO : 09-041
--	--

DEPTH (FT)	SPT Blows/6"	DESCRIPTION	ASTM	STRATUM	MOISTURE (%)
0	4-9-12	0'			
1		Topsoil(1") Brown silt, trace crushed stone, moist	FILL	A	
2	8-9-10				16.1
3					
4					
5	5-8-9	5.0'			12.1
6		Brown SILT, trace weathered rock fragments, moist	ML	B	
7	2-3-4	7.5'			
8		Brown silty SAND with gravel, moist	SM	C	
9					
10	4-3-4				
11					
12					
13					
14					
15	4-3-2	15.0'			
16		Brown SILT, moist	ML	B	
17					
18	5-6-10				
19					
20		20.0'			
21		Bottom of Boring at 20.0 feet			
22					
23					
24					
25					
26					
27					
28					
29					
30					

WATER ENCOUNTERED	AT:	16.0"	NOTE:
AFTER 24 Hours	WATER CAVED AT:	Dry'	
	AT:	Dry	

Seneca Crossing Local Park

TEST BORING LOG

PROJECT : Seneca Crossing Local Park
LOCATION: Brink Road at Ridge Road, Germantown, MD
CLIENT : Burgess and Niple, Inc.
HAMMER : 140 lbs@ 30 inches drop

BORING NO : B-3
ELEVATION : 550.3
DATE DRILLED: 5-18-2010
PROJECT NO : 09-041

DEPTH (FT)	SPT Blows/6"	DEPTH	DESCRIPTION	ASTM	STRATUM	MOISTURE (%)
0	3-5-6	0'				
1			Brown SILT, trace weathered rock fragments, moist	ML	B	
2						
3	6-9-11	2.5'	Brown SILT, moist			12.1
4						
5	2-5-7					19.8
6						
7						
8	4-5-8					
9						
10	5-8-10	10.0'				22.8
11			Brown poorly graded SAND with silt, moist	SP-SM	C	
12						
13						
14						
15	6-6-12					
16						
17						
18						
19	10-11-10	18.5'	Brown SILT, trace sand, moist	ML	B	
20		20.0'				
21			Bottom of Boring at 20.0 feet			
22						
23						
24						
25						
26						
27						
28						
29						
30						

WATER ENCOUNTERED AT: Dry
AFTER 24 Hours WATER AT: Dry
CAVED AT: 8.6'

NOTE:

Facility Plan Report

TEST BORING LOG

PROJECT : Seneca Crossing Local Park
LOCATION: Brink Road at Ridge Road, Germantown, MD
CLIENT : Burgess and Niple, Inc.
HAMMER : 140 lbs@ 30 inches drop

BORING NO : B-4
ELEVATION : 567.7
DATE DRILLED: 5-18-2010
PROJECT NO : 09-041

DEPTH (FT)	SPT Blows/6"	DESCRIPTION	ASTM	STRATUM	MOISTURE (%)
0	2-8-12	0'			
1		Topsoil (1") Brown silt, trace weathered rock fragments, moist	FILL	A	
2	5 1/2"				18.2
3					
4					
5	5-6-8	5.0'			20.8
6		Brown SILT, trace weathered rock fragments, moist	ML	B	
7	7-9-12				
8					
9					
10	10-9-10	10.5'			
11		Brown SILT, moist			
12					
13					
14					
15	6-6-12				
16					
17					
18	10-11-12				
19					
20		20.0'			
21		Bottom of Boring at 20.0 feet			
22					
23					
24					
25					
26					
27					
28					
29					
30					

WATER ENCOUNTERED AT: Dry
AFTER 24 Hours WATER AT: Dry
 CAVED AT: 10.3'

NOTE:

Seneca Crossing Local Park

TEST BORING LOG

PROJECT : Seneca Crossing Local Park
LOCATION: Brink Road at Ridge Road, Germantown, MD
CLIENT : Burgess and Niple, Inc.
HAMMER : 140 lbs@ 30 inches drop

BORING NO : B-5
ELEVATION : 539.5
DATE DRILLED: 5-18-2010
PROJECT NO : 09-041

DEPTH (FT)	SPT Blows/6"	DESCRIPTION	ASTM	STRATUM	MOISTURE (%)
0	3-3-4	0'			
1		Topsoil (1.5") Brown SILT, trace weathered rock fragments, moist	ML	B	
2	5-8-7				22.8
3					
4					
5	2-3-12				21.2
6					
7					
8	14-17-20				
9					
10	13-19-16	10.0'			
11		Brown silty SAND with gravel, moist	SM	C	14.3
12					
13					
14					
15	13-5 1/6"				
16		16.0'			
17		Brown weathered Rock, moist		D	
18					
19	5 1/6"				
20		20.0'			
21		Bottom of Boring at 20.0 feet			
22					
23					
24					
25					
26					
27					
28					
29					
30					

WATER ENCOUNTERED AT: Dry
AFTER 24 Hours WATER AT: Dry'
CAVED AT: 7.3'

NOTE:

Facility Plan Report

TEST BORING LOG						
PROJECT : Seneca Crossing Local Park			BORING NO : B-6			
LOCATION: Brink Road at Ridge Road, Germantown, MD			ELEVATION : 572.3			
CLIENT : Burgess and Niple, Inc.			DATE DRILLED: 5-18-2010			
HAMMER : 140 lbs@ 30 inches drop			PROJECT NO : 09-041			
DEPTH (FT)	SPT Blows/6"	DEPTH	DESCRIPTION	ASTM	STRA- TUM	MOIS- TURE (%)
0	1-3-2	0'				
1			Brown silt, trace weathered rock fragments, moist	FILL	A	
2	5-5-17					14.8
3						
4		5.0'				
5	15-8-10		Brown SILT, trace weathered rock fragments, moist	ML	B	22.8
6						
7	6-8-11					19.9
8						
9						
10	8-23-36					
11						
12						
13						
14						
15	12-21-20					
16		16.5'	Brown SILT, moist			
17						
18	14-16-23					
19						
20		20.0'				
21			Bottom of Boring at 20.0 feet			
22						
23						
24						
25						
26						
27						
28						
29						
30						
WATER ENCOUNTERED			AT: Dry	NOTE:		
AFTER 24 Hours			WATER AT: Dry'			
CAVED			AT: 16.8'			

Seneca Crossing Local Park

TEST BORING LOG

PROJECT : Seneca Crossing Local Park LOCATION: Brink Road at Ridge Road, Germantown, MD CLIENT : Burgess and Niple, Inc. HAMMER : 140 lbs@ 30 inches drop	BORING NO : B-7 ELEVATION : 569.7 DATE DRILLED: 5-18-2010 PROJECT NO : 09-041
--	--

DEPTH (FT)	SPT Blows/6"	DESCRIPTION	ASTM	STRATUM	MOISTURE (%)
0	3-6-7	0'			
1		Topsoil (1") Brown silt, trace weathered rock fragments, moist	FILL	A	
2	5-10-10	2.5'			
3		Brown SILT, trace weathered rock fragments, moist	ML	B	15.6
4					
5	5-6-11				22.6
6					
7					
8	8-7-7				
9					
10	5-6-7				
11					
12					
13					
14					
15	9-8-11				
16					
17					
18					
19	6-11-12				
20		20.0'			
21		Bottom of Boring at 20.0 feet			
22					
23					
24					
25					
26					
27					
28					
29					
30					

WATER ENCOUNTERED AFTER 24 Hours	AT: Dry WATER AT: Dry CAVED AT: 10.0'
--	---

NOTE:

Facility Plan Report

TEST BORING LOG

PROJECT : Seneca Crossing Local Park
LOCATION: Brink Road at Ridge Road, Germantown, MD
CLIENT : Burgess and Niple, Inc.
HAMMER : 140 lbs@ 30 inches drop

BORING NO : B-8
ELEVATION : 546.4
DATE DRILLED: 5-18-2010
PROJECT NO : 09-041

DEPTH (FT)	SPT Blows/6"	DESCRIPTION	ASTM	STRA- TUM	MOIS- TURE (%)
0	2-51/2"	0'			
1		0.5'			
		Topsoil (1") Brown SILT, moist	ML	B	
2	34-51/5"				
3		Brown Weathered ROCK, moist		D	9.3
4					
5	51/5"				
6					
7	51/5"				
8					
9					
10	51/1"				
11					
12					
13					
14					
15	51/6"				
16					
17					
18	9-12-18				
19		With silt below 18.5'			
20		20.0'			
21		Bottom of Boring at 20.0 feet			
22					
23					
24					
25					
26					
27					
28					
29					
30					
WATER ENCOUNTERED		AT: Dry	NOTE:		
AFTER 24 Hours	WATER	AT: Dry			
	CAVED	AT: 9.5'			

Seneca Crossing Local Park

TEST BORING LOG

PROJECT : Seneca Crossing Local Park LOCATION: Brink Road at Ridge Road, Germantown, MD CLIENT : Burgess and Niple, Inc. HAMMER : 140 lbs@ 30 inches drop	BORING NO : B-9 ELEVATION : 573.3 DATE DRILLED: 5-18-2010 PROJECT NO : 09-041
--	--

DEPTH (FT)	SPT Blows/6"	DESCRIPTION	ASTM	STRA- TUM	MOIS- TURE (%)
0	9-12-10	0'			15.4
1		Topsoil (1") Brown silt, trace weathered rock fragments, moist	FILL	A	
2	9-12-10				12.1
3					
4					12.1
5	6-7-7	5.0'			
6		Brown SILT with sand, moist	ML	B	12.1
7					
8	8-8-8				12.1
9					
10	9-14-15				12.1
11					
12					12.1
13					
14					12.1
15	18-19-22	15.0'			
16		Brown SILT, trace weathered rock fragments, moist			12.1
17					
18	6-9-11				12.1
19					
20		20.0'			12.1
21		Bottom of Boring at 20.0 feet			
22					12.1
23					
24					12.1
25					
26					12.1
27					
28					12.1
29					
30					12.1

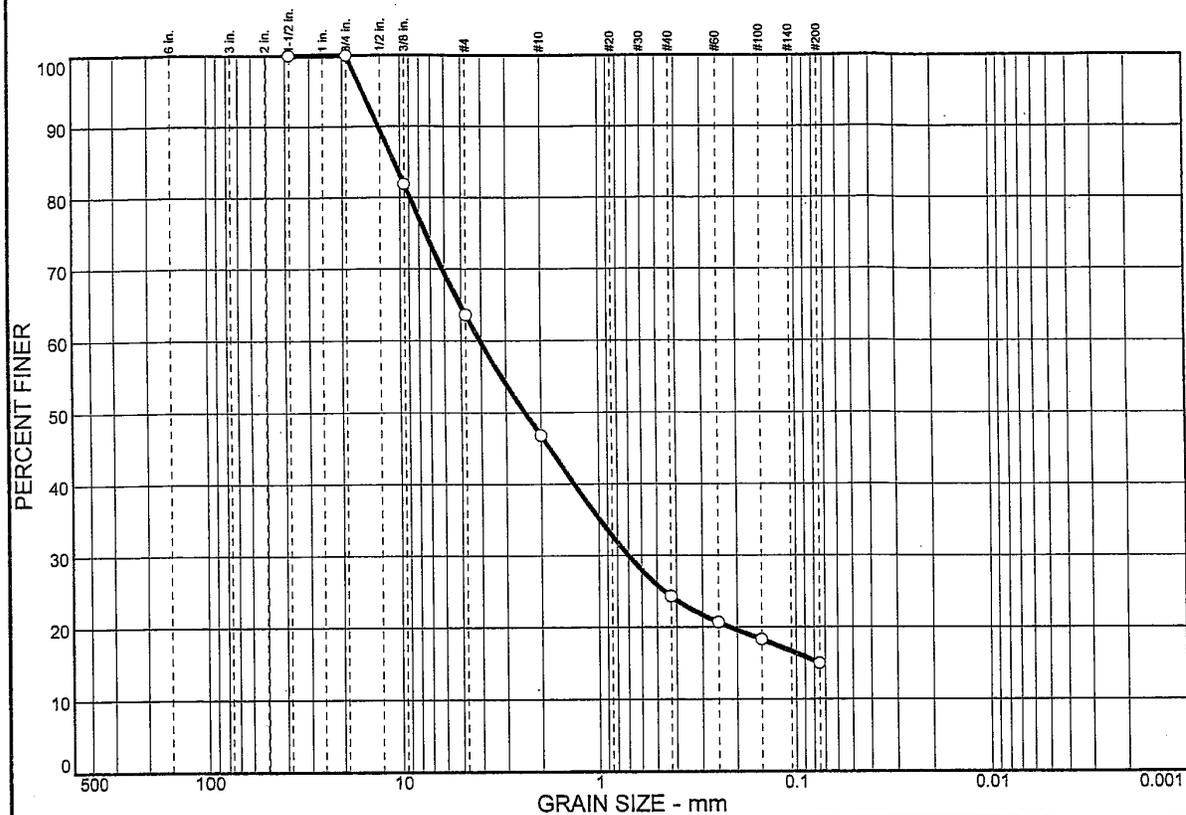
WATER ENCOUNTERED	AT:	Dry	
AFTER 24 Hours	WATER	AT:	Dry
	CAVED	AT:	10.6'

NOTE:

SOIL LABORATORY TEST RESULTS



PARTICLE SIZE DISTRIBUTION TEST REPORT



% + 3"	% GRAVEL	% SAND	% SILT	% CLAY
0.0	36.4	48.6	15.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.5 in.	100.0		
.75 in.	100.0		
.375 in.	81.9		
#4	63.6		
#10	46.8		
#40	24.3		
#60	20.7		
#100	18.3		
#200	15.0		

Soil Description

Brown silty SAND with gravel

Atterberg Limits

PL= NP LL= PI=

Coefficients

D₈₅= 10.7 D₆₀= 4.05 D₅₀= 2.40
D₃₀= 0.702 D₁₅= 0.0750 D₁₀=
C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Moisture Content = 20.3%
NP = non plastic

* (no specification provided)

Sample No.:
Location: B-2

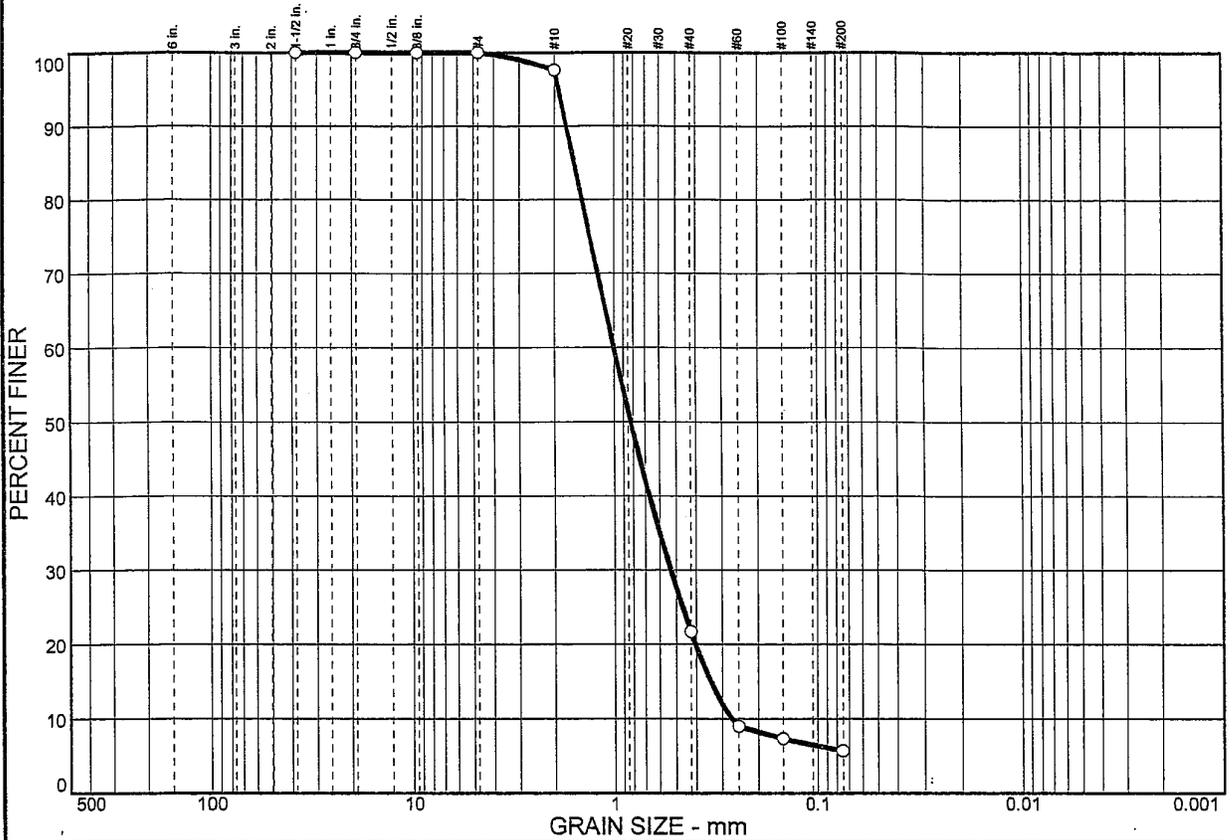
Source of Sample: B-2

Date: 05/20/2010
Elev./Depth: 10.0-11.5'

GEOTECH ENGINEERS, INC.

Client: Burges & Niple
Project: Seneca Crossing Park
Germantown, MD
Project No: 09-041

PARTICLE SIZE DISTRIBUTION TEST REPORT



% + 3"	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	94.3	5.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.5 in.	100.0		
.75 in.	100.0		
.375 in.	100.0		
#4	100.0		
#10	97.6		
#40	21.7		
#60	9.0		
#100	7.3		
#200	5.7		

Soil Description

Brown poorly graded SAND with silt

Atterberg Limits

PL= NP LL= PI=

Coefficients

D₈₅= 1.59 D₆₀= 1.00 D₅₀= 0.825
D₃₀= 0.531 D₁₅= 0.341 D₁₀= 0.269
C_u= 3.73 C_c= 1.04

Classification

USCS= SP-SM AASHTO=

Remarks

Moisture Content = 22.8%
Np = non plastic

* (no specification provided)

Sample No.:

Source of Sample: B-3

Date: 05/20/2010

Location: B-3

Elev./Depth: 10.0-11.5'

GEOTECH ENGINEERS, INC.

Client: Burges & Niple

Project: Seneca Crossing Park
 Germantown, MD

Project No: 09-041



Analytical Results for 1005102

for

CDDI

Project Manager: KORE TALL

Project Name: CDDI

Test results contained within this data package meet the requirements of the National Environmental Accreditation Conference and/or state specific certification programs, as applicable.

A handwritten signature in black ink, appearing to read "Kendra Tall", is positioned above a horizontal line.

Laboratory Director

Project Manager

Facility Plan Report

SAMPLE RECIEPT

Fourteen solid samples were received on 05/24/2010. The samples were delivered by the client. Sample receipt conditions and temperatures are documented on the Sample Receipt checklist.

If you have any questions regarding this report, please contact Kendra VanWyck at 301-69405310 x211.

This report only pertains to the samples listed on the "Sample Summary" report pages that follow this case narrative.

This report shall not be reproduced exception in full, without the written approval of Centauri Labs.

Samples were prepared and analyzed by Centauri Labs using the analytical methodologies indicated on the Sample Analysis Summary Report. In some chromatographic analyses, manual integration is used instead of automated integration because it produces more accurate results. All manual integrations are denoted on the sample quantitation report. Analysis results and limits for soil are reported on a dry weight basis unless otherwise specified on the report.

The report was issued on 06/08/2010.

METALS

Fourteen soil samples were analyzed for potassium by EPA method 6010C.

A matrix spike, matrix spike duplicate, and serial dilution were performed on sample S-1 for potassium. They were all within control limits.

Calibration standards are verified against independent check standards purchased from a commercial vendor of environmental standards.

All Centauri Labs QA/QC criteria were met with the exception of those mentioned above.

GENERAL CHEMISTRY

Fourteen soil samples were analyzed for pH by SW-846 9045C. Duplicate analyses were performed on samples S-1 and S-14. All QC criteria were met.

Fourteen soil samples were analyzed for Nitrate+Nitrite Nitrogen by EPA method 353.2. Duplicate and matrix spike analyses were performed on this sample. A laboratory control sample was analyzed along with the batch. All QC criteria were met.

Fourteen soil samples were digested and analyzed for Total Phosphorus by EPA method 365.3. Duplicate and matrix spike analyses were performed on this sample. A laboratory control sample was digested along with the batch and was used for ICV and CCV analyses. All QC criteria were met.

Fourteen soil samples were digested, distilled and analyzed for Total Kjeldahl Nitrogen (TKN) by Standard Methods 4500 Norg C. Duplicate and matrix spike analyses were performed on samples S-1 and S-11. A laboratory control sample was prepared and analyzed along with the batch. All QC criteria were met.

Fourteen soil samples were analyzed for Loss on Ignition by ASTM method D2974. Duplicate analyses were performed on samples S-1 and S-8. All QC criteria were met.

Data Qualifiers Key Reference:

BQL Below Quantitation Limit

Sample Summary Report

Client Sample ID	Lab Sample ID	Analytical Method	Matrix	Date Sampled	Date Received
S-1	1005102-01	ASTM D2974 E365.3 EPA 353.2 SM 4500-NORG C Solids, Dry Weight SW6010C SW9045C	Solid	5/24/2010	5/24/2010
S-10	1005102-10	ASTM D2974 E365.3 EPA 353.2 SM 4500-NORG C Solids, Dry Weight SW6010C SW9045C	Solid	5/24/2010	5/24/2010
S-11	1005102-11	ASTM D2974 E365.3 EPA 353.2 SM 4500-NORG C Solids, Dry Weight SW6010C SW9045C	Solid	5/24/2010	5/24/2010
S-12	1005102-12	ASTM D2974 E365.3 EPA 353.2 SM 4500-NORG C Solids, Dry Weight SW6010C SW9045C	Solid	5/24/2010	5/24/2010
S-13	1005102-13	ASTM D2974 E365.3 EPA 353.2 SM 4500-NORG C Solids, Dry Weight SW6010C SW9045C	Solid	5/24/2010	5/24/2010
S-14	1005102-14	ASTM D2974 E365.3 EPA 353.2 SM 4500-NORG C	Solid	5/24/2010	5/24/2010

Facility Plan Report

S-14	1005102-14	Solids, Dry Weight SW6010C SW9045C	Solid	5/24/2010	5/24/2010
S-2	1005102-02	ASTM D2974 E365.3 EPA 353.2 SM 4500-NORG C Solids, Dry Weight SW6010C SW9045C	Solid	5/24/2010	5/24/2010
S-3	1005102-03	ASTM D2974 E365.3 EPA 353.2 SM 4500-NORG C Solids, Dry Weight SW6010C SW9045C	Solid	5/24/2010	5/24/2010
S-4	1005102-04	ASTM D2974 E365.3 EPA 353.2 SM 4500-NORG C Solids, Dry Weight SW6010C SW9045C	Solid	5/24/2010	5/24/2010
S-5	1005102-05	ASTM D2974 E365.3 EPA 353.2 SM 4500-NORG C Solids, Dry Weight SW6010C SW9045C	Solid	5/24/2010	5/24/2010
S-6	1005102-06	ASTM D2974 E365.3 EPA 353.2 SM 4500-NORG C Solids, Dry Weight SW6010C SW9045C	Solid	5/24/2010	5/24/2010
S-7	1005102-07	ASTM D2974 E365.3 EPA 353.2 SM 4500-NORG C Solids, Dry Weight SW6010C	Solid	5/24/2010	5/24/2010

Seneca Crossing Local Park

S-7	1005102-07	SW9045C	Solid	5/24/2010	5/24/2010
S-8	1005102-08	ASTM D2974 E365.3 EPA 353.2 SM 4500-NORG C Solids, Dry Weight SW6010C SW9045C	Solid	5/24/2010	5/24/2010
S-9	1005102-09	ASTM D2974 E365.3 EPA 353.2 SM 4500-NORG C Solids, Dry Weight SW6010C SW9045C	Solid	5/24/2010	5/24/2010



Analytical Summary Report

Client Name: CDDI
 Client Sample ID: S-1
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: ASTM D2974

Sample Matrix: Solid
 Sample ID: 1005102-01
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/03/10 14:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		78.7				1	% by Weight	6/3/10 14:00
Ash Content		96.4				1	% by Weight	6/3/10 14:00
Organic Content		3.60				1	% by Weight	6/3/10 14:00

Client Name: CDDI
 Client Sample ID: S-1
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: E365.3

Sample Matrix: Solid
 Sample ID: 1005102-01
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/01/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Phosphorus-Total		296		11.6	11.6	10	mg/Kg dry	6/1/10 16:00

Client Name: CDDI
 Client Sample ID: S-1
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: EPA 353.2

Sample Matrix: Solid
 Sample ID: 1005102-01
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Nitrate/Nitrite as N	NA	1.2		0.64	0.64	1	mg/Kg dry	6/2/10 11:30

Client Name: CDDI
 Client Sample ID: S-1
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SM 4500-NORG C

Sample Matrix: Solid
 Sample ID: 1005102-01
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 10:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Total Kjeldahl Nitrogen		1180		0.494	0.494	2	mg/Kg dry wt. drv	6/7/10 11:00

Seneca Crossing Local Park

Client Name: CDDI
 Client Sample ID: S-1
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: Solids, Dry Weight

Sample Matrix: Solid
 Sample ID: 1005102-01
 Percent solids:
 Preparation Method: SolidsPrep
 Prepared Date/Time: 05/26/10 11:52

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		75		0.10	0.10	1	% by Weight	5/26/10 8:50

Client Name: CDDI
 Client Sample ID: S-1
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW6010C

Sample Matrix: Solid
 Sample ID: 1005102-01
 Percent solids:
 Preparation Method: 3050B Dig
 Prepared Date/Time: 05/27/10 11:45

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Potassium	7440-09-7	1520		4.11	95.6	1	mg/Kg dry wt. dry	5/27/10 22:49

Client Name: CDDI
 Client Sample ID: S-1
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW9045C

Sample Matrix: Solid
 Sample ID: 1005102-01
 Percent solids:
 Preparation Method: NO PREP
 Prepared Date/Time: 06/07/10 12:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
pH		7.62			0.01	1	pH Units	6/7/10 12:00

Client Name: CDDI
 Client Sample ID: S-2
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: ASTM D2974

Sample Matrix: Solid
 Sample ID: 1005102-02
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/03/10 14:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		79.7				1	% by Weight	6/3/10 14:00
Ash Content		98.3				1	% by Weight	6/3/10 14:00

Client Name: CDDI
 Client Sample ID: S-2
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: E365.3

Sample Matrix: Solid
 Sample ID: 1005102-02
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/01/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Phosphorus-Total		234		10.8	10.8	10	mg/Kg dry	6/1/10 16:00

Facility Plan Report

Client Name: CDDI
 Client Sample ID: S-2
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: EPA 353.2

Sample Matrix: Solid
 Sample ID: 1005102-02
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Nitrate/Nitrite as N	NA	BQL		0.60	0.60	1	mg/Kg dry	6/2/10 11:30

Client Name: CDDI
 Client Sample ID: S-2
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SM 4500-NORG C

Sample Matrix: Solid
 Sample ID: 1005102-02
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 10:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Total Kjeldahl Nitrogen		369		0.221	0.221	1	mg/Kg dry wt. dry	6/7/10 11:00

Client Name: CDDI
 Client Sample ID: S-2
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: Solids, Dry Weight

Sample Matrix: Solid
 Sample ID: 1005102-02
 Percent solids:
 Preparation Method: SolidsPrep
 Prepared Date/Time: 05/26/10 11:52

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		79		0.10	0.10	1	% by Weight	5/26/10 8:50

Client Name: CDDI
 Client Sample ID: S-2
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW6010C

Sample Matrix: Solid
 Sample ID: 1005102-02
 Percent solids:
 Preparation Method: 3050B Dig
 Prepared Date/Time: 05/27/10 11:45

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Potassium	7440-09-7	629		3.86	89.7	1	mg/Kg dry wt. dry	5/27/10 23:05

Seneca Crossing Local Park

Client Name: CDDI
 Client Sample ID: S-2
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW9045C

Sample Matrix: Solid
 Sample ID: 1005102-02
 Percent solids:
 Preparation Method: NO PREP
 Prepared Date/Time: 06/07/10 12:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
pH		7.98			0.01	1	pH Units	6/7/10 12:00

Client Name: CDDI
 Client Sample ID: S-3
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: ASTM D2974

Sample Matrix: Solid
 Sample ID: 1005102-03
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/03/10 14:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		77.4				1	% by Weight	6/3/10 14:00
Ash Content		97.9				1	% by Weight	6/3/10 14:00

Client Name: CDDI
 Client Sample ID: S-3
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: E365.3

Sample Matrix: Solid
 Sample ID: 1005102-03
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/01/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Phosphorus-Total		232		12.3	12.3	10	mg/Kg dry	6/1/10 16:00

Client Name: CDDI
 Client Sample ID: S-3
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: EPA 353.2

Sample Matrix: Solid
 Sample ID: 1005102-03
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Nitrate/Nitrite as N	NA	BQL		0.59	0.59	1	mg/Kg dry wt. dry	6/2/10 11:30

Client Name: CDDI
 Client Sample ID: S-3
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SM 4500-NORG C

Sample Matrix: Solid
 Sample ID: 1005102-03
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 10:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Total Kjeldahl Nitrogen		339		0.247	0.247	1	mg/Kg dry wt. dry	6/7/10 11:00

Facility Plan Report

Client Name: CDDI
 Client Sample ID: S-3
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: Solids, Dry Weight

Sample Matrix: Solid
 Sample ID: 1005102-03
 Percent solids:
 Preparation Method: SolidsPrep
 Prepared Date/Time: 05/26/10 11:52

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		77		0.10	0.10	1	% by Weight	5/26/10 8:50

Client Name: CDDI
 Client Sample ID: S-3
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW6010C

Sample Matrix: Solid
 Sample ID: 1005102-03
 Percent solids:
 Preparation Method: 3050B Dig
 Prepared Date/Time: 05/27/10 11:45

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Potassium	7440-09-7	490		4.00	92.9	1	mg/Kg dry wt. dry	5/27/10 23:08

Client Name: CDDI
 Client Sample ID: S-3
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW9045C

Sample Matrix: Solid
 Sample ID: 1005102-03
 Percent solids:
 Preparation Method: NO PREP
 Prepared Date/Time: 06/07/10 12:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
pH		7.07			0.01	1	pH Units	6/7/10 12:00

Client Name: CDDI
 Client Sample ID: S-4
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: ASTM D2974

Sample Matrix: Solid
 Sample ID: 1005102-04
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/03/10 14:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		79.2				1	% by Weight	6/3/10 14:00
Ash Content		96.5				1	% by Weight	6/3/10 14:00
Organic Content		3.50				1	% by Weight	6/3/10 14:00

Client Name: CDDI
 Client Sample ID: S-4
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: E365.3

Sample Matrix: Solid
 Sample ID: 1005102-04
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/01/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Phosphorus-Total		468		11.4	11.4	10	mg/Kg dry	6/1/10 16:00

Seneca Crossing Local Park

Client Name: CDDI
 Client Sample ID: S-4
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: EPA 353.2

Sample Matrix: Solid
 Sample ID: 1005102-04
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Nitrate/Nitrite as N	NA	BQL		0.59	0.59	1	mg/Kg dry wt. dry	6/2/10 11:30

Client Name: CDDI
 Client Sample ID: S-4
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SM 4500-NORG C

Sample Matrix: Solid
 Sample ID: 1005102-04
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 10:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Total Kjeldahl Nitrogen		771		0.225	0.225	1	mg/Kg dry wt. dry	6/7/10 11:00

Client Name: CDDI
 Client Sample ID: S-4
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: Solids, Dry Weight

Sample Matrix: Solid
 Sample ID: 1005102-04
 Percent solids:
 Preparation Method: SolidsPrep
 Prepared Date/Time: 05/26/10 11:52

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		79		0.10	0.10	1	% by Weight	5/26/10 8:50

Client Name: CDDI
 Client Sample ID: S-4
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW6010C

Sample Matrix: Solid
 Sample ID: 1005102-04
 Percent solids:
 Preparation Method: 3050B Dig
 Prepared Date/Time: 05/27/10 11:45

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Potassium	7440-09-7	1040		3.86	89.7	1	mg/Kg dry wt. dry	5/27/10 23:20

Facility Plan Report

Client Name: CDDI
 Client Sample ID: S-4
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW9045C

Sample Matrix: Solid
 Sample ID: 1005102-04
 Percent solids:
 Preparation Method: NO PREP
 Prepared Date/Time: 06/07/10 12:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
pH		7.86			0.01	1	pH Units	6/7/10 12:00

Client Name: CDDI
 Client Sample ID: S-5
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: ASTM D2974

Sample Matrix: Solid
 Sample ID: 1005102-05
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/03/10 14:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		73.7				1	% by Weight	6/3/10 14:00
Ash Content		95.5				1	% by Weight	6/3/10 14:00
Organic Content		4.50				1	% by Weight	6/3/10 14:00

Client Name: CDDI
 Client Sample ID: S-5
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: E365.3

Sample Matrix: Solid
 Sample ID: 1005102-05
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/01/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Phosphorus-Total		316		12.2	12.2	10	mg/Kg dry	6/1/10 16:00

Client Name: CDDI
 Client Sample ID: S-5
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: EPA 353.2

Sample Matrix: Solid
 Sample ID: 1005102-05
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Nitrate/Nitrite as N	NA	BQL		0.66	0.66	1	mg/Kg dry wt. dry	6/2/10 11:30

Seneca Crossing Local Park

Client Name: CDDI
 Client Sample ID: S-5
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SM 4500-NORG C

Sample Matrix: Solid
 Sample ID: 1005102-05
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 10:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Total Kjeldahl Nitrogen		1190		0.475	0.475	2	mg/Kg dry wt. dry	6/7/10 11:00

Client Name: CDDI
 Client Sample ID: S-5
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: Solids, Dry Weight

Sample Matrix: Solid
 Sample ID: 1005102-05
 Percent solids:
 Preparation Method: SolidsPrep
 Prepared Date/Time: 05/26/10 11:52

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		74		0.10	0.10	1	% by Weight	5/26/10 8:50

Client Name: CDDI
 Client Sample ID: S-5
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW6010C

Sample Matrix: Solid
 Sample ID: 1005102-05
 Percent solids:
 Preparation Method: 3050B Dig
 Prepared Date/Time: 05/27/10 11:45

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Potassium	7440-09-7	763		4.17	97.0	1	mg/Kg dry wt. dry	5/27/10 23:23

Client Name: CDDI
 Client Sample ID: S-5
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW9045C

Sample Matrix: Solid
 Sample ID: 1005102-05
 Percent solids:
 Preparation Method: NO PREP
 Prepared Date/Time: 06/07/10 12:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
pH		5.48			0.01	1	pH Units	6/7/10 12:00

Facility Plan Report

Client Name: CDDI
 Client Sample ID: S-6
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: E365.3

Sample Matrix: Solid
 Sample ID: 1005102-06
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/01/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Phosphorus-Total		306		11.5	11.5	10	mg/Kg dry	6/1/10 16:00

Client Name: CDDI
 Client Sample ID: S-6
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: EPA 353.2

Sample Matrix: Solid
 Sample ID: 1005102-06
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Nitrate/Nitrite as N	NA	BQL		0.66	0.66	1	mg/Kg dry wt. dry	6/2/10 11:30

Client Name: CDDI
 Client Sample ID: S-6
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SM 4500-NORG C

Sample Matrix: Solid
 Sample ID: 1005102-06
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 10:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Total Kjeldahl Nitrogen		768		0.224	0.224	1	mg/Kg dry wt. dry	6/7/10 11:00

Client Name: CDDI
 Client Sample ID: S-6
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: Solids, Dry Weight

Sample Matrix: Solid
 Sample ID: 1005102-06
 Percent solids:
 Preparation Method: SolidsPrep
 Prepared Date/Time: 05/26/10 11:52

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		75		0.10	0.10	1	% by Weight	5/26/10 8:50

Seneca Crossing Local Park

Client Name: CDDI
 Client Sample ID: S-6
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW6010C

Sample Matrix: Solid
 Sample ID: 1005102-06
 Percent solids:
 Preparation Method: 3050B Dig
 Prepared Date/Time: 05/27/10 11:45

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Potassium	7440-09-7	665		4.00	93.0	1	mg/Kg dry wt drv	5/27/10 23:26

Client Name: CDDI
 Client Sample ID: S-6
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW9045C

Sample Matrix: Solid
 Sample ID: 1005102-06
 Percent solids:
 Preparation Method: NO PREP
 Prepared Date/Time: 06/07/10 12:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
pH		5.39			0.01	1	pH Units	6/7/10 12:00

Client Name: CDDI
 Client Sample ID: S-7
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: ASTM D2974

Sample Matrix: Solid
 Sample ID: 1005102-07
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/03/10 14:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		73.3				1	% by Weight	6/3/10 14:00
Ash Content		94.6				1	% by Weight	6/3/10 14:00
Organic Content		5.40				1	% by Weight	6/3/10 14:00

Client Name: CDDI
 Client Sample ID: S-7
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: E365.3

Sample Matrix: Solid
 Sample ID: 1005102-07
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/01/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Phosphorus-Total		294		12.1	12.1	10	mg/Kg dry	6/1/10 16:00

Facility Plan Report

Client Name: CDDI
 Client Sample ID: S-7
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: EPA 353.2

Sample Matrix: Solid
 Sample ID: 1005102-07
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Nitrate/Nitrite as N	NA	BQL		0.59	0.59	1	mg/Kg dry wt. dry	6/2/10 11:30

Client Name: CDDI
 Client Sample ID: S-7
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SM 4500-NORG C

Sample Matrix: Solid
 Sample ID: 1005102-07
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 10:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Total Kjeldahl Nitrogen		1080		0.399	0.399	2	mg/Kg dry wt. dry	6/7/10 11:00

Client Name: CDDI
 Client Sample ID: S-7
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: Solids, Dry Weight

Sample Matrix: Solid
 Sample ID: 1005102-07
 Percent solids:
 Preparation Method: SolidsPrep
 Prepared Date/Time: 05/26/10 11:52

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		76		0.10	0.10	1	% by Weight	5/26/10 8:50

Client Name: CDDI
 Client Sample ID: S-7
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW6010C

Sample Matrix: Solid
 Sample ID: 1005102-07
 Percent solids:
 Preparation Method: 3050B Dig
 Prepared Date/Time: 05/27/10 11:45

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Potassium	7440-09-7	836		4.03	93.6	1	mg/Kg dry wt. dry	5/27/10 23:29

Seneca Crossing Local Park

Client Name: CDDI
 Client Sample ID: S-7
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW9045C

Sample Matrix: Solid
 Sample ID: 1005102-07
 Percent solids:
 Preparation Method: NO PREP
 Prepared Date/Time: 06/07/10 12:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
pH		5.51			0.01	1	pH Units	6/7/10 12:00

Client Name: CDDI
 Client Sample ID: S-8
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: ASTM D2974

Sample Matrix: Solid
 Sample ID: 1005102-08
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/04/10 13:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		72.7				1	% by Weight	6/4/10 13:00
Ash Content		95.1				1	% by Weight	6/4/10 13:00
Organic Content		4.90				1	% by Weight	6/4/10 13:00

Client Name: CDDI
 Client Sample ID: S-8
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: E365.3

Sample Matrix: Solid
 Sample ID: 1005102-08
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/01/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Phosphorus-Total		345		13.0	13.0	10	mg/Kg dry	6/1/10 16:00

Client Name: CDDI
 Client Sample ID: S-8
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: EPA 353.2

Sample Matrix: Solid
 Sample ID: 1005102-08
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Nitrate/Nitrite as N	NA	BQL		0.70	0.70	1	mg/Kg dry wt. dry	6/2/10 11:30

Facility Plan Report

Client Name: CDDI
 Client Sample ID: S-8
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SM 4500-NORG C

Sample Matrix: Solid
 Sample ID: 1005102-08
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 10:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Total Kjeldahl Nitrogen		724		0.248	0.248	1	mg/Kg dry wt. dry	6/7/10 11:00

Client Name: CDDI
 Client Sample ID: S-8
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: Solids, Dry Weight

Sample Matrix: Solid
 Sample ID: 1005102-08
 Percent solids:
 Preparation Method: SolidsPrep
 Prepared Date/Time: 05/26/10 11:52

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		70		0.10	0.10	1	% by Weight	5/26/10 8:50

Client Name: CDDI
 Client Sample ID: S-8
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW6010C

Sample Matrix: Solid
 Sample ID: 1005102-08
 Percent solids:
 Preparation Method: 3050B Dig
 Prepared Date/Time: 05/27/10 11:45

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Potassium	7440-09-7	704		4.36	101	1	mg/Kg dry wt. dry	5/27/10 23:32

Client Name: CDDI
 Client Sample ID: S-8
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW9045C

Sample Matrix: Solid
 Sample ID: 1005102-08
 Percent solids:
 Preparation Method: NO PREP
 Prepared Date/Time: 06/07/10 12:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
pH		5.40			0.01	1	pH Units	6/7/10 12:00

Seneca Crossing Local Park

Client Name: CDDI
 Client Sample ID: S-9
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: ASTM D2974

Sample Matrix: Solid
 Sample ID: 1005102-09
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/04/10 13:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		77.2				1	% by Weight	6/4/10 13:00

Client Name: CDDI
 Client Sample ID: S-9
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: E365.3

Sample Matrix: Solid
 Sample ID: 1005102-09
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/01/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Phosphorus-Total		305		13.0	13.0	10	mg/Kg dry	6/1/10 16:00

Client Name: CDDI
 Client Sample ID: S-9
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: EPA 353.2

Sample Matrix: Solid
 Sample ID: 1005102-09
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Nitrate/Nitrite as N	NA	3.8		0.60	0.60	1	mg/Kg dry wt. dry	6/2/10 11:30

Client Name: CDDI
 Client Sample ID: S-9
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SM 4500-NORG C

Sample Matrix: Solid
 Sample ID: 1005102-09
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 10:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Total Kjeldahl Nitrogen		1680		0.473	0.473	2	mg/Kg dry wt. dry	6/7/10 11:00

Facility Plan Report

Client Name: CDDI
 Client Sample ID: S-9
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW6010C

Sample Matrix: Solid
 Sample ID: 1005102-09
 Percent solids:
 Preparation Method: 3050B Dig
 Prepared Date/Time: 05/27/10 11:45

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Potassium	7440-09-7	1310		4.12	95.9	1	mg/Kg dry wt. dry	5/27/10 23:35

Client Name: CDDI
 Client Sample ID: S-9
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW9045C

Sample Matrix: Solid
 Sample ID: 1005102-09
 Percent solids:
 Preparation Method: NO PREP
 Prepared Date/Time: 06/07/10 12:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
pH		7.06			0.01	1	pH Units	6/7/10 12:00

Client Name: CDDI
 Client Sample ID: S-10
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: ASTM D2974

Sample Matrix: Solid
 Sample ID: 1005102-10
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/04/10 13:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		77.9				1	% by Weight	6/4/10 13:00
Ash Content		97.9				1	% by Weight	6/4/10 13:00
Organic Content		2.10				1	% by Weight	6/4/10 13:00

Seneca Crossing Local Park

Client Name: CDDI
 Client Sample ID: S-10
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: E365.3

Sample Matrix: Solid
 Sample ID: 1005102-10
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/01/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Phosphorus-Total		297		12.2	12.2	10	mg/Kg dry	6/1/10 16:00

Client Name: CDDI
 Client Sample ID: S-10
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: EPA 353.2

Sample Matrix: Solid
 Sample ID: 1005102-10
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Nitrate/Nitrite as N	NA	0.62		0.60	0.60	1	mg/Kg dry wt. dry	6/2/10 11:30

Analytical Method: SM 4500-NORG C

Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 10:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Total Kjeldahl Nitrogen		466		0.247	0.247	1	mg/Kg dry wt. dry	6/7/10 11:00

Client Name: CDDI
 Client Sample ID: S-10
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: Solids, Dry Weight

Sample Matrix: Solid
 Sample ID: 1005102-10
 Percent solids:
 Preparation Method: SolidsPrep
 Prepared Date/Time: 05/26/10 11:52

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		78		0.10	0.10	1	% by Weight	5/26/10 8:50

Facility Plan Report

Client Name: CDDI
 Client Sample ID: S-10
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW6010C

Sample Matrix: Solid
 Sample ID: 1005102-10
 Percent solids:
 Preparation Method: 3050B Dig
 Prepared Date/Time: 05/27/10 11:45

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Potassium	7440-09-7	972		3.96	92.0	1	mg/Kg dry wt. dry	5/27/10 23:39

Client Name: CDDI
 Client Sample ID: S-10
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW9045C

Sample Matrix: Solid
 Sample ID: 1005102-10
 Percent solids:
 Preparation Method: NO PREP
 Prepared Date/Time: 06/07/10 12:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
pH		6.82			0.01	1	pH Units	6/7/10 12:00

Client Name: CDDI
 Client Sample ID: S-11
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: ASTM D2974

Sample Matrix: Solid
 Sample ID: 1005102-11
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/04/10 13:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		75.7				1	% by Weight	6/4/10 13:00
Ash Content		96.3				1	% by Weight	6/4/10 13:00
Organic Content		3.70				1	% by Weight	6/4/10 13:00

Client Name: CDDI
 Client Sample ID: S-11
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: E365.3

Sample Matrix: Solid
 Sample ID: 1005102-11
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/01/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Phosphorus-Total		405		12.0	12.0	10	mg/Kg dry	6/1/10 16:00

Seneca Crossing Local Park

Client Name: CDDI
 Client Sample ID: S-11
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: EPA 353.2

Sample Matrix: Solid
 Sample ID: 1005102-11
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Nitrate/Nitrite as N	NA	0.96		0.60	0.60	1	mg/Kg dry wt. dry	6/2/10 11:30

Client Name: CDDI
 Client Sample ID: S-11
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SM 4500-NORG C

Sample Matrix: Solid
 Sample ID: 1005102-11
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 10:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Total Kjeldahl Nitrogen		1970		1.27	1.27	5	mg/Kg dry wt. dry	6/7/10 11:00

Client Name: CDDI
 Client Sample ID: S-11
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: Solids, Dry Weight

Sample Matrix: Solid
 Sample ID: 1005102-11
 Percent solids:
 Preparation Method: SolidsPrep
 Prepared Date/Time: 05/26/10 11:52

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		74		0.10	0.10	1	% by Weight	5/26/10 8:50

Client Name: CDDI
 Client Sample ID: S-11
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW6010C

Sample Matrix: Solid
 Sample ID: 1005102-11
 Percent solids:
 Preparation Method: 3050B Dig
 Prepared Date/Time: 05/27/10 11:45

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Potassium	7440-09-7	1220		4.09	95.2	1	mg/Kg dry wt. dry	5/27/10 23:42

Facility Plan Report

Client Name: CDDI
 Client Sample ID: S-11
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW9045C

Sample Matrix: Solid
 Sample ID: 1005102-11
 Percent solids:
 Preparation Method: NO PREP
 Prepared Date/Time: 06/07/10 12:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
pH		6.71			0.01	1	pH Units	6/7/10 12:00

Client Name: CDDI
 Client Sample ID: S-12
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: ASTM D2974

Sample Matrix: Solid
 Sample ID: 1005102-12
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/04/10 13:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		75.1				1	% by Weight	6/4/10 13:00
Ash Content		96.3				1	% by Weight	6/4/10 13:00
Organic Content		3.70				1	% by	6/4/10 13:00

Client Name: CDDI
 Client Sample ID: S-12
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: E365.3

Sample Matrix: Solid
 Sample ID: 1005102-12
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/01/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Phosphorus-Total		434		11.7	11.7	10	mg/Kg dry	6/1/10 16:00

Client Name: CDDI
 Client Sample ID: S-12
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: EPA 353.2

Sample Matrix: Solid
 Sample ID: 1005102-12
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Nitrate/Nitrite as N	NA	0.76		0.59	0.59	1	mg/Kg dry wt. dry	6/2/10 11:30

Seneca Crossing Local Park

Client Name: CDDI
 Client Sample ID: S-12
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SM 4500-NORG C

Sample Matrix: Solid
 Sample ID: 1005102-12
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 10:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Total Kjeldahl Nitrogen		887		0.239	0.239	1	mg/Kg dry wt. dry	6/7/10 11:00

Client Name: CDDI
 Client Sample ID: S-12
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: Solids, Dry Weight

Sample Matrix: Solid
 Sample ID: 1005102-12
 Percent solids:
 Preparation Method: SolidsPrep
 Prepared Date/Time: 05/26/10 11:52

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		76		0.10	0.10	1	% by Weight	5/26/10 8:50

Client Name: CDDI
 Client Sample ID: S-12
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW6010C

Sample Matrix: Solid
 Sample ID: 1005102-12
 Percent solids:
 Preparation Method: 3050B Dig
 Prepared Date/Time: 05/27/10 11:45

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Potassium	7440-09-7	1280		3.97	92.4	1	mg/Kg dry	5/27/10 23:45

Client Name: CDDI
 Client Sample ID: S-12
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW9045C

Sample Matrix: Solid
 Sample ID: 1005102-12
 Percent solids:
 Preparation Method: NO PREP
 Prepared Date/Time: 06/07/10 12:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
pH		6.67			0.01	1	pH Units	6/7/10 12:00

Facility Plan Report

Client Name: CDDI
 Client Sample ID: S-13
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: ASTM D2974

Sample Matrix: Solid
 Sample ID: 1005102-13
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/04/10 13:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		72.9				1	% by Weight	6/4/10 13:00

Client Name: CDDI
 Client Sample ID: S-13
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: E365.3

Sample Matrix: Solid
 Sample ID: 1005102-13
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/01/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Phosphorus-Total		410		14.7	14.7	10	mg/Kg dry	6/1/10 16:00

Client Name: CDDI
 Client Sample ID: S-13
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: EPA 353.2

Sample Matrix: Solid
 Sample ID: 1005102-13
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Nitrate/Nitrite as N	NA	0.99		0.73	0.73	1	mg/Kg dry wt drv	6/2/10 11:30

Client Name: CDDI
 Client Sample ID: S-13
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SM 4500-NORG C

Sample Matrix: Solid
 Sample ID: 1005102-13
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 10:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Total Kjeldahl Nitrogen		1890		0.552	0.552	2	mg/Kg dry wt. dry	6/7/10 11:00

Seneca Crossing Local Park

Client Name: CDDI
 Client Sample ID: S-13
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: Solids, Dry Weight

Sample Matrix: Solid
 Sample ID: 1005102-13
 Percent solids:
 Preparation Method: SolidsPrep
 Prepared Date/Time: 05/26/10 11:52

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		63		0.10	0.10	1	% by Weight	5/26/10 8:50

Client Name: CDDI
 Client Sample ID: S-13
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW6010C

Sample Matrix: Solid
 Sample ID: 1005102-13
 Percent solids:
 Preparation Method: 3050B Dig
 Prepared Date/Time: 05/27/10 11:45

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Potassium	7440-09-7	997		4.88	113	1	mg/Kg dry wt. dry	5/27/10 23:48

Client Name: CDDI
 Client Sample ID: S-13
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW9045C

Sample Matrix: Solid
 Sample ID: 1005102-13
 Percent solids:
 Preparation Method: NO PREP
 Prepared Date/Time: 06/07/10 12:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
pH		5.82			0.01	1	pH Units	6/7/10 12:00

Client Name: CDDI
 Client Sample ID: S-14
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: ASTM D2974

Sample Matrix: Solid
 Sample ID: 1005102-14
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/04/10 13:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		79.1				1	% by Weight	6/4/10 13:00
Ash Content		97.6				1	% by Weight	6/4/10 13:00
Organic Content		2.40				1	% by Weight	6/4/10 13:00

Facility Plan Report

Client Name: CDDI
 Client Sample ID: S-14
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: E365.3

Sample Matrix: Solid
 Sample ID: 1005102-14
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/01/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Phosphorus-Total		198		10.2	10.2	10	mg/Kg dry	6/1/10 16:00

Client Name: CDDI
 Client Sample ID: S-14
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: EPA 353.2

Sample Matrix: Solid
 Sample ID: 1005102-14
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 11:30

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Nitrate/Nitrite as N	NA	BQL		0.57	0.57	1	mg/Kg dry wt. dry	6/2/10 11:30

Client Name: CDDI
 Client Sample ID: S-14
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SM 4500-NORG C

Sample Matrix: Solid
 Sample ID: 1005102-14
 Percent solids:
 Preparation Method: Default Prep Wet Chem
 Prepared Date/Time: 06/02/10 10:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Total Kjeldahl Nitrogen		504		0.202	0.202	1	mg/Kg dry wt. dry	6/7/10 11:00

Client Name: CDDI
 Client Sample ID: S-14
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: Solids, Dry Weight

Sample Matrix: Solid
 Sample ID: 1005102-14
 Percent solids:
 Preparation Method: SolidsPrep
 Prepared Date/Time: 05/26/10 11:52

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
% Solids		85		0.10	0.10	1	% by Weight	5/26/10 8:50

Seneca Crossing Local Park

Client Name: CDDI
 Client Sample ID: S-14
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW6010C

Sample Matrix: Solid
 Sample ID: 1005102-14
 Percent solids:
 Preparation Method: 3050B Dig
 Prepared Date/Time: 05/27/10 11:45

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
Potassium	7440-09-7	588		3.64	84.7	1	mg/Kg dry wt. dry	5/28/10 0:00

Client Name: CDDI
 Client Sample ID: S-14
 Sample Date/Time: 05/24/10 13:00
 Analytical Method: SW9045C

Sample Matrix: Solid
 Sample ID: 1005102-14
 Percent solids:
 Preparation Method: NO PREP
 Prepared Date/Time: 06/07/10 12:00

<i>Parameter</i>	<i>CAS</i>	<i>Reported Result</i>	<i>Q</i>	<i>Method Detection Limit</i>	<i>Reporting Limit</i>	<i>Dil Fact</i>	<i>Units</i>	<i>Analysis Date/Time</i>
pH		7.15			0.01	1	pH Units	6/7/10 12:00

Facility Plan Report

Sample Receipt Checklist

Work Order No.:	1005102	Carrier:	
Client:	CDDI	Tracking No.:	
Project:	CDDI	Log-in Date:	5/25/2010 8:56:00AM
Date Received:	5/24/2010 2:30:00PM	Logged In By:	Matthew Howard
Received By:	Steve Warren	Project Manager:	KORE TALL

Cooler name: Default Cooler

Shipping Container in good condition? Y

Custody seals present on shipping container? N

Condition: *na*

Chain-of-Custody present? Y

COC agrees with sample labels? Y

COC signed? Y

Packing present in shipping container? Y

Custody seals present on sample bottles? N

Condition: *na*

Samples intact? Y

Sufficient volume for requested tests? Y

VOA vials have zero headspace? na

0.00

Preservation confirmed? N

Ice present in shipping container? N

Total number of bottles: 14

Total number of samples: 14

Comments: SAMPLES ARRIVED IN A BUCKET

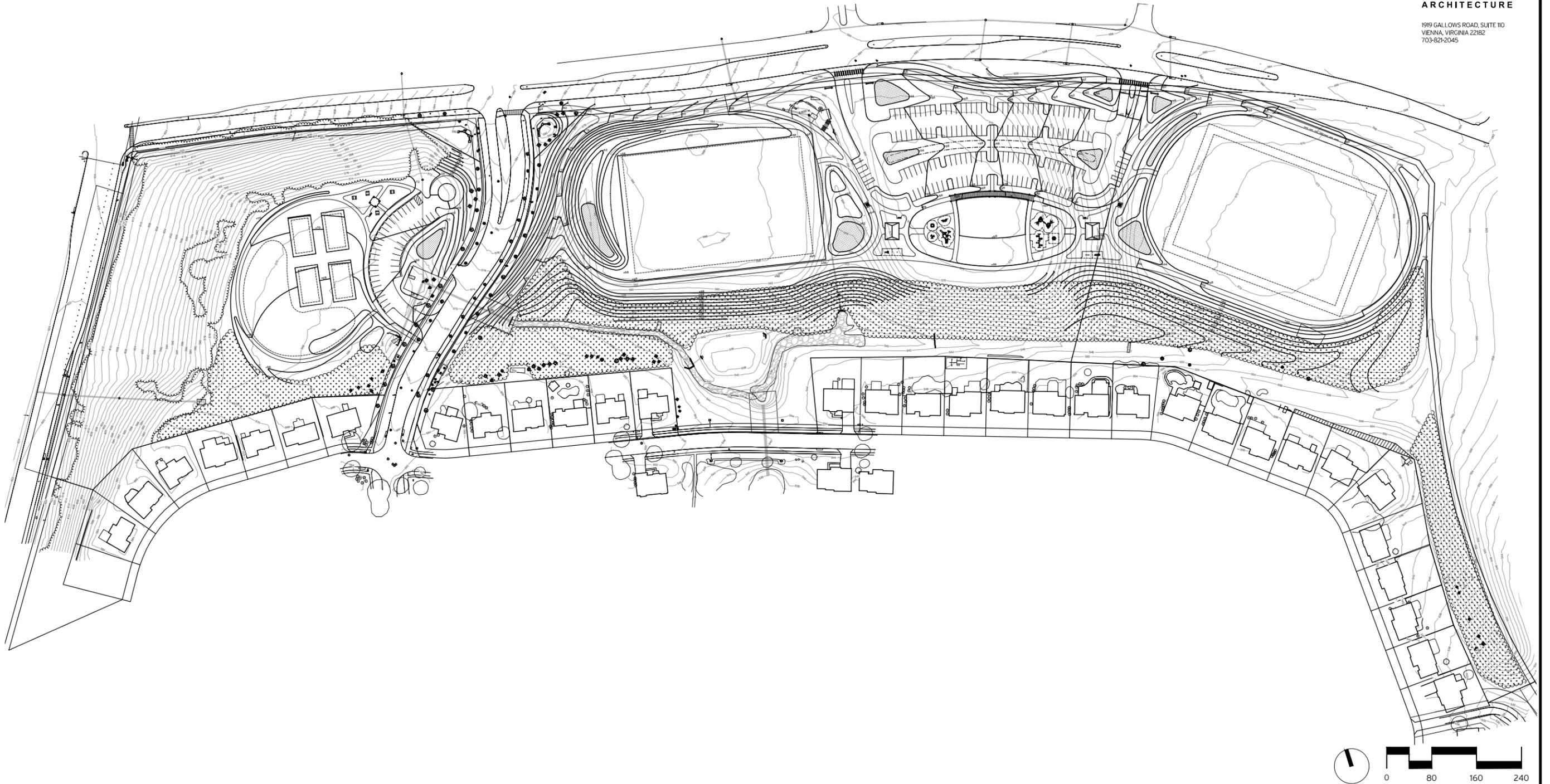
E. DRAWINGS

1. Site design
2. Stormwater Management Concept
3. Preliminary Forest Conservation Plan
4. Natural Resources Inventory- Forest Stand
Delineation



LSG LANDSCAPE ARCHITECTURE

1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045



design

landscape architect _____ date _____

architect _____ date _____

engineer _____ date _____

drawn by _____ date _____

review and approval (m-ncppc)

park development division _____ date _____

central maintenance _____ date _____

region _____ date _____

natural resources _____ date _____

review and approval (m-ncppc)

deputy director of parks _____ date _____

park police _____ date _____

project manager _____ date _____

construction manager _____ date _____



The Maryland-National Capital Park and Planning Commission

9500 Brunett Avenue
Silver Spring, Maryland 20901
Montgomery County Department of Parks
(301) 495-2535

revisions:		
rev. no.	date	description

project :
**SENECA CROSSING LOCAL PARK
FACILITY PLAN
SITE PLAN - OVERALL**

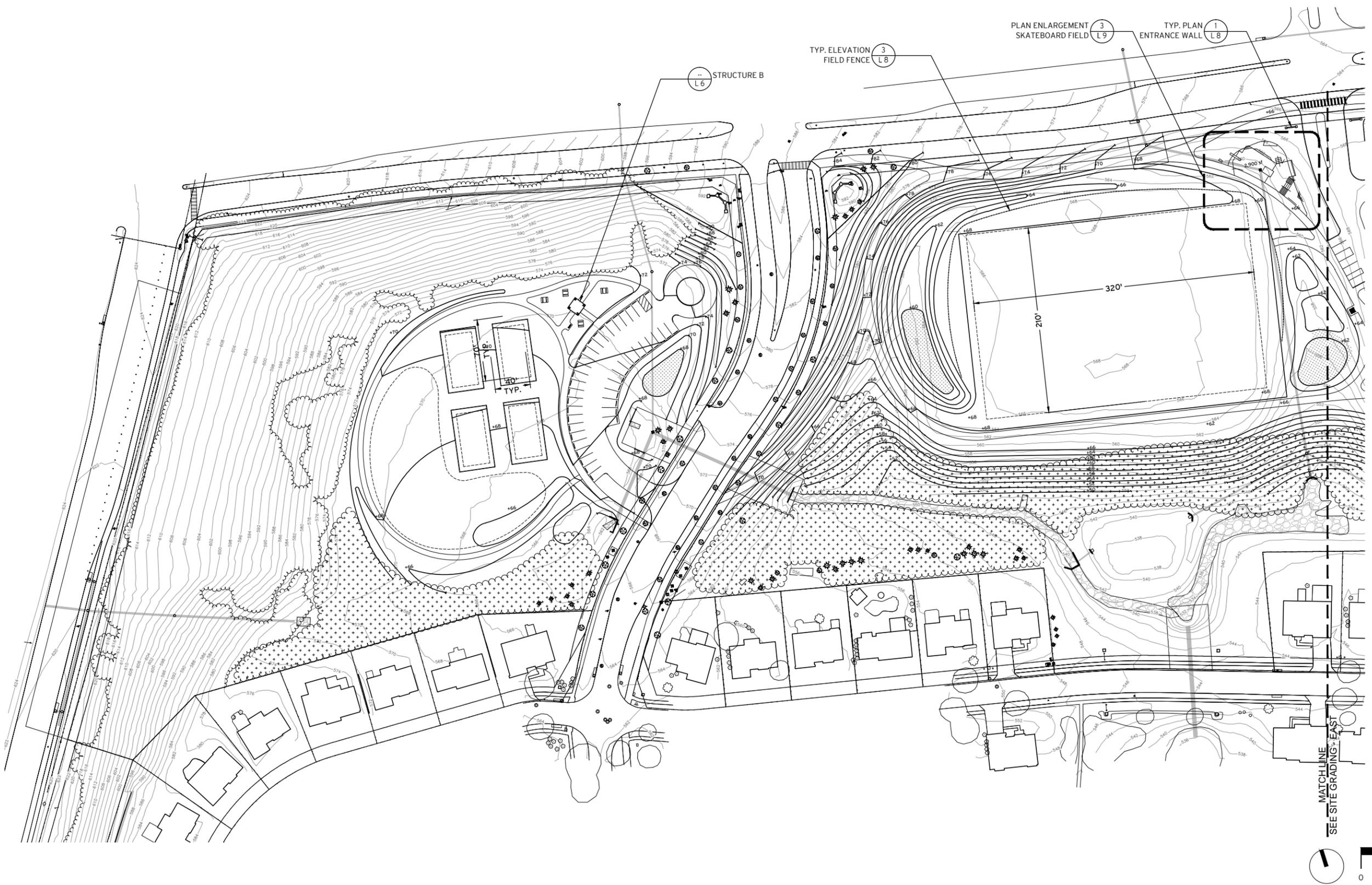
date : SEPTEMBER, 2011

sheet: 0 of 9

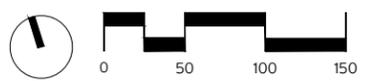


LSG LANDSCAPE ARCHITECTURE

1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045



MATCHLINE
SEE SITE GRADING - EAST



design
landscape architect _____ date
architect _____ date
engineer _____ date
drawn by _____ date

review and approval (m-ncppc)
park development division _____ date
central maintenance _____ date
region _____ date
natural resources _____ date

review and approval (m-ncppc)
deputy director of parks _____ date
park police _____ date
project manager _____ date
construction manager _____ date

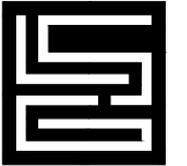


The Maryland-National Capital Park and Planning Commission

9500 Brunett Avenue
Silver Spring, Maryland 20901
Montgomery County Department of Parks
(301) 495-2535

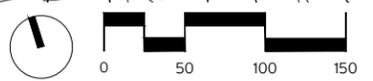
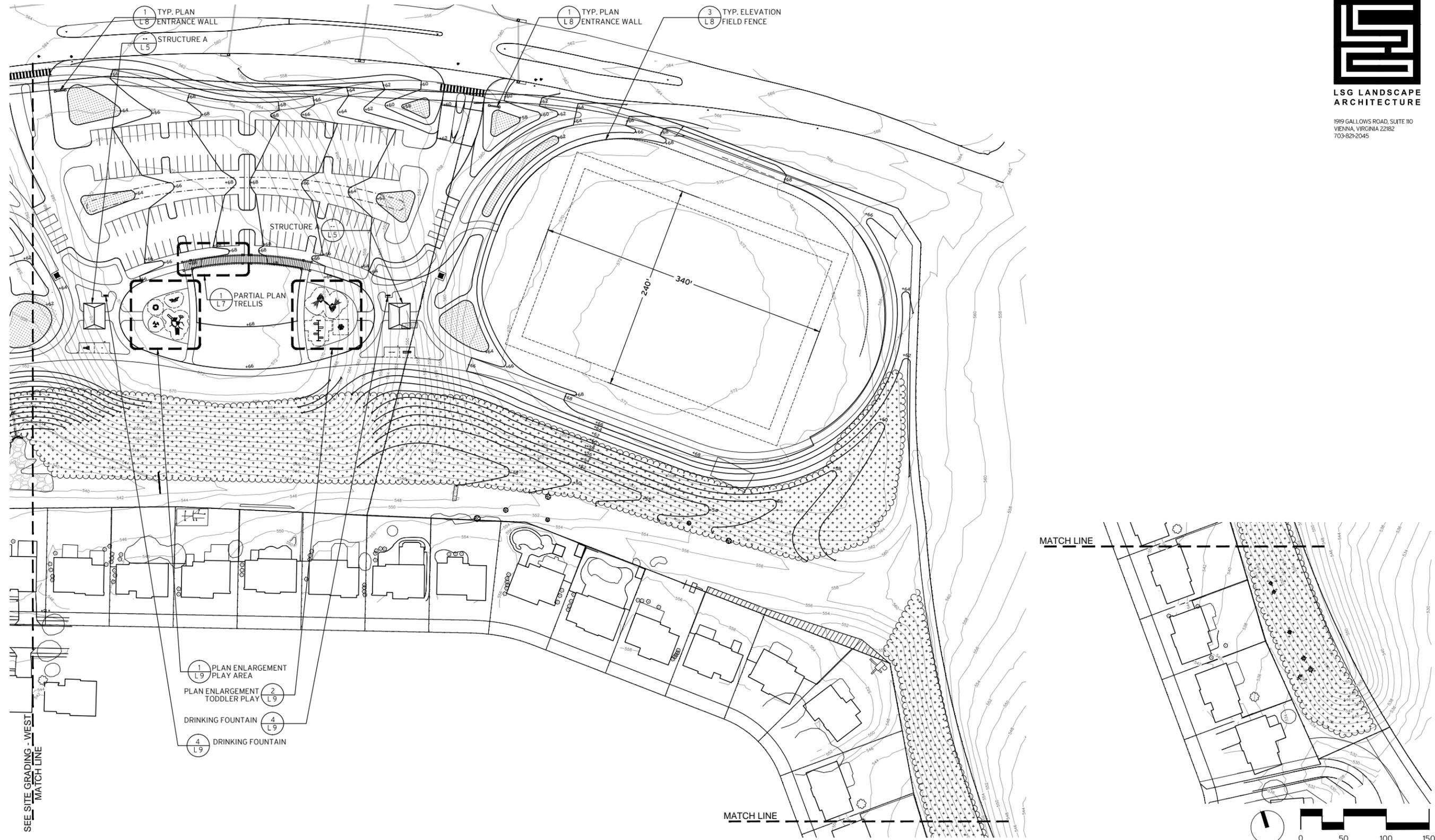
revisions:		
rev. no.	date	description

project :
**SENECA CROSSING LOCAL PARK
FACILITY PLAN
SITE PLAN - WEST PART**
date : SEPTEMBER, 2011
sheet: 1 of 9



**LSG LANDSCAPE
ARCHITECTURE**

1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045



design	landscape architect	date
architect		date
engineer		date
drawn by		date

review and approval (m-ncppc)	park development division	date
	central maintenance	date
	region	date
	natural resources	date

review and approval (m-ncppc)	deputy director of parks	date
	park police	date
	project manager	date
	construction manager	date

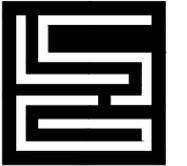


**The Maryland-National Capital Park and
Planning Commission**

9500 Brunett Avenue
Silver Spring, Maryland 20901
Montgomery County Department of Parks
(301) 495-2535

revisions:		
rev. no.	date	description

project :
**SENECA CROSSING LOCAL PARK
FACILITY PLAN
SITE PLAN - EAST PART**
date : SEPTEMBER, 2011
sheet: 2 of 9

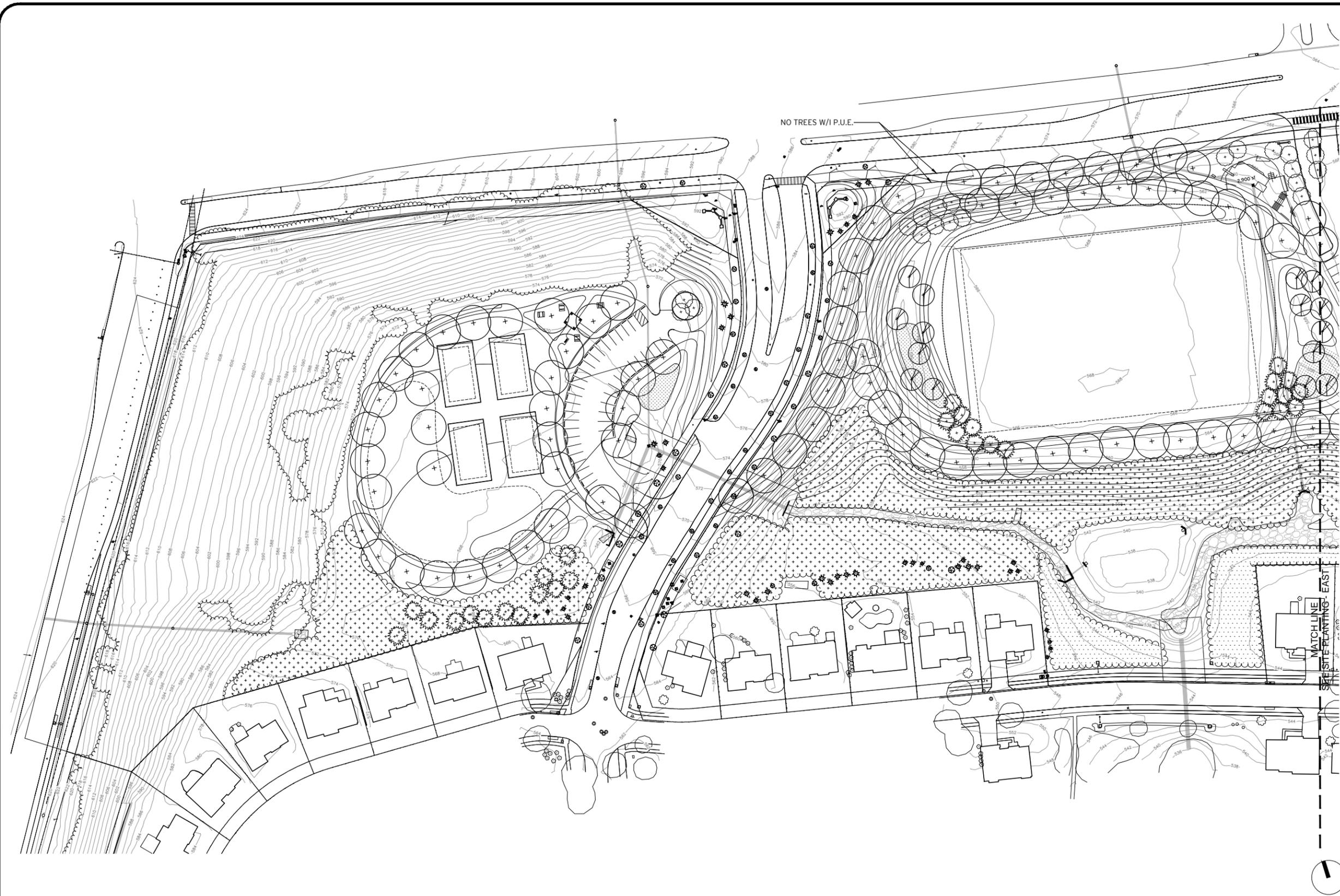


LSG LANDSCAPE ARCHITECTURE

1939 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045

LEGEND

- LARGE SHADE TREE
- SMALL SHADE TREE
- ORNAMENTAL TREE
- EVERGREEN TREE
- BIO-RETENTION AREA
- EXISTING FOREST
- ADDITIONAL REFORESTATION BUFFER PLANTING
- REFORESTATION AREA REFER TO FCP BY OTHERS
- EXISTING DECIDUOUS TREE
- EXISTING CONIFEROUS TREE



design	landscpe architect _____ date
architect	_____ date
engineer	_____ date
drawn by	_____ date

review and approval (m-ncppc)	park development division _____ date
	central maintenance _____ date
	region _____ date
	natural resources _____ date

review and approval (m-ncppc)	deputy director of parks _____ date
	park police _____ date
	project manager _____ date
	construction manager _____ date



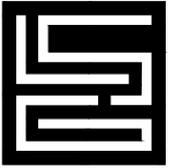
The Maryland-National Capital Park and Planning Commission

9500 Brunett Avenue
Silver Spring, Maryland 20901
Montgomery County Department of Parks
(301) 495-2535

revisions:		
rev. no.	date	description

project :
**SENECA CROSSING LOCAL PARK
FACILITY PLAN
SITE PLANTING - WEST PART**

date : SEPTEMBER, 2011 sheet: 3 of 9

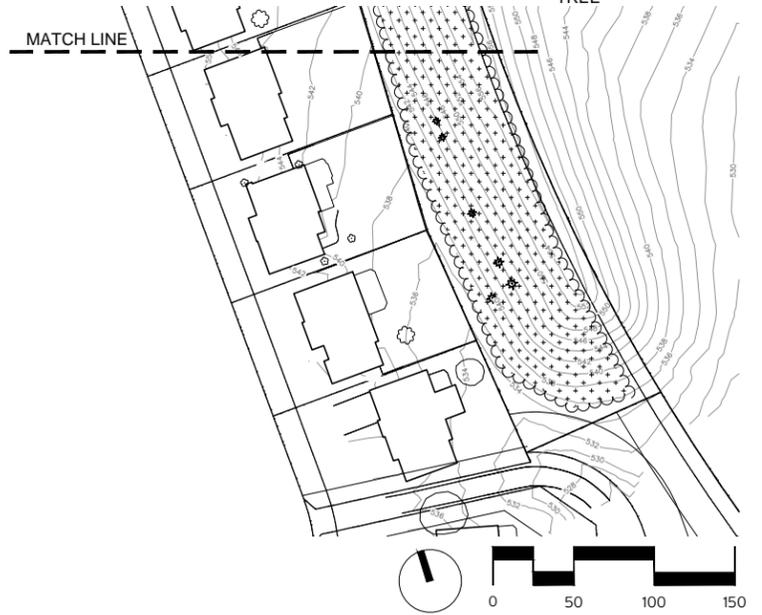
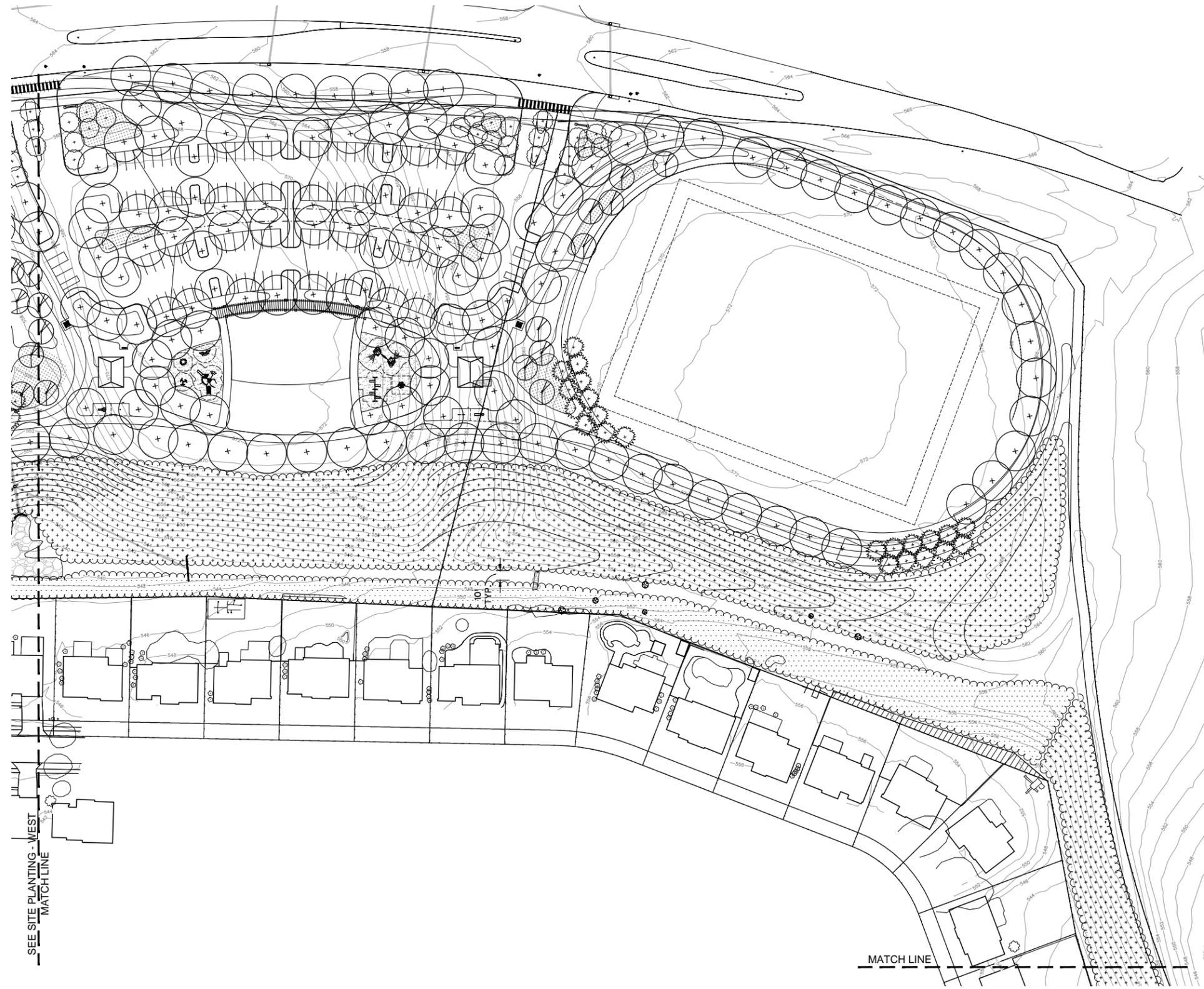


LSG LANDSCAPE ARCHITECTURE

1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-921-2045

LEGEND

- LARGE SHADE TREE
- SMALL SHADE TREE
- ORNAMENTAL TREE
- EVERGREEN TREE
- BIO-RETENTION AREA
- EXISTING FOREST
- ADDITIONAL REFORESTATION BUFFER PLANTING
- REFORESTATION AREA REFER TO FCP BY OTHERS
- EXISTING DECIDUOUS TREE
- EXISTING CONIFEROUS TREE



SEE SITE PLANTING - WEST
MATCH LINE

MATCH LINE

design	review and approval (m-ncppc)	review and approval (m-ncppc)
landscape architect _____ date	park development division _____ date	deputy director of parks _____ date
architect _____ date	central maintenance _____ date	park police _____ date
engineer _____ date	region _____ date	project manager _____ date
drawn by _____ date	natural resources _____ date	construction manager _____ date

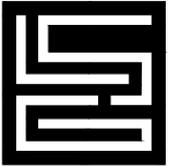


The Maryland-National Capital Park and Planning Commission

9500 Brunett Avenue
Silver Spring, Maryland 20901
Montgomery County Department of Parks
(301) 495-2535

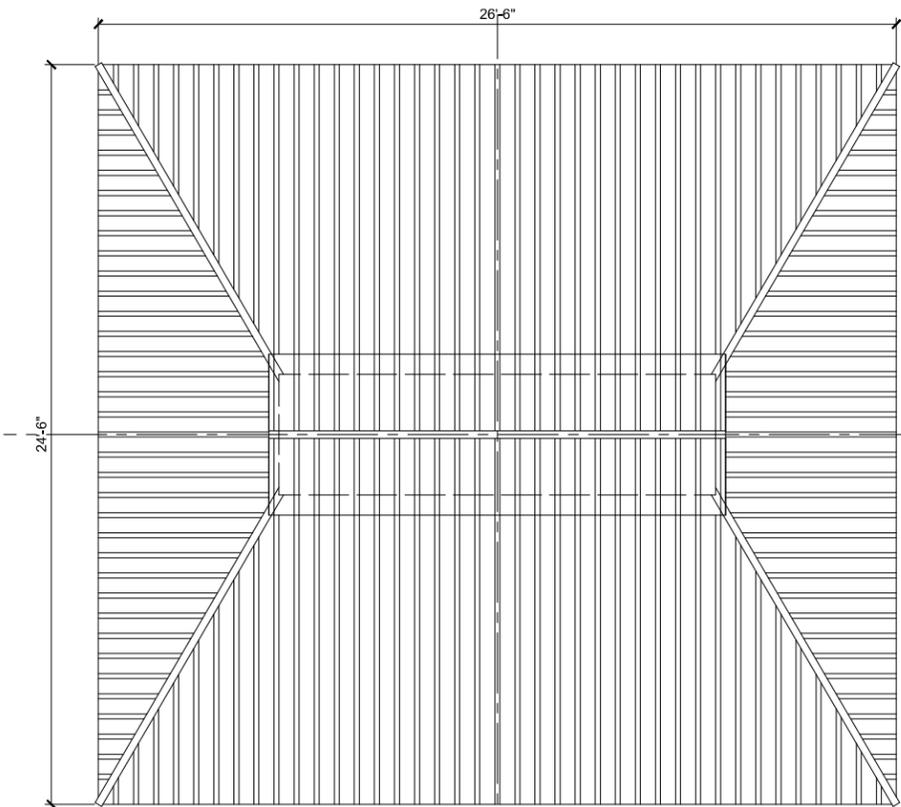
revisions:		
rev. no.	date	description

project :
SENECA CROSSING LOCAL PARK FACILITY PLAN
SITE PLANTING - EAST PART
date : SEPTEMBER, 2011
sheet: 4 of 9

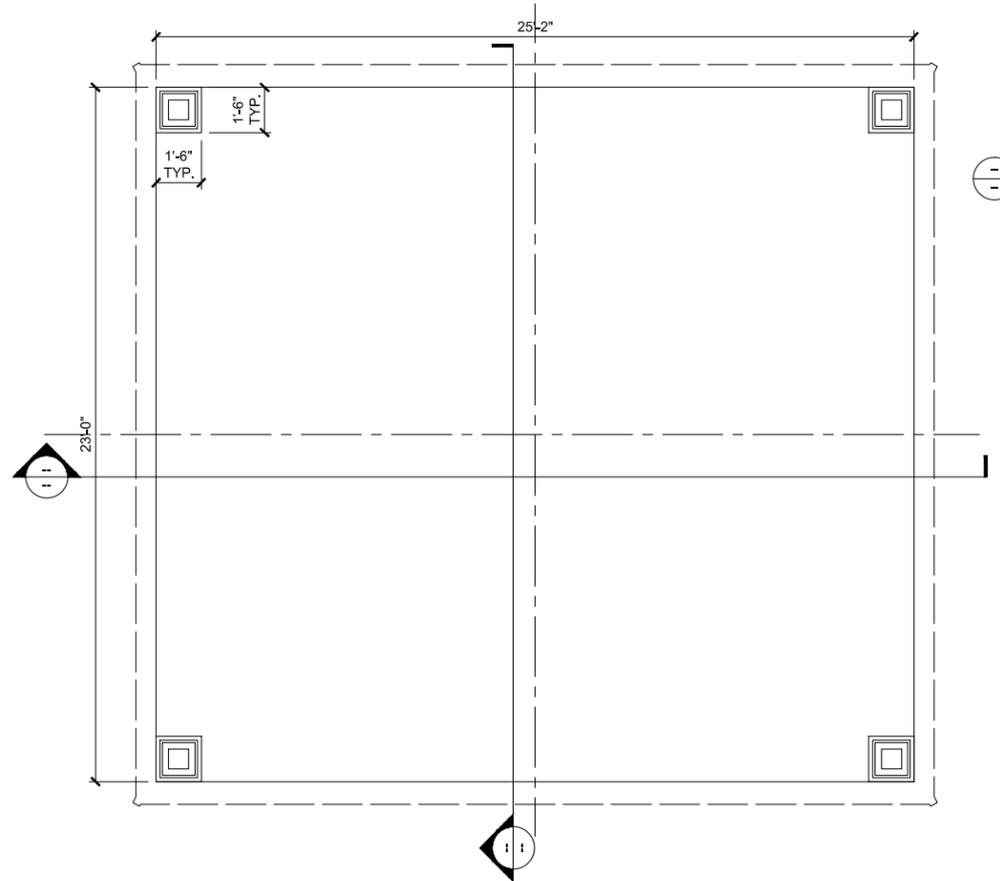


LSG LANDSCAPE ARCHITECTURE

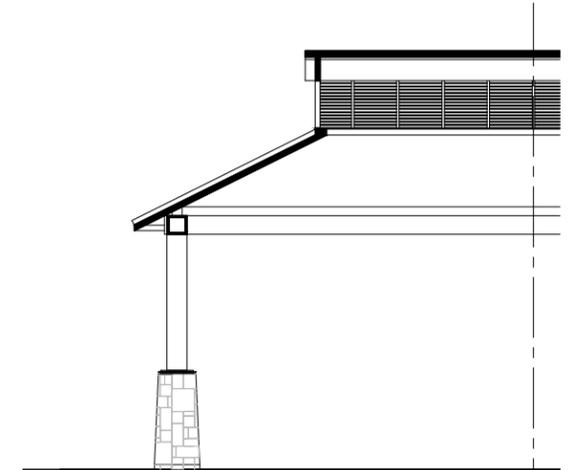
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045



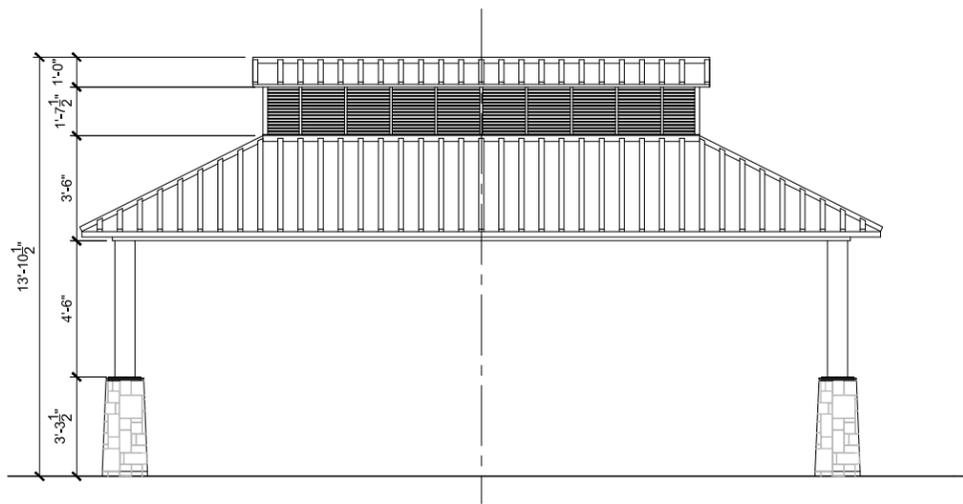
1 ROOF PLAN - STRCTURE A
3/8"=1'-0"



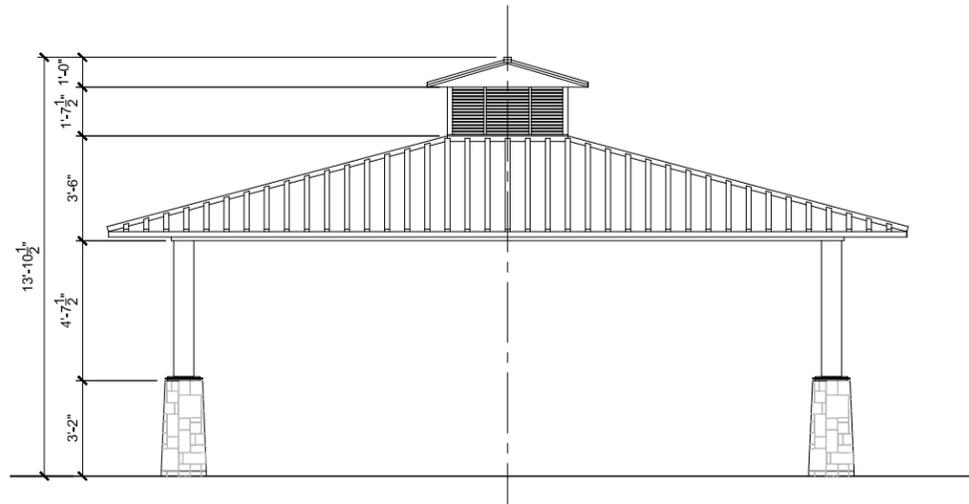
2 SLAB PLAN - STRCTURE A
3/8"=1'-0"



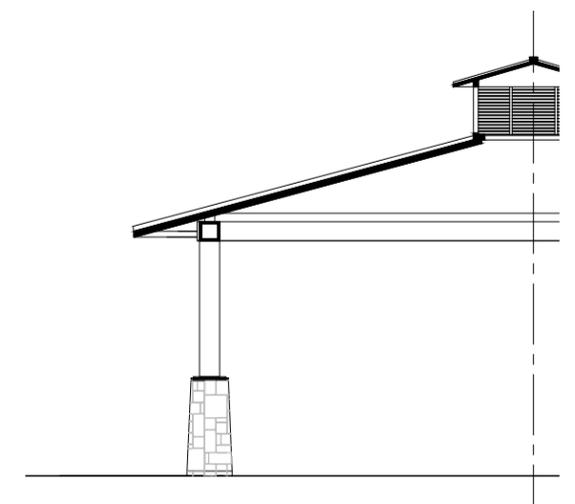
5 SECTION - STRCTURE A
3/8"=1'-0"



3 FRONT ELEVATION - STRCTURE A
3/8"=1'-0"



4 SIDE ELEVATION - STRCTURE A
3/8"=1'-0"



6 SECTION - STRCTURE A
3/8"=1'-0"

design
landscape architect _____ date
architect _____ date
engineer _____ date
drawn by _____ date

review and approval (m-ncppc)
park development division _____ date
central maintenance _____ date
region _____ date
natural resources _____ date

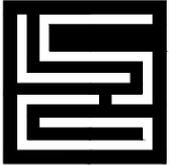
review and approval (m-ncppc)
deputy director of parks _____ date
park police _____ date
project manager _____ date
construction manager _____ date



The Maryland-National Capital Park and Planning Commission
9500 Brunett Avenue
Silver Spring, Maryland 20901
Montgomery County Department of Parks
(301) 495-2535

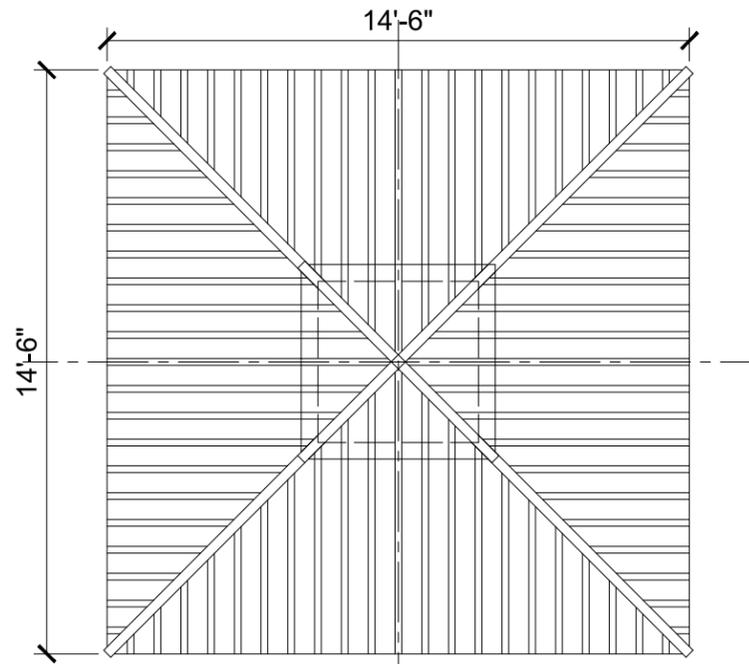
revisions:		
rev. no.	date	description

project :
SENECA CROSSING LOCAL PARK FACILITY PLAN
date : SEPTEMBER, 2011
sheet: 5 of 9



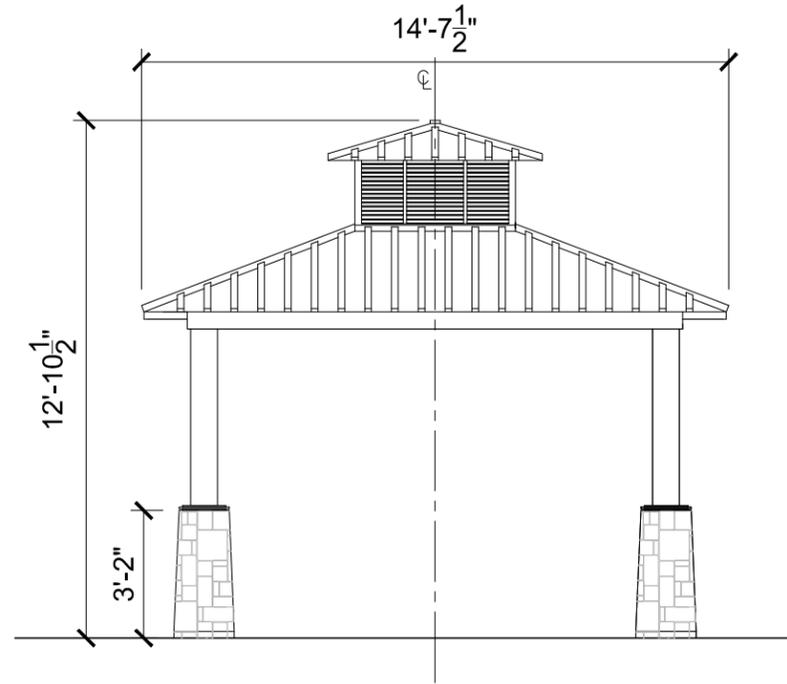
LSG LANDSCAPE ARCHITECTURE

1919 GALLOWAY ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045



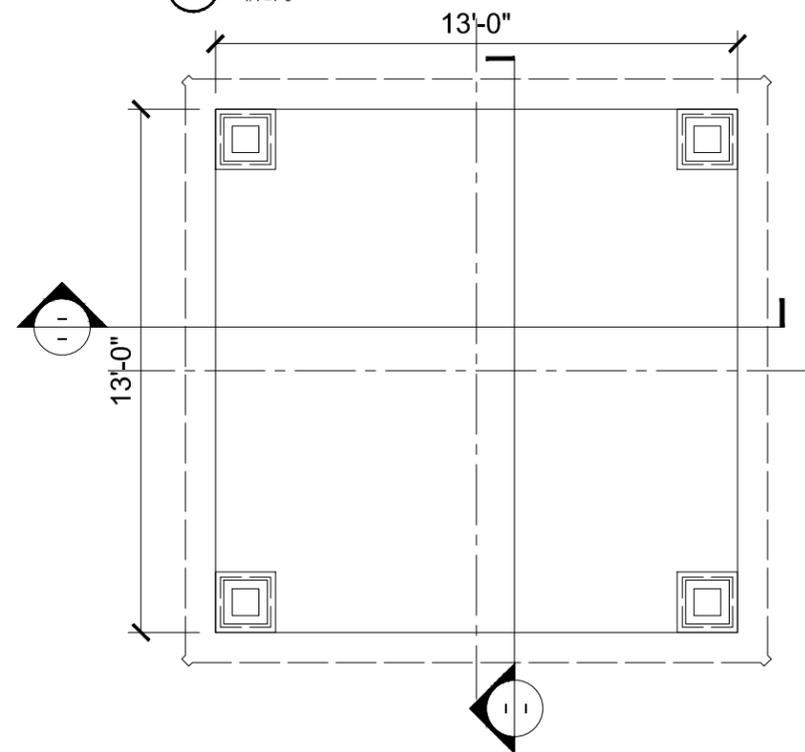
1 ROOF PLAN - STRUCTURE B

1/4"=1'-0"



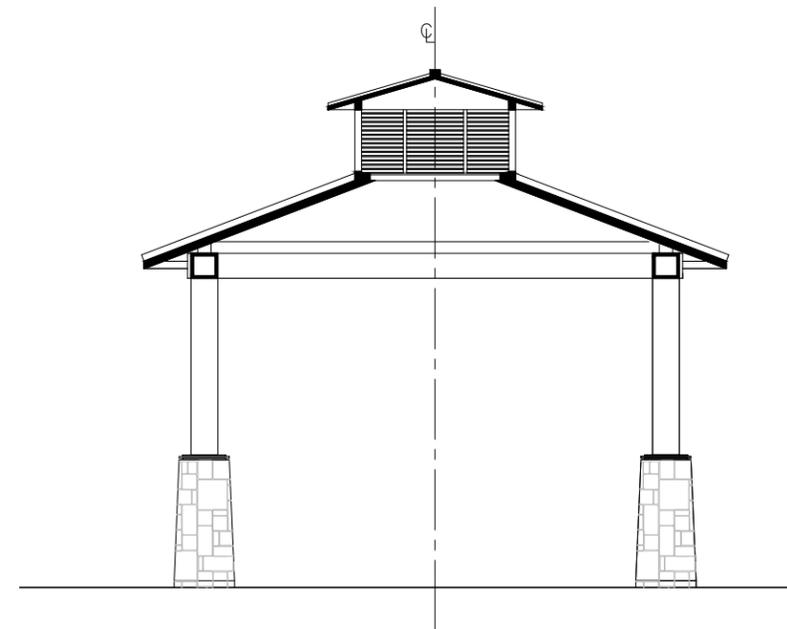
3 ELEVATION - STRUCTURE B

1/4"=1'-0"



2 SLAB PLAN - STRUCTURE B

1/4"=1'-0"



4 SECTION - STRUCTURE B

1/4"=1'-0"

design

landscape architect _____ date _____

architect _____ date _____

engineer _____ date _____

drawn by _____ date _____

review and approval (m-ncppc)

park development division _____ date _____

central maintenance _____ date _____

region _____ date _____

natural resources _____ date _____

review and approval (m-ncppc)

deputy director of parks _____ date _____

park police _____ date _____

project manager _____ date _____

construction manager _____ date _____



The Maryland-National Capital Park and Planning Commission

9500 Brunett Avenue
Silver Spring, Maryland 20901
Montgomery County Department of Parks
(301) 495-2535

revisions:		
rev. no.	date	description

project :
SENECA CROSSING LOCAL PARK FACILITY PLAN

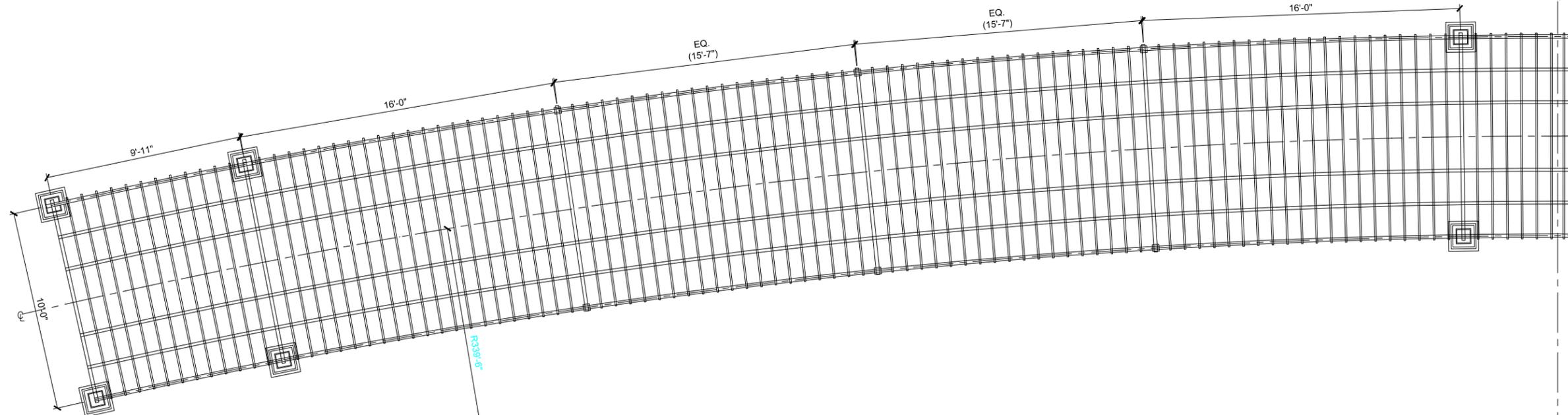
date : SEPTEMBER, 2011

sheet: 6 of 9

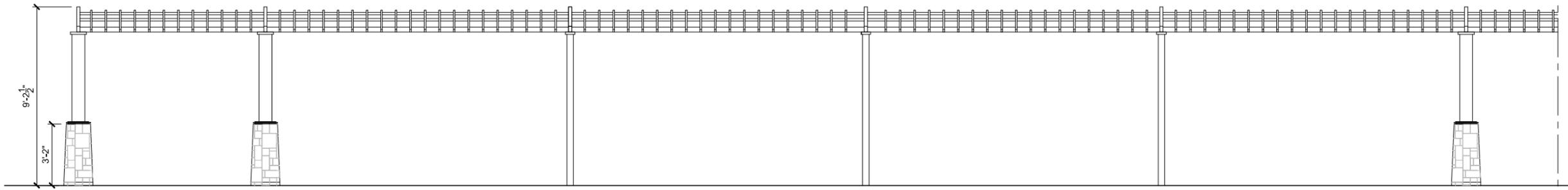


**LSG LANDSCAPE
ARCHITECTURE**

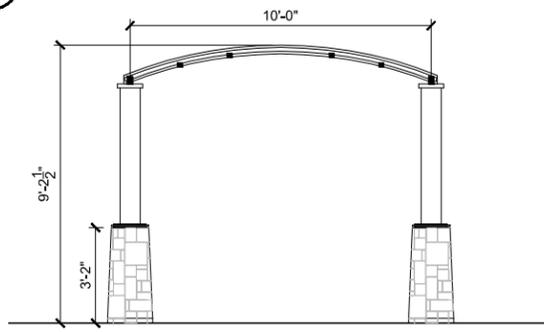
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045



1 PARTIAL PLAN - TRELLIS
3/8"=1'-0"



2 UNFOLDED ELEVATION - TRELLIS
3/8"=1'-0"



3 TYPICAL SECTION - TRELLIS
3/8"=1'-0"

design	landscape architect	date
architect		date
engineer		date
drawn by		date

review and approval (m-ncppc)	
park development division	date
central maintenance	date
region	date
natural resources	date

review and approval (m-ncppc)	
deputy director of parks	date
park police	date
project manager	date
construction manager	date



**The Maryland-National Capital Park and
Planning Commission**

9500 Brunett Avenue
Silver Spring, Maryland 20901
Montgomery County Department of Parks
(301) 495-2535

revisions:		
rev. no.	date	description

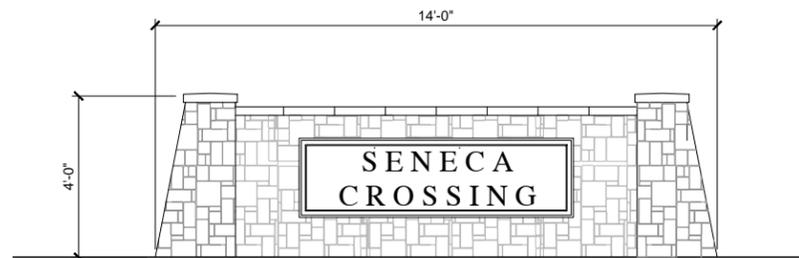
project :
**SENECA CROSSING LOCAL PARK
FACILITY PLAN**

date : SEPTEMBER, 2011

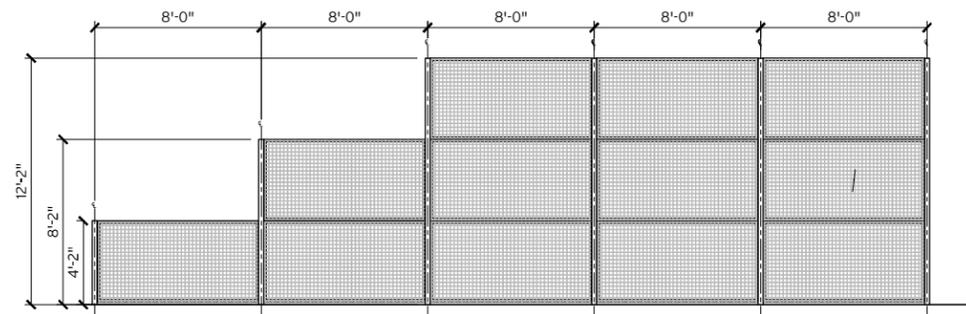


**LSG LANDSCAPE
ARCHITECTURE**

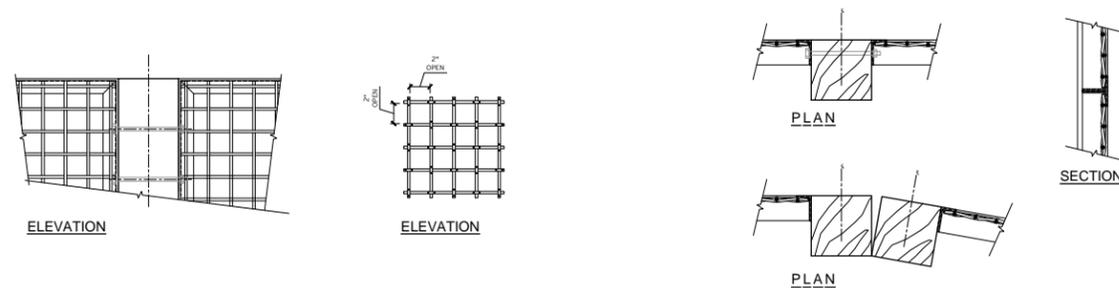
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045



1 TYP. PLAN - ENTRANCE WALL
1/4"=1'-0"



2 ELEVATION - FIELD FENCE
1/4"=1'-0"



3 FENCE DETAIL
1-1/2"=1'-0"

4 FENCE DETAIL
1-1/2"=1'-0"

design
landscape architect _____ date
architect _____ date
engineer _____ date
drawn by _____ date

review and approval (m-ncppc)
park development division _____ date
central maintenance _____ date
region _____ date
natural resources _____ date

review and approval (m-ncppc)
deputy director of parks _____ date
park police _____ date
project manager _____ date
construction manager _____ date



**The Maryland-National Capital Park and
Planning Commission**

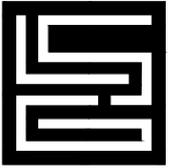
9500 Brunett Avenue
Silver Spring, Maryland 20901
Montgomery County Department of Parks
(301) 495-2535

revisions:		
rev. no.	date	description

project :
**SENECA CROSSING LOCAL PARK
FACILITY PLAN
SITE ENLARGEMENTS & DETAILS**

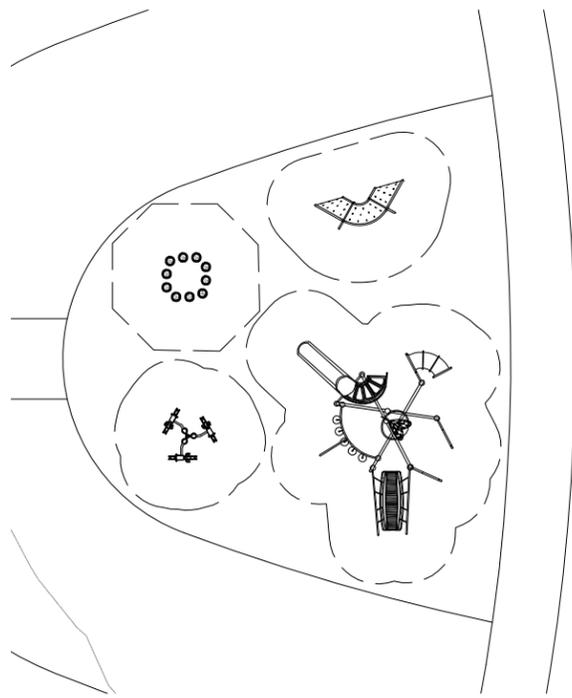
date : SEPTEMBER, 2011

sheet: 8 of 9



LSG LANDSCAPE ARCHITECTURE

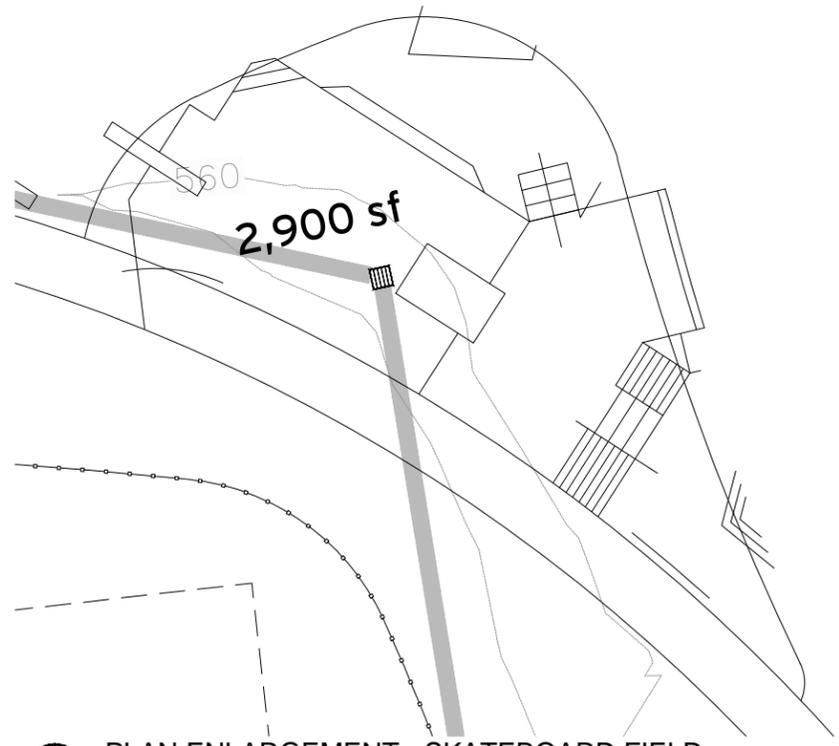
1919 GALLOWS ROAD, SUITE 110
VIENNA, VIRGINIA 22182
703-821-2045



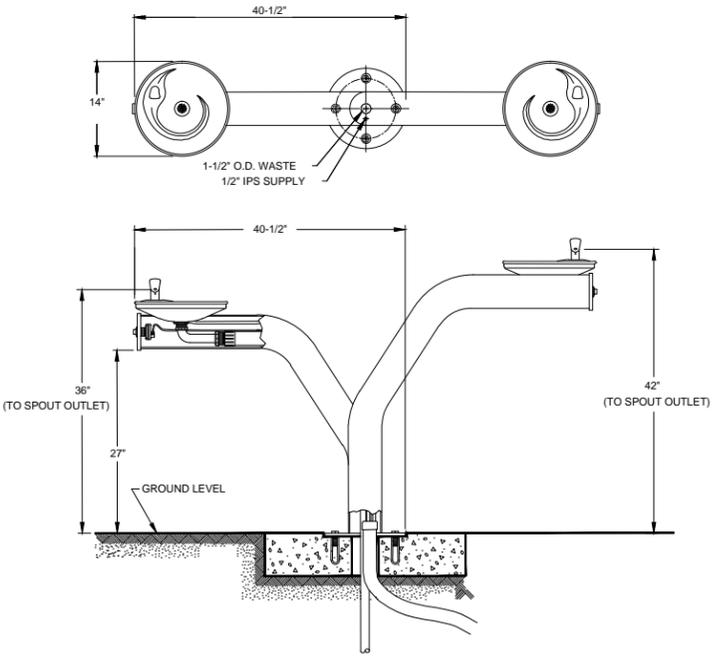
1 PLAN ENLARGEMENT - PLAY AREA
1"=10'-0"



2 PLAN ENLARGEMENT - TODDLER PLAY
1"=10'-0"



3 PLAN ENLARGEMENT - SKATEBOARD FIELD
1"=10'-0"



4 DRINKING FOUNTAIN
NTS



1
Bench
Model: Flex
Mfr: Creative Pipe



2
Trash Receptacle
Model: Duomo
Mfr: Creative Pipe



3
Picnic Table
Model: Ecino II
Manufacturer: Creative Pipe

5 SITE FURNITURE
NTS

design	landscape architect	date
architect		date
engineer		date
drawn by		date

review and approval (m-ncppc)	park development division	date
central maintenance		date
region		date
natural resources		date

review and approval (m-ncppc)	deputy director of parks	date
park police		date
project manager		date
construction manager		date



The Maryland-National Capital Park and Planning Commission

9500 Brunett Avenue
Silver Spring, Maryland 20901
Montgomery County Department of Parks
(301) 495-2535

revisions:		
rev. no.	date	description

project :
SENECA CROSSING LOCAL PARK FACILITY PLAN
SITE ENLARGEMENTS & DETAILS
date : SEPTEMBER, 2011
sheet: 9 of 9



1
Bench
Model: Flex
Mfr: Creative Pipe



2
Trash Receptacle
Model: Duomo
Mfr: Creative Pipe



3
Picnic Table
Model: Ecino II
Manufacturer: Creative Pipe



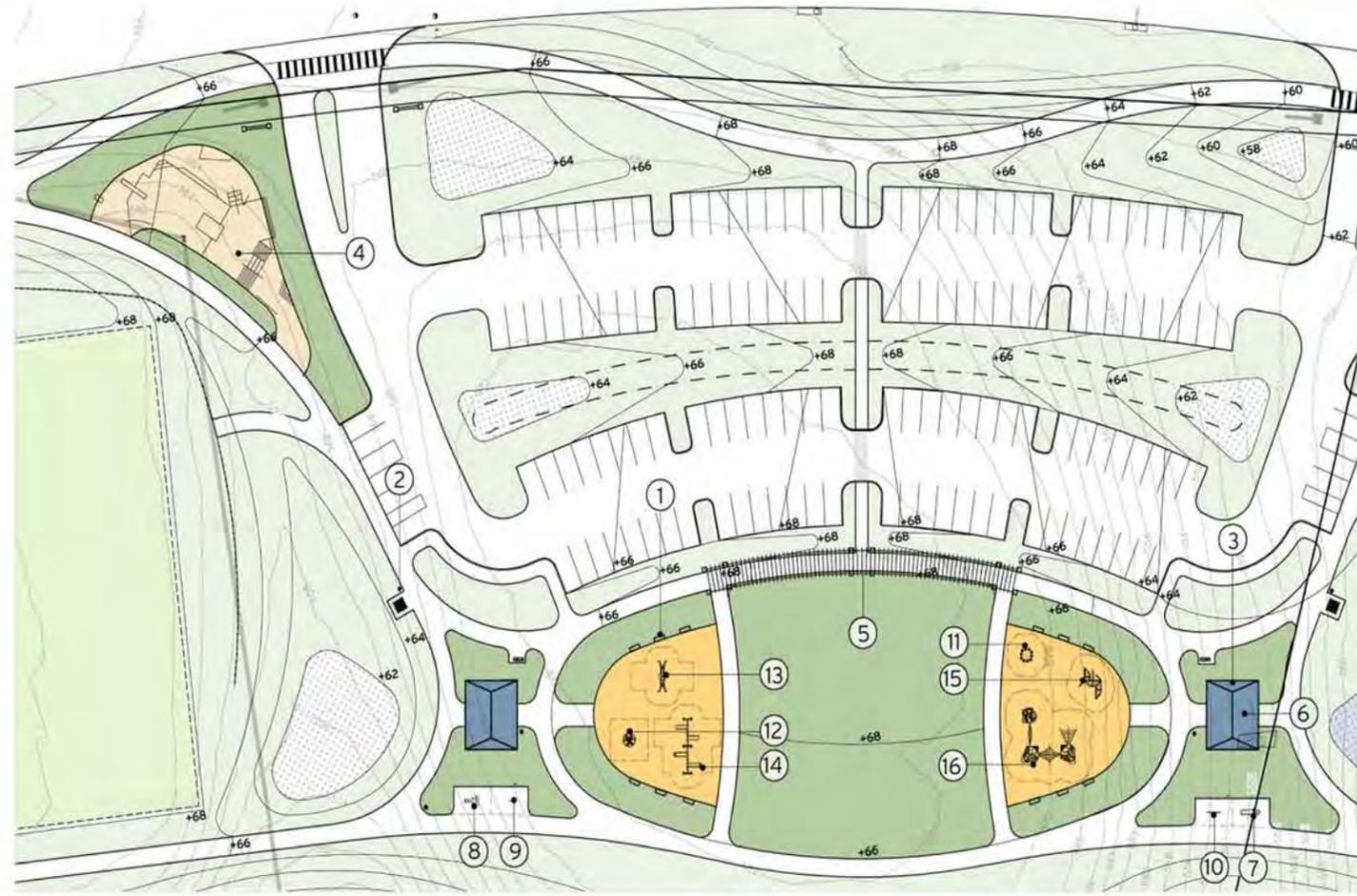
4
Skate Spot
Model: Custom Transition Skaters
Manufacturer: Spohn Ranch



5
Metal Pergola
Model: Custom
Manufacturer: Custom
Length: 150'



6
Picnic Shelter
Model: Custom
Manufacturer: Polygon
Size: 24'X30'



7
Core, Torso, & Balance Station
Model: Energi Station 5
Manufacturer: Playworld Systems
Area Required: 220 SF



9
Achilles Stretch Station
Model: World Trail ZZWT002600
Manufacturer: Playworld Systems
Area Required: 220 SF



11
Balance Button Steppers
Model: Explorer's Button Loop
Manufacturer: Playworld Systems
Area Required: 300 SF



8
Power & Agility Station
Model: Energi Station 4
Manufacturer: Playworld Systems
Area Required: 220 SF



10
Push-up Station
Model: World Trail ZZWT00200
Manufacturer: Playworld Systems
Area Required: 220 SF



12
Motion Play Spinner
Model: Spinami
Manufacturer: Playworld Systems
Area Required: 330 SF



13
Oodle Swing
Model: 173592A
Manufacturer: Landscape Structures
Area Required: 544 SF



14
Arch Belt Swing
Model: 100050A
Manufacturer: Landscape Structures
Area Required: 830 SF



15
6 Panel Mobius Climber
Model: 150636A
Manufacturer: Landscape Structures
Area Required: 432 SF



16
AdventureScapes Climbing Rocks
Model: Design 8; 16837A
Manufacturer: Landscape Structures
Area Required: 1,400 SF

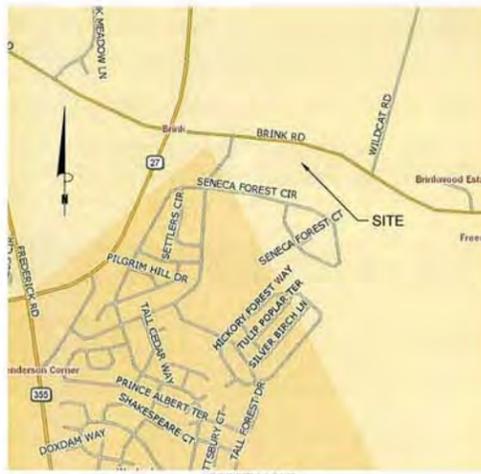


FINAL SCANNED:

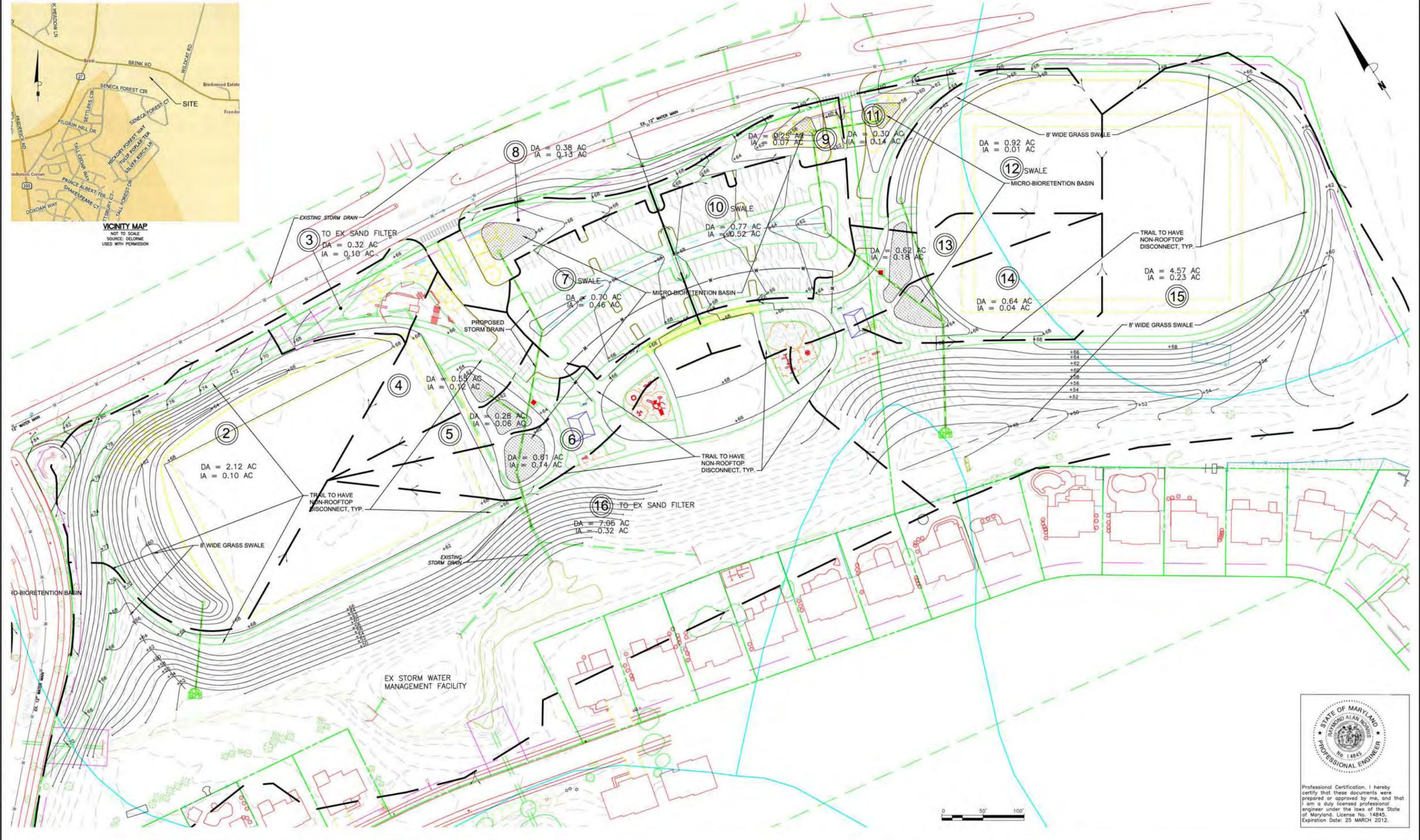
PLAN SCANNED:

PARK CODE:

P:\PRR\242\cad\dwg\Seneca SWM Concept.dwg 9/12/2011 5:28:17 PM Reynolds, Paul



VICINITY MAP
NOT TO SCALE
SOURCE: DELORME
USED WITH PERMISSION



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. 14845. Expiration Date: 25 MARCH 2012.

DESIGN		REVIEW AND APPROVAL		REVIEW AND APPROVAL	
Date	Checked By:	Date	Checked By:	Date	Checked By:
Landscape Architect		Park Development		Superintendent of Parks	
Architect		Central Maintenance		Park Police	
JOHN B. MAYNARD, PE	2011.06	Region			
Engineer		Natural Resources			
D. RAFTER, EIT	2011.06				



The Maryland-National Capital Park and Planning Commission
Montgomery County Department of Park and Planning
9500 Brunnet Avenue
Silver Spring, Maryland 20901
(301) 495-2535

PLANS ISSUED FOR: SWM CONCEPT		
REVISIONS		
Rev. No.	Date	Description

BURGESS & NIPLE
3204 TOWER OAKS BLVD SUITE 200
ROCKVILLE, MARYLAND 20852
P: 301.468.9400
F: 301.468.9669

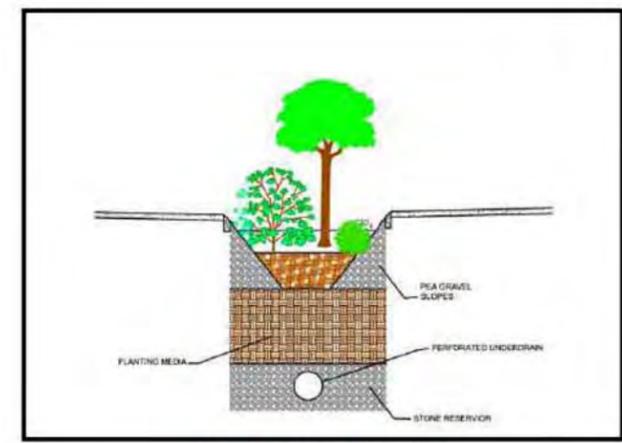
PROJECT
SENECA CROSSING PARK
STORMWATER MANAGEMENT AND DRAINAGE AREA MAP
SCALE: AS SHOWN
SHEET 1 OF 2

FINAL SCANNED:

PLAN SCANNED:

PARK CODE:

P:\P48424\cad\civil\Seneca SWM Concept.dwg 9/1/2011 5:28:17 PM Reynolds, Paul



MICRO-BIORETENTION BASIN



MICRO-BIORETENTION BASIN



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. 14845. Expiration Date: 25 MARCH 2012.

DESIGN			REVIEW AND APPROVAL			REVIEW AND APPROVAL		
Landscape Architect	Date	Checked By:	Park Development	Date	Superintendent of Parks	Date		
Architect	Date	Checked By:	Central Maintenance	Date	Park Police	Date		
JOHN B. MAYNARD, PE	2011.06							
Engineer	Date	Checked By:	Region	Date				
D.RAFTER, EIT	2011.06							
Drawn by	Date	Checked By:	Natural Resources	Date				



The Maryland-National Capital Park and Planning Commission
 Montgomery County Department of Park and Planning
 9500 Brunnet Avenue
 Silver Spring, Maryland 20901
 (301) 495-2535

PLANS ISSUED FOR: SWM CONCEPT

REVISIONS		
Rev. No.	Date	Description

BURGESS & NIPLE
 3204 TOWER OAKS BLVD SUITE 200
 ROCKVILLE, MARYLAND 20852
 P: 301.468.9400
 F: 301.468.9669

PROJECT
SENECA CROSSING PARK
 STORMWATER MANAGEMENT AND
 DRAINAGE AREA MAP
 SCALE: AS SHOWN

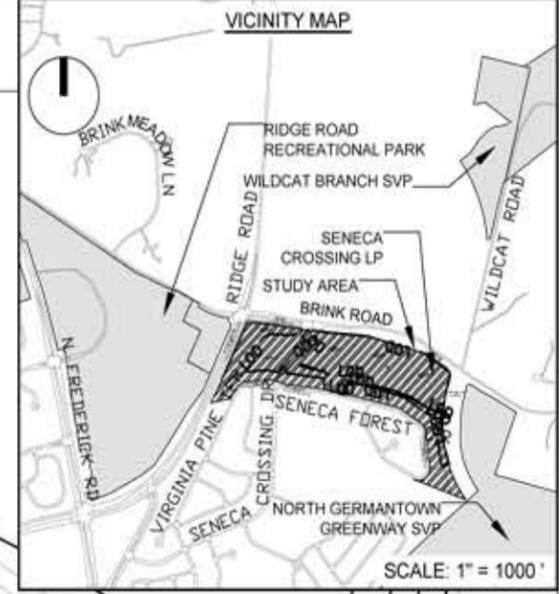


STRAUGHAN ENVIRONMENTAL

10245 OLD COLUMBIA ROAD
COLUMBIA, MARYLAND 21046
301-362-9200

THIS PLAN WAS PREPARED BY:
MATTHEW L. RESCOTT
STRAUGHAN ENVIRONMENTAL, INC.
MARYLAND DEPARTMENT OF NATURAL
RESOURCES
QUALIFIED PROFESSIONAL STATUS (FEB. 14,
2006)

MATTHEW L. RESCOTT DATE
STRAUGHAN ENVIRONMENTAL, INC



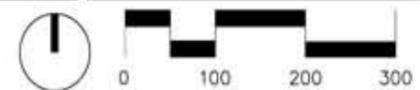
M-NCPPC
Montgomery County Planning Department
Environmental Planning Section
APPROVAL
FOREST CONSERVATION PLAN

Approved by	Date
01	
02	
03	
04	
05	

SHEET INDEX:
01 COVER
02 PLANTINGS & IMPACTS (WEST)
03 PLANTINGS & IMPACTS (EAST)
04 NOTES
05 PLANTING DETAILS

LEGEND

- EXISTING FOREST
- REFORESTATION AREA
- ADDITIONAL REFORESTATION BUFFER PLANTING
- BIO-RETENTION AREA
- EXISTING DECIDUOUS TREE
- EXISTING CONIFEROUS TREE





STRAUGHAN ENVIRONMENTAL

10245 OLD COLUMBIA ROAD
COLUMBIA, MARYLAND 21046
301-362-9200

THIS PLAN WAS PREPARED BY:
MATTHEW L. RESCOTT
STRAUGHAN ENVIRONMENTAL, INC.
MARYLAND DEPARTMENT OF NATURAL
RESOURCES
QUALIFIED PROFESSIONAL STATUS (FEB. 14,
2006)

MATTHEW L. RESCOTT DATE
STRAUGHAN ENVIRONMENTAL, INC.

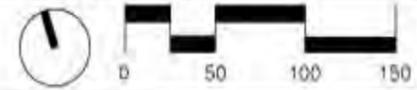
M. NCPPC
Montgomery County Planning Department
Environmental Planning Section
APPROVAL
FOREST CONSERVATION PLAN

Approved by:	Date:
01	
02	
03	
04	
05	

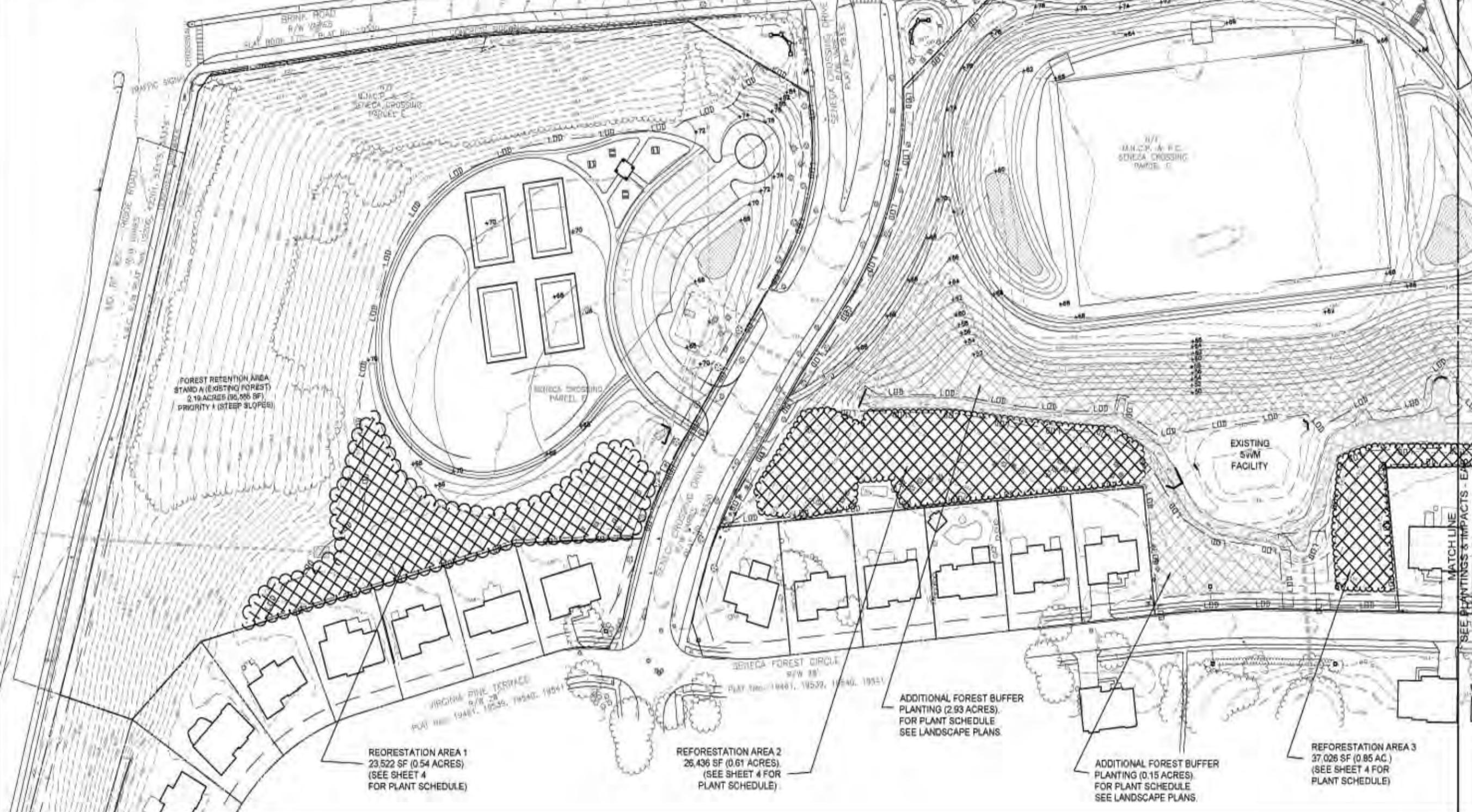
NOTE: ADDITIONAL FOREST BUFFER PLANTING TO BE USED AS OFF-SITE REFORESTATION CREDIT FOR FUTURE PROJECTS.

LEGEND

- EXISTING FOREST
- REFORESTATION AREA
- ADDITIONAL REFORESTATION BUFFER PLANTING
- BIO-RETENTION AREA
- EXISTING DECIDUOUS TREE
- EXISTING CONIFEROUS TREE



REFORESTATION AREA 1 - 0.54 AC/23,522 SF					REFORESTATION AREA 2 - 0.61 AC/26,436 SF					REFORESTATION AREA 3 - 0.85 AC/37,026 SF				
BOTANICAL NAME	COMMON NAME	MIN SIZE	CONDITION	QUANTITY	BOTANICAL NAME	COMMON NAME	MIN SIZE	CONDITION	QUANTITY	BOTANICAL NAME	COMMON NAME	MIN SIZE	CONDITION	QUANTITY
TREES														
Quercus alba	White oak	1" Cal	CG or BB	15	Quercus alba	White oak	1" Cal	CG or BB	17	Quercus alba	White oak	1" Cal	CG or BB	24
Quercus alba	White oak	2" Cal	BB	2	Quercus alba	White oak	2" Cal	BB	3	Quercus alba	White oak	2" Cal	BB	4
Quercus rubra	Northern red oak	1" Cal	CG or BB	15	Quercus rubra	Northern red oak	1" Cal	CG or BB	17	Quercus rubra	Northern red oak	1" Cal	CG or BB	24
Quercus rubra	Northern red oak	2" Cal	BB	2	Quercus rubra	Northern red oak	2" Cal	BB	3	Quercus rubra	Northern red oak	2" Cal	BB	4
Liriodendron tulipifera	Tulip poplar	1" Cal	CG or BB	15	Liriodendron tulipifera	Tulip poplar	1" Cal	CG or BB	17	Liriodendron tulipifera	Tulip poplar	1" Cal	CG or BB	24
Liriodendron tulipifera	Tulip poplar	2" Cal	BB	2	Liriodendron tulipifera	Tulip poplar	2" Cal	BB	3	Liriodendron tulipifera	Tulip poplar	2" Cal	BB	4
Juniperus virginiana	Eastern red cedar	1" Cal	CG or BB	15	Juniperus virginiana	Eastern red cedar	1" Cal	CG or BB	17	Juniperus virginiana	Eastern red cedar	1" Cal	CG or BB	24
Acer rubrum	Red maple	1" Cal	CG or BB	15	Acer rubrum	Red maple	1" Cal	CG or BB	17	Acer rubrum	Red maple	1" Cal	CG or BB	24
Acer rubrum	Red maple	2" Cal	BB	2	Acer rubrum	Red maple	2" Cal	BB	3	Acer rubrum	Red maple	2" Cal	BB	4
Pinus virginiana	Virginia pine	1" Cal	CG or BB	15	Pinus virginiana	Virginia pine	1" Cal	CG or BB	17	Pinus virginiana	Virginia pine	1" Cal	CG or BB	24
Sassafras albidum	Sassafras	1" Cal	CG or BB	15	Sassafras albidum	Sassafras	1" Cal	CG or BB	17	Sassafras albidum	Sassafras	1" Cal	CG or BB	24
SHRUBS														
Ambrosia artemisiifolia	Serviceberry	3"	CG	10	Ambrosia artemisiifolia	Serviceberry	3"	CG	10	Ambrosia artemisiifolia	Serviceberry	3"	CG	15
Viburnum acerifolium	Black-headed viburnum	3"	CG	10	Viburnum acerifolium	Black-headed viburnum	3"	CG	10	Viburnum acerifolium	Black-headed viburnum	3"	CG	15
Viburnum dentatum	Southern arrowwood	3"	CG	10	Viburnum dentatum	Southern arrowwood	3"	CG	10	Viburnum dentatum	Southern arrowwood	3"	CG	15
Viburnum prunifolium	Hackberry	3"	CG	10	Viburnum prunifolium	Hackberry	3"	CG	10	Viburnum prunifolium	Hackberry	3"	CG	15



REFORESTATION AREA 1
23,522 SF (0.54 ACRES)
(SEE SHEET 4 FOR PLANT SCHEDULE)

REFORESTATION AREA 2
26,436 SF (0.61 ACRES)
(SEE SHEET 4 FOR PLANT SCHEDULE)

ADDITIONAL FOREST BUFFER PLANTING (2.93 ACRES)
FOR PLANT SCHEDULE SEE LANDSCAPE PLANS.

ADDITIONAL FOREST BUFFER PLANTING (0.15 ACRES)
FOR PLANT SCHEDULE SEE LANDSCAPE PLANS.

REFORESTATION AREA 3
37,026 SF (0.85 AC)
(SEE SHEET 4 FOR PLANT SCHEDULE)



STRAUGHAN ENVIRONMENTAL

10245 OLD COLUMBIA ROAD
COLUMBIA, MARYLAND 21046
301-362-9200

THIS PLAN WAS PREPARED BY:
MATTHEW L. RESCOTT
STRAUGHAN ENVIRONMENTAL, INC.
MARYLAND DEPARTMENT OF NATURAL
RESOURCES
QUALIFIED PROFESSIONAL STATUS (FEB. 14,
2006)

MATTHEW L. RESCOTT DATE
STRAUGHAN ENVIRONMENTAL, INC.

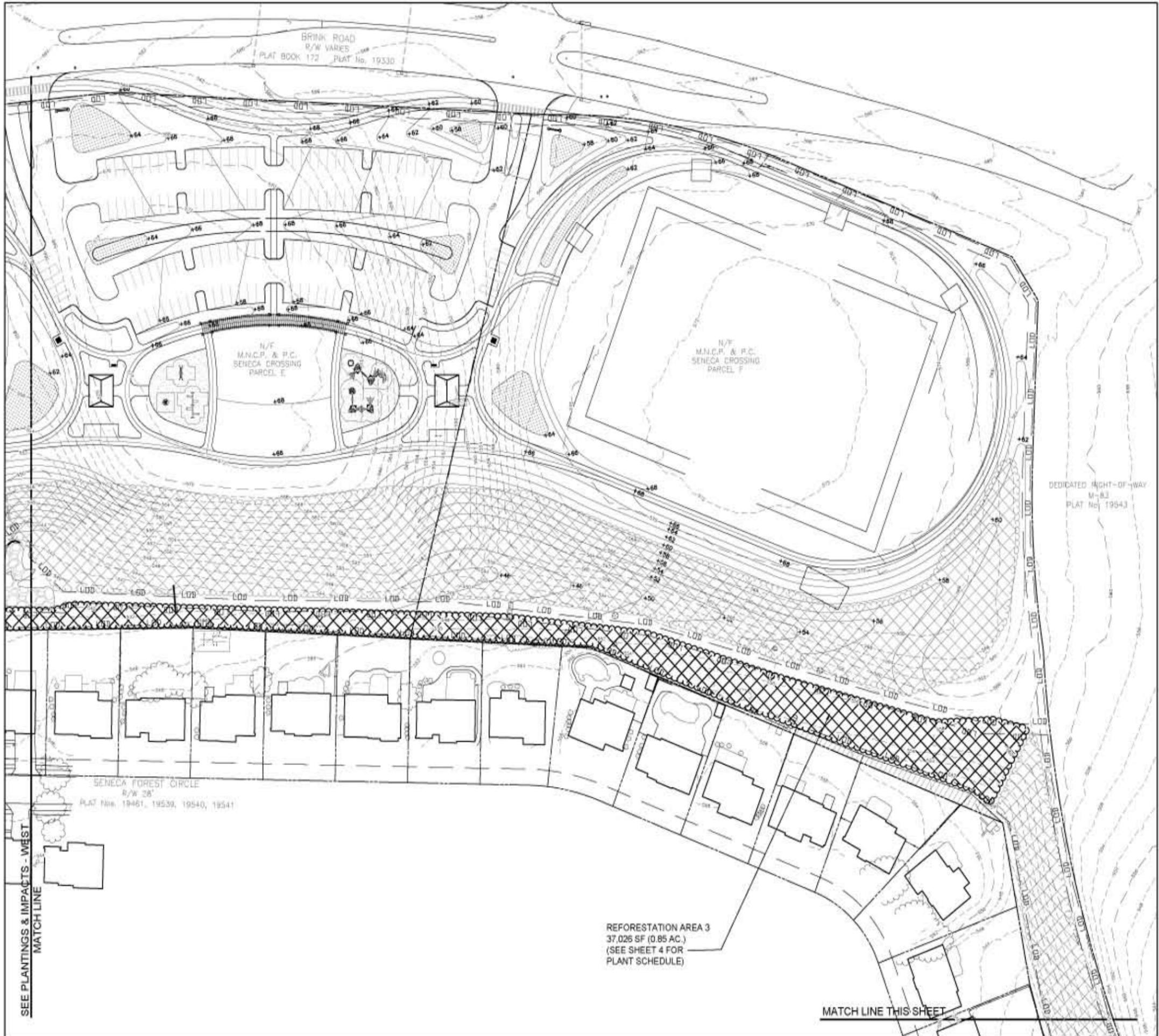
M-NCPPC
Montgomery County Planning Department
Environmental Planning Section
APPROVAL
FOREST CONSERVATION PLAN

Approved by	Date
01	
02	
03	
04	
05	

NOTE: ADDITIONAL FOREST
BUFFER PLANTING TO BE USED
AS OFF-SITE REFORESTATION
CREDIT FOR FUTURE
PROJECTS.

LEGEND

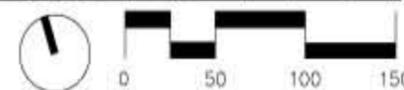
- EXISTING FOREST
- REFORESTATION AREA
- ADDITIONAL REFORESTATION BUFFER PLANTING
- BIO-RETENTION AREA
- EXISTING DECIDUOUS TREE
- EXISTING CONIFEROUS TREE



REFORESTATION AREA 3
37,026 SF (0.85 AC.)
(SEE SHEET 4 FOR
PLANT SCHEDULE)



ADDITIONAL FOREST BUFFER
PLANTING (0.56 ACRES)
FOR PLANT SCHEDULE
SEE LANDSCAPE PLANS



SEE PLANTINGS & IMPACTS - WEST
MATCH LINE

MATCH LINE THIS SHEET

REFORESTATION INSPECTION AND PLANTING NARRATIVE

1. REFORESTATION INSPECTION SCHEDULE

There shall be five inspections for forest conservation.

A. THE FIRST INSPECTION SHALL OCCUR AFTER FLAGGING/STAKING OF THE LOTS AND/OR STREAM BUFFERS AND PRIOR TO ANY CLEARING, GRADING OR SEDIMENT CONTROL MEASURES. THIS INSPECTION IS TO ADDRESS THE ISSUES OF TREE PROTECTION AND SEDIMENT CONTROL. THE DEVELOPER, ARBORIST AND REPRESENTATIVE FROM MDCPP AND MDCDP WILL MEET TO WALK THE PROPOSED LIMITS OF DISTURBANCE AND DETERMINE THE FINAL LOCATIONS OF SEDIMENT CONTROL DEVICES AND TREE PROTECTION DEVICES.

B. THE SECOND INSPECTION SHALL OCCUR AFTER PLACEMENT OF SEDIMENT CONTROL DEVICES AND TREE PROTECTION DEVICES, AND PRIOR TO CLEARING AND GRADING. THIS INSPECTION IS TO DETERMINE THE COMPLETION AND ADEQUACY OF PROTECTIVE MEASURES.

C. THE THIRD INSPECTION SHALL OCCUR PRIOR TO PLANTING IN REFORESTATION AREAS. THIS PRE-PLANTING INSPECTION IS TO MAKE FINAL DECISIONS REGARDING THE BEST IMPLEMENTATION OF THE PLANTING PLAN, INCLUDING, BUT NOT LIMITED TO, THE FINAL PLACEMENT AND SELECTION OF PLANT SPECIES, DETERMINATION OF THE REGENERATION POTENTIAL OF EXISTING PLANTS TO REMAIN, AND A REEVALUATION OF THE BEST EDGE PLANTING TREATMENT. THE PURCHASE AND DELIVERY OF PLANT MATERIALS SHOULD NOT BE MADE UNTIL AFTER THIS INSPECTION, SINCE A DETERMINATION MAY BE MADE IN THE FIELD TO ALTER THE CHOICE OF PLANT MATERIAL.

D. THE FOURTH INSPECTION SHALL OCCUR IMMEDIATELY FOLLOWING THE COMPLETION OF THE REFORESTATION PLANTING. THIS INSPECTION IS TO DETERMINE THE COMPLETION AND ADEQUACY OF THE PLANTING.

E. THE FIFTH AND FINAL INSPECTION SHALL OCCUR TWO YEARS AFTER INSTALLATION OF THE PLANTINGS. THE PURPOSE OF THIS INSPECTION IS TO DETERMINE THE SUCCESS OF PLANTING AND ADEQUACY OF THE MAINTENANCE PROGRAM FOR RELEASE OF THE BOND AND TO DETERMINE WHETHER ADDITIONAL PLANTINGS AND A FURTHER MAINTENANCE PROGRAM ARE NECESSARY.

2. PRE-PLANTING CONSIDERATIONS

A. IN AREAS WITH SUBSTANTIAL GROWTH OF INVASIVE ORIGIN COVER SPECIES, MEASURES SHALL BE TAKEN TO REMOVE AND CONTROL INVASIVES. THE INFESTED AREAS SHOULD BE MOWN PRIOR TO COMMENCEMENT OF PLANTING. NECESSARY WEED CONTROL MEASURES SHOULD BE DETERMINED DURING THE PRE-PLANTING INSPECTION, INCLUDING, BUT NOT LIMITED TO, MOWING, PERIODIC MOWING AROUND THE REFORESTATION PLANTINGS, AND FABRIC COVERINGS. THE USE OF CHEMICAL WEED CONTROL WILL BE LIMITED TO EXTREME CASES AND ONLY WITH PRIOR WRITTEN APPROVAL BY MDCPP STAFF. WHERE PERIODIC MOWING WILL OCCUR AS A WEED CONTROL MEASURE, THE TYPICAL TREE PLANTING DISTRIBUTION PATTERN SHOULD BE MODIFIED SO AS TO ALLOW ACCESS BY MOWING EQUIPMENT WITHOUT DAMAGE TO PLANTINGS.

B. A SOIL ANALYSIS WILL BE CONDUCTED PRIOR TO COMMENCEMENT OF REFORESTATION. ON LAND WHERE EXTENSIVE AGRICULTURAL USE HAS OCCURRED IN THE PAST, TEST PITS WILL BE DUG IN AREAS OF UNDISTURBED SOIL TO DETERMINE IF A FRAGILE LAYER IS PRESENT. IF FRAGILE IS PRESENT, IT SHOULD BE PROTECTED BY AUGERING AND PLANTING HOLES SHOULD BE DUG TO TWICE THE NORMAL DIAMETER FOR THE MATERIAL PLANTED.

C. SOILS SHOULD BE TREATED BY INCORPORATING NATURAL MULCH WITHIN THE TOP 12 INCHES, OR AMENDMENTS AS DETERMINED BY THE SOIL ANALYSIS. NATURAL AMENDMENTS, SUCH AS ORGANIC MULCH OR LEAF MOLD COMPOST ARE PREFERRED.

D. IF FILL MATERIAL IS USED AT THE PLANTING SITE, IT SHOULD BE CLEAN FILL WITH 12 INCHES OF NATIVE SOIL. STOCKPILING OF NATIVE TOP SOILS MUST BE DONE IN SUCH A WAY THAT THE HEIGHT OF THE PILE DOES NOT DAMAGE THE SOIL BANK.

3. PLANT AMENDMENT MATERIAL STORAGE

IT IS RECOMMENDED THAT PLANTING OCCUR WITHIN 24 HOURS OF DELIVERY TO THE SITE. PLANT MATERIALS WHICH ARE LEFT UNPLANTED FOR MORE THAN 24 HOURS SHOULD BE PROTECTED FROM DIRECT SUN AND WEATHER AND KEPT MOIST. NURSERY STOCK SHOULD NOT BE LEFT UNPLANTED FOR MORE THAN TWO (2) WEEKS.

4. ON-SITE INSPECTION

PRIOR TO PLANTING, PLANTING STOCK SHOULD BE INSPECTED. PLANTS NOT CONFORMING TO STANDARD NURSERYMAN SPECIFICATIONS FOR SIZE, FORM, VIGOR, ROOTS, TRUNK WOUNDS, INSECTS, AND DISEASE SHOULD BE REPLACED.

5. PLANTING SPECIFICATIONS

A. CONTAINER GROWN STOCK: SUCCESSFUL PLANTING OF CONTAINER GROWN STOCK REQUIRES CAREFUL SITE PREPARATION AND INSPECTION OF THE PLANT MATERIAL ROOT SYSTEM. CAUTION IS RECOMMENDED WHEN SELECTING PLANTS GROWN IN A SOIL MEDIUM DIFFERING FROM THAT OF THE PLANTING SITE. THE PLANT SHOULD BE REMOVED FROM THE CONTAINER AND THE ROOTS GENTLY LOOSENED FROM THE SOILS. IF THE ROOTS SHOW THE ROOT BALL, SUBSTITUTION IS STRONGLY RECOMMENDED. UNSHARED OR KNIVED ROOT SYSTEMS SHOULD ALSO BE NOTED AND SUBSTITUTED IF NECESSARY. ROOTS MAY NOT BE TRIMMED ON-SITE DUE TO THE INCREASED CHANCES OF SOIL BORNE DISEASES. THE PLANTING FIELD SHOULD BE PREPARED AS SPECIFIED. NATIVE STOCKPILED SOILS SHOULD BE USED TO BACKFILL PLANTING HOLES. BAKE SOILS EVENLY OVER THE PLANTING FIELD AND COVER WITH 2 TO 4 INCHES OF MULCH.

B. BALLED AND WRAPPED TREES: BALLED AND WRAPPED TREES MUST BE HANDLED WITH CARE WHILE PLANTING. TREES SHOULD NOT BE PICKED UP BY THE TRUNK OR BRANCHED. AS EACH BRANCHES WILL TEND TO SEPARATE THE TRUNK FROM THE ROOT BALL, PRIOR TO PLANTING, ROOT BALLS SHOULD BE KEPT MOIST.

C. PLANTING HOLES SHOULD BE CREATED EQUAL TO 2.5 TIMES THE DIAMETER OF THE ROOT BALL. USE WATERING TO SETTLE SOIL BACKFILLED AROUND TREES. STOCKPILED NATIVE TOP SOILS, IF AVAILABLE, SHOULD BE USED TO BACKFILL THE PLANTING HOLES. AMENDMENTS ARE NOT RECOMMENDED IN THE PLANTING FIELD. AS STUDIES HAVE SHOWN THAT ROOTS WILL BE ENCOURAGED TO STAY WITHIN THE AMENDED SOILS. SOILS SHOULD BE BAKED EVENLY OVER THE PLANTING FIELD AND COVERED WITH 2 TO 4 INCHES OF MULCH.

D. STAKING OF TREES IS NOT RECOMMENDED EXCEPT IN AREAS OF HIGH WINDS. MOVEMENT IS NECESSARY TO STRENGTHEN THE TRUNK OF THE PLANTED TREE. IF STAKES ARE USED, THEY SHOULD BE REMOVED AFTER THE FIRST GROWING SEASON. WRAPPING IS ALSO NOT RECOMMENDED DUE TO THE INCREASED OPPORTUNITIES FOR INSECT INFESTATION AND DISEASE.

6. POST-PLANTING CONSIDERATIONS

A. SOIL STABILIZATION: FOR AREAS OF LARGE-SCALE DISTURBANCE, SOILS MUST BE STABILIZED USING A NON-TURF-BUILDING GROUND COVER OR ENGINEERING FABRIC.

B. PROTECTIVE DEVICES: TO PREVENT DAMAGE OF PLANTED AREAS, ALL REFORESTATION AND AFFORESTATION SITES MUST BE POSTED WITH APPROPRIATE SIGNS AND FLAGGERS. CONSTRUCTION EQUIPMENT SHALL BE PROHIBITED IN THESE AREAS.

SEQUENCE OF EVENTS FOR PROPERTY OWNERS REQUIRED TO COMPLY WITH FOREST CONSERVATION AND/OR TREE-SAVE PLANS

PRE-CONSTRUCTION

1. AN ON-SITE 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 INSPECTION STAFF BEFORE CONSTRUCTION TO VERIFY THE LIMITS OF DISTURBANCE AND DISCUSS TREE PROTECTION AND TREE CARE MEASURES. THE DEVELOPER'S REPRESENTATIVE, CONSTRUCTION SUPERINTENDENT, ISA-CERTIFIED ARBORIST OR MARYLAND LICENSED TREE EXPERT THAT WILL IMPLEMENT THE TREE PROTECTION MEASURES, FOREST CONSERVATION INSPECTOR, AND DEPARTMENT OF PERMITTING SERVICES (DPS) SEDIMENT CONTROL INSPECTOR SHOULD ATTEND THIS PRE-CONSTRUCTION MEETING.

2. NO CLEARING OR GRADING SHALL BEGIN BEFORE STRESS REDUCTION MEASURES HAVE BEEN IMPLEMENTED. APPROPRIATE MEASURES MAY INCLUDE, BUT ARE NOT LIMITED TO:

- A. ROOT PRUNING
- B. CROWN REDUCTION OR PRUNING
- C. WATERING
- D. FERTILIZATION
- E. VERTICAL MULCHING
- F. ROOT AERATION MATTING

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 1187 GEORGIA AVENUE SILVER SPRING, MD 20910. THE FOREST CONSERVATION INSPECTOR WILL DETERMINE THE EXACT METHOD TO CONVEY THE STRESS REDUCTION 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 LOCATIONS SHOULD BE STAKED PRIOR TO THE PRE-CONSTRUCTION MEETING. THE FOREST CONSERVATION INSPECTOR, IN COORDINATION WITH THE DPS SEDIMENT CONTROL INSPECTOR, MAY MAKE FIELD ADJUSTMENTS TO INCREASE THE SURVIVABILITY OF TREES AND FOREST SHOW AS SAVED ON THE APPROVED PLAN. 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. 1/4 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 INSTALLED 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 FENCE AREAS DURING THE ENTIRE CONSTRUCTION PROJECT. NO VEHICLE OR EQUIPMENT ACCESS TO THE FENCED AREA WILL BE PERMITTED. TREE PROTECTION SHALL NOT BE REMOVED WITHOUT PRIOR APPROVAL OF FOREST CONSERVATION INSPECTOR.

6. FOREST 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 ATTACHED DETAILS. INSTALLATION WILL OCCUR AT THE APPROPRIATE TIME DURING THE CONSTRUCTION PROJECT. REFER TO THE PLAN DRAWING FOR LONG-TERM PROTECTION MEASURES TO BE INSTALLED.

DURING CONSTRUCTION

8. PERIODIC INSPECTIONS BY THE FOREST CONSERVATION INSPECTOR WILL OCCUR DURING THE CONSTRUCTION PROJECT. CORRECTIONS AND REPAIRS TO ALL TREE PROTECTION DEVICES, AS DETERMINED BY THE FOREST CONSERVATION INSPECTOR, MUST BE MADE WITHIN THE TIMEFRAME ESTABLISHED BY THE INSPECTOR.

AFTER 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. SOIL AERATION
- D. FERTILIZATION
- E. WATERING
- F. WOUND REPAIR
- G. CLEAN UP OF RETENTION 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 THAT ALSO OPERATE FOR EROSION AND SEDIMENT CONTROL MUST BE COORDINATED WITH BOTH THE DEPARTMENT OF PERMITTING SERVICES AND THE FOREST CONSERVATION INSPECTOR. NO ADDITIONAL GRADING, SODDING, OR BURIAL MAY TAKE PLACE AFTER THE TREE PROTECTION FENCING IS REMOVED.

PLANT SCHEDULE

MASTER PLANT SCHEDULE - 2.0 AC/87,120 SF				
SPECIES		MIN SIZE	CONDITION	QUANTITY
BOTANICAL NAME	COMMON NAME	HEIGHT		
TREES				
<i>Quercus alba</i>	White oak	1" Cal	CG or BS	96
<i>Quercus alba</i>	White oak	2" Cal	BB	9
<i>Quercus rubra</i>	Northern red oak	1" Cal	CG or BS	96
<i>Quercus rubra</i>	Northern red oak	2" Cal	BB	9
<i>Liriodendron tulipifera</i>	Tulip poplar	1" Cal	CG or BS	96
<i>Juniperus virginiana</i>	Eastern red cedar	1" Cal	CG or BS	96
<i>Acer rubrum</i>	Red maple	1" Cal	CG or BS	96
<i>Acer rubrum</i>	Red maple	2" Cal	BB	9
<i>Pinus virginiana</i>	Virginia pine	1" Cal	CG or BS	96
<i>Sassafras albidum</i>	Sassafras	1" Cal	CG or BS	96
SHRUBS				
<i>Amelanchier canadensis</i>	Serviceberry	3	CG	36
<i>Viburnum acerifolium</i>	Maple-leaved viburnum	3	CG	36
<i>Viburnum dentatum</i>	Southern arrowwood	3	CG	36
<i>Viburnum prunifolium</i>	Blackhaw	3	CG	36

Plantings shall occur in rows at minimum 12 feet on center.

NOTES FROM APPROVED NRI/FSD:

1. CORRESPONDENCE WITH USFWS AND MDRR INDICATES THERE ARE NO RECORDS OF ANY RARE, THREATENED, OR ENDANGERED SPECIES WITHIN THE STUDY AREA.

2. CORRESPONDENCE WITH ANR INDICATES THAT THERE ARE NO ARCHEOLOGICAL OR HISTORIC RESOURCES WITHIN THE STUDY AREA.

3. TOPOGRAPHY AND SIZE/LOCATION OF INDIVIDUAL TREES WAS PROVIDED BY BURGESS & NIPLE. IF TOPOGRAPHIC SOURCE CHANGES IN THE FUTURE, A REVISED NRI MAY BE REQUIRED IF THE DETERMINATIONS OF REGULATED AREAS CHANGE SIGNIFICANTLY.

4. FIELD INVESTIGATION FOR BOTH WETLANDS AND FOREST RESOURCES LED BY MATTHEW L. RESCOTT WAS CONDUCTED ON OCTOBER 30, 2024.

5. NO WETLANDS WERE IDENTIFIED BY STRAUGHAN DURING THE FIELD INVESTIGATION. ONE WATERWAY WAS IDENTIFIED SOUTH OF THE PROPERTY ACROSS BIRCH FOREST CIRCLE.

6. ACCORDING TO FEMA, THE STUDY AREA DOES NOT INTERSECT THE 100-YEAR FLOODPLAIN OF ANY WATERWAY.

7. PROPERTY INFORMATION PROVIDED BY BURGESS & NIPLE.

8. TREES WERE MEASURED WITH DIAMETER TAPE. THERE WERE NO TREES WITH A DBH OF MORE THAN 24 INCHES WITHIN THE STUDY AREA.

9. AN APPROVED NRI IS VALID FOR TWO YEARS FROM THE DATE OF SIGNATURE BY STAFF. ON LIMITED INFORMATION USED TO PREPARE THE NRI, CHANGES, THIS WILL BE REQUIRED TO BE REVISED AND RE-APPROVED IF THE BASE INFORMATION CHANGES SIGNIFICANTLY.

10. TWO FOREST STANDS WERE IDENTIFIED WITHIN THE STUDY AREA AND WERE ASSIGNED A HIGH PRIORITY OF ONE DUE TO PRESENCE OF STEEP SLOPES AND CONTIGUOUS FOREST.

11. THE STUDY AREA IS 27.9 ACRES IN SIZE.

12. THE STUDY AREA FALLS WITHIN THE SEMECA CREEK WATERSHED. THAT PORTION OF THE SEMECA CREEK WATERSHED IS CLASSIFIED AS USE 1P.

13. THE STUDY AREA DOES NOT FALL WITHIN EITHER THE FUTURE MANAGEMENT AREA OR ANY SPECIAL PROTECTION AREA.

14. THE PROPERTY IS LOCATED ON THE BORDER OF MSSC GRID/TILES E20W11.44N1.22W11.2.

FOREST SUMMARY TABLE

FOREST SUMMARY TABLE	
	ACRES
FOREST CLEARED	0
TOTAL	0
FOREST PLANTED	
AREA #1	0.54
AREA #2	0.61
AREA #3	0.55
TOTAL	2.00
FOREST RETAINED	2.19



**STRAUGHAN
ENVIRONMENTAL**

10245 OLD COLUMBIA ROAD
COLUMBIA, MARYLAND 21046
301-362-9200

THIS PLAN WAS PREPARED BY:
MATTHEW L. RESCOTT
STRAUGHAN ENVIRONMENTAL, INC.
MARYLAND DEPARTMENT OF NATURAL
RESOURCES
QUALIFIED PROFESSIONAL STATUS (FEB. 14,
2006)

MATTHEW L. RESCOTT DATE _____
STRAUGHAN ENVIRONMENTAL, INC.

MDCPP
Montgomery County Planning Department
Environmental Planning Section
APPROVAL
FOREST CONSERVATION PLAN

Approved by	Date
01	
02	
03	
04	
05	

FOREST CONSERVATION WORKSHEET
Semeca Creekway Park #42010100

NET TRACT AREA: 27.80

A. Total Tract Area	27.80
B. Land dedication acres (parks, county, belts, etc.)	0.00
C. Land dedication through or utilities (not being constructed by this plan)	0.00
D. Area to remain in commercial agricultural production	0.00
E. Other reductions (specify)	0.00
F. Net Tract Area	27.80

LAND USE CATEGORY (from Tree Technical Manual)
Input the number (1) under the appropriate land use that is only one entry.

	ARA	MDR	IDA	HOR	UPD	DA	
	0	0	1	0	0	0	
G. Afforestation Threshold					15%	F =	4.17
H. Conservation Threshold					20%	F =	5.56

EXISTING FOREST COVER

I. Existing forest cover	2.19
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 conservation threshold	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	2.19

PLANTING REQUIREMENTS

P. Replantation for clearing above conservation threshold	0.00
Q. Replantation for clearing below conservation threshold	0.00
R. Credit for retention above conservation threshold	0.00
S. Total replantation required	0.00
T. Total afforestation required	1.96
U. Credit for landscaping (may not exceed 20% of T)	0.00
V. Total afforestation and replantation required	1.96



STRAUGHAN ENVIRONMENTAL

10245 OLD COLUMBIA ROAD
COLUMBIA, MARYLAND 21046
301-362-9200

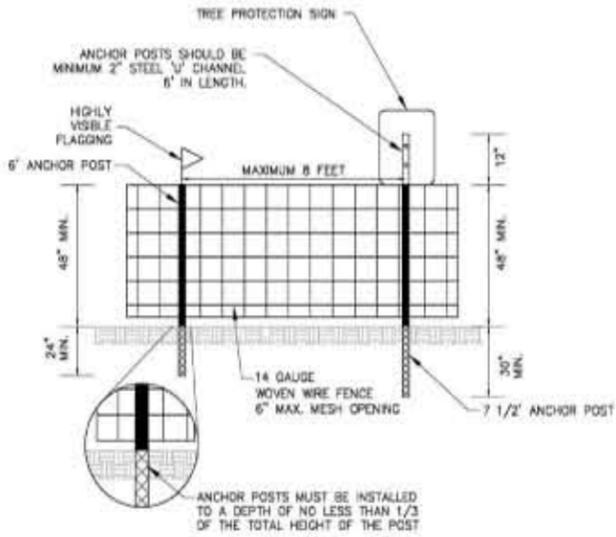
THIS PLAN WAS PREPARED BY:
MATTHEW L. RESCOTT
STRAUGHAN ENVIRONMENTAL, INC.
MARYLAND DEPARTMENT OF NATURAL
RESOURCES
QUALIFIED PROFESSIONAL STATUS (FEB. 14,
2006)

MATTHEW L. RESCOTT DATE
STRAUGHAN ENVIRONMENTAL, INC.

M-NCPPC
Montgomery County Planning Department
Environmental Planning Section
APPROVAL
FOREST CONSERVATION PLAN

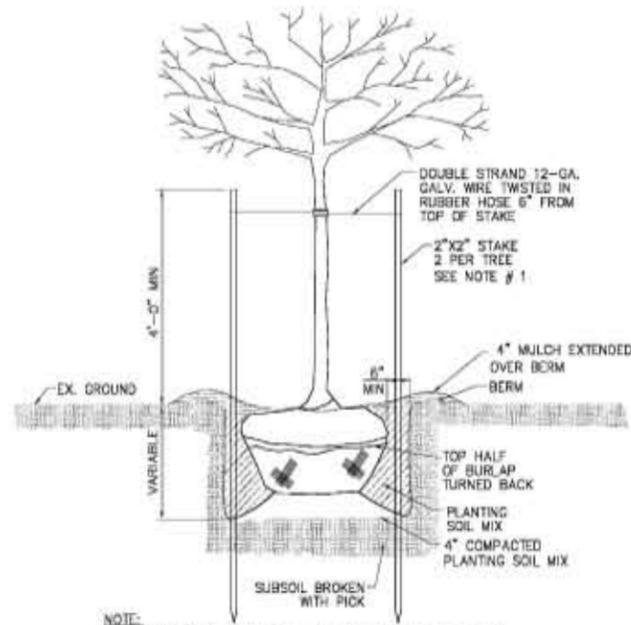
Approved by _____ Date _____

01		
02		
03		
04		
05		



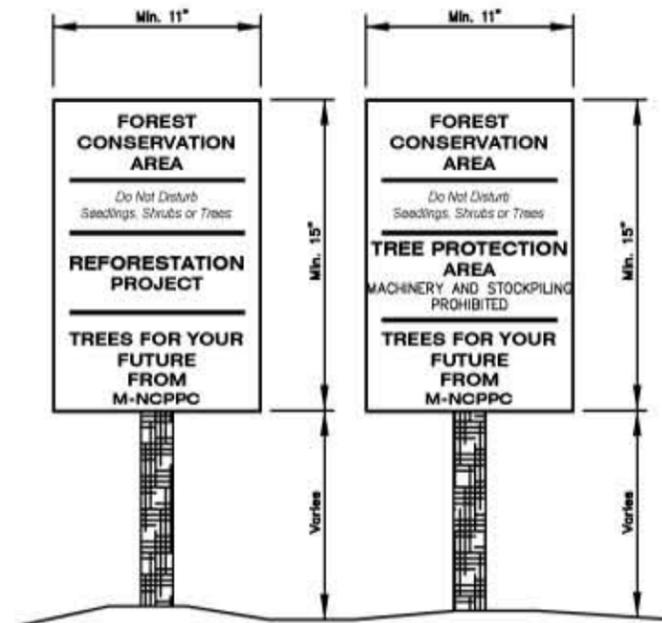
- NOTES:**
1. THE BOUNDARIES OF THE LIMITS OF DISTURBANCE SHOULD BE STAKED AND FLAGGED PRIOR TO ERECTING THE PROTECTIVE DEVICE.
 2. AVOID DAMAGE TO CRITICAL ROOT ZONES OF TREES. ANCHOR POSTS SHOULD BE PLACED TO AVOID SEVERING OR DAMAGING LARGE TREE ROOTS.
 3. FENCING MATERIAL SHOULD BE FASTENED SECURELY TO THE ANCHOR POSTS WITH FENCE WIRE.
 4. FENCE SIGNS, AND THEREFORE, THE TALLER 7 1/2' POSTS, MUST BE PLACED A MINIMUM OF 50' APART AND AT FENCE CORNERS. CONDITIONS ON SITE AFFECTING VISIBILITY MAY WARRANT PLACING SIGNS CLOSER OR FURTHER APART. ATTACHING SIGNS TO TREES IS PROHIBITED.
 5. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

WOVEN WIRE TREE PROTECTION FENCE
NOT TO SCALE



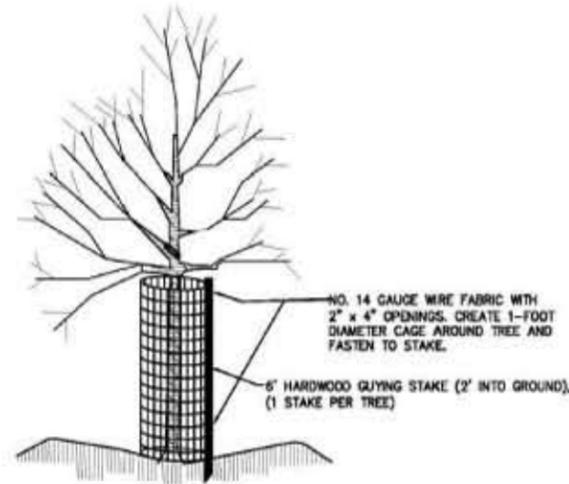
- NOTE:**
1. STAKING SHOWN ON THIS DETAIL IS FOR DECIDUOUS AND EVERGREEN TREES UNDER 4\"/>
 2. NO STAKING REQUIRED FOR STREET TREES. CONTRACTOR RESPONSIBLE FOR KEEPING STREET TREES STRAIGHT.

PLANTING DETAIL
NOT TO SCALE



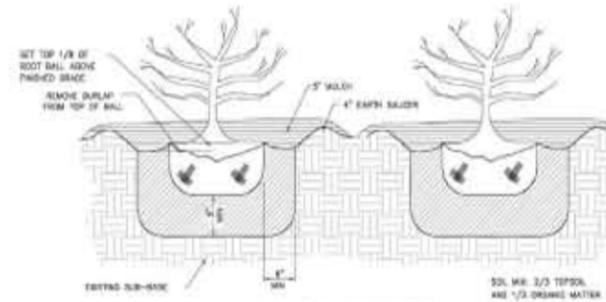
- NOTES**
1. ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.
 2. SIGNS SHOULD BE PROPERLY MAINTAINED.
 3. AVOID INJURY TO ROOTS WHEN PLACING POSTS FOR THE SIGNS.
 4. SIGNS SHOULD BE POSTED TO BE VISIBLE TO ALL CONSTRUCTION PERSONNEL FROM ALL DIRECTIONS.
 5. SIGNS SHOULD BE PLACED EVERY 30 FEET ALONG TREE PROTECTION FENCE.

TREE PROTECTION CONSTRUCTION SIGNS
NOT TO SCALE



- NOTES:**
1. HEIGHT OF CAGE SHALL BE 4-FEET (MIN.)
 2. CAGE SHALL BE FASTENED TO STAKE WITH TWO (MIN.) 11-INCH RELEASABLE CABLE TIES (ONE AT TOP AND ONE 6\"/>
 3. DO NOT DAMAGE TREE DURING INSTALLATION.
 4. DEER BARK PROTECTORS (ITEM #bg48, BY A.M. LEONARD, OR EQUAL) MAY BE SUBSTITUTED FOR TREES GREATER THAN 3\"/>
 5. CAGES TO BE REMOVED AT DIRECTION OF FOREST ECOLOGIST.
 6. ENSURE CAGE IS SECURE TO GROUND TO PREVENT UPLIFT BY DEER.

DEER PROTECTION FENCING DETAIL
NOT TO SCALE



SHRUB PLANTING DETAIL
NOT TO SCALE

THIS PLAN WAS PREPARED BY:
 MATTHEW L. RESCOTT
 STRAUGHAN ENVIRONMENTAL SERVICES, INC.
 MARYLAND DEPARTMENT OF NATURAL RESOURCES
 QUALIFIED PROFESSIONAL STATUS (FEB. 14, 2006)

M-NCPPC
 Montgomery County Planning Department
 Environmental Planning Section
 NATURAL RESOURCES INVENTORY

APPROVAL

NRI/FSD #: 420101010

Staff Signature _____ Date _____

Initial Approval
 01 Revision _____
 02 Revision _____

MATTHEW L. RESCOTT DATE
 STRAUGHAN ENVIRONMENTAL SERVICES, INC.
 9135 GUILFORD ROAD, SUITE 100
 COLUMBIA, MARYLAND 21046
 (301) 362-9200



LEGEND:

- PROPERTY BOUNDARY
- SAMPLE PLOT LOCATION
- 100-FT STREAM BUFFER
- SOIL TYPE BOUNDARY
- STUDY AREA
- INDIVIDUAL TREES
- WATERWAY
- EXISTING FOREST
- 25% SLOPES
- 2-FT CONTOUR - MAJOR
- 2-FT CONTOUR - MINOR

SCALE: 1 INCH = 100 FEET

- NOTES**
1. CORRESPONDENCE WITH USFWS AND MDNR INDICATES THERE ARE NO RECORDS OF ANY RARE, THREATENED, OR ENDANGERED SPECIES WITHIN THE STUDY AREA.
 2. CORRESPONDENCE WITH MHT INDICATES THAT THERE ARE NO ARCHEOLOGICAL OR HISTORIC RESOURCES WITHIN THE STUDY AREA.
 3. TOPOGRAPHY AND SIZE/LOCATION OF INDIVIDUAL TREES WAS PROVIDED BY BURGESS & NIPLE. IF TOPOGRAPHIC SOURCE CHANGES IN THE FUTURE, A REVISED NRI MAY BE REQUIRED IF THE DELINEATIONS OF REGULATED AREAS CHANGE SIGNIFICANTLY.
 4. FIELD INVESTIGATION FOR BOTH WETLAND AND FOREST RESOURCES LED BY MATTHEW L. RESCOTT ON OCTOBER 30, 2009.
 5. NO WETLANDS WERE IDENTIFIED BY SES DURING THE FIELD INVESTIGATION. ONE WATERWAY WAS IDENTIFIED SOUTH OF THE PROPERTY ACROSS SENECA FOREST CIRCLE.
 6. ACCORDING TO FEMA THE STUDY AREA DOES NOT INTERSECT THE 100-YEAR FLOODPLAIN OF ANY WATERWAY.
 7. PROPERTY INFORMATION PROVIDED BY BURGESS & NIPLE.
 8. TREES WERE MEASURED WITH DIAMETER TAPE. THERE WERE NO TREES WITH A DBH OF MORE THAN 24 INCHES WITHIN THE STUDY AREA.
 9. AN APPROVED NRI IS VALID FOR TWO YEARS FROM THE DATE OF SIGNATURE BY STAFF, OR UNTIL INFORMATION USED TO PREPARE THE NRI CHANGES. NRIS WILL BE REQUIRED TO BE REVISED AND RE-APPROVED IF THE BASE INFORMATION CHANGES SIGNIFICANTLY.
 10. TWO FOREST STANDS WERE IDENTIFIED WITHIN THE STUDY AREA AND WERE ASSIGNED RETENTION PRIORITIES OF ONE DUE TO PRESENCE OF STEEP SLOPES AND CONTIGUOUS FOREST.
 11. THE STUDY AREA IS 27 ACRES IN SIZE.
 12. THE STUDY AREA FALLS WITHIN THE SENECA CREEK WATERSHED THAT PORTION OF THE SENECA CREEK WATERSHED IS CLASSIFIED AS USE 1F.
 13. THE STUDY AREA DOES NOT FALL WITHIN EITHER THE PATUXENT MANAGEMENT AREA OR ANY SPECIAL PROTECTION AREA.
 14. THE PROPERTY IS LOCATED ON THE BORDER OF WSSC GRID TILES 230NW11 AND 228W11.



NATURAL RESOURCES SUMMARY

Resource	Size Within Study Area (Acres)
Forest	2.45
Wetland	0
Forested Wetland	0
Stream Buffer	0.5
Forested Stream Buffer	0

SOIL CHARACTERISTICS AND LIMITATIONS

Soil Type	Hydric Status	K-Value ^a	Prime or Unique Farmlands	Restrictions and Limitations ^b
Baile silt loam (6A)	Yes	0.43	None	Very limited due to depth to saturated zone, frost action, and shrink-swell
Brinklow channery loam (16B)	Yes, hydric inclusions in flats	0.28	Farmland of statewide importance	Somewhat limited due to shrink-swell, frost action, depth to hard bedrock, and low strength
Blocktown channery silt loam (16B)	Yes, hydric inclusions in flats	0.24	Farmland of statewide importance	Somewhat limited due to frost action and depth to soft bedrock
Brinklow channery loam (16C)	Yes, hydric inclusions in flats	0.28	Farmland of statewide importance	Somewhat limited due to shrink-swell, frost action, depth to hard bedrock, and low strength
Blocktown channery silt loam (16C)	Yes, hydric inclusions in flats	0.24	Farmland of statewide importance	Somewhat limited due to slope, frost action, and depth to soft bedrock
Brinklow channery loam (16D)	None	0.28	None	Very limited due to slope, shrink-swell, frost action, and depth to hard bedrock
Blocktown channery silt loam (16D)	None	0.24	None	Very limited due to slope, frost action, and depth to hard bedrock
Ocoquan loam (17B)	Yes, hydric inclusions in flats	0.37	Prime Farmland	Somewhat limited due to frost action
Glenville silt loam (5A)	Yes, hydric inclusions in flats	0.32	Farmland of statewide importance	Very limited due to frost action and depth to saturated zone
Glencie silt loam (2C)	Yes, hydric inclusions in flats	0.32	Farmland of statewide importance	Somewhat limited due to slope, frost action, and low strength

^a K-value indicates the erodability factor associated with a soil type. Soils with K-values greater than 0.35 pose construction-related hazards.
^b Based on limitations for local roads and streets.
 Sources: USDA, NRCS. 2002. Soil Survey Geographic (SSURGO) Database for Montgomery County, Maryland. Fort Worth, TX.

TREE KEY

TR1	8' SYCAMORE	TR53	10' PINE	TR105	6' RED MAPLE
TR2	14' PINE	TR54	10' PINE	TR106	7' RED MAPLE
TR3	8' SYCAMORE	TR55	8' ELM	TR107	8' RED MAPLE
TR4	12' PINE	TR56	12' PINE	TR108	7' RED MAPLE
TR5	12' PINE	TR57	12' PINE	TR109	7' RED MAPLE
TR6	8' SYCAMORE	TR58	10' ELM	TR110	8' RED MAPLE
TR7	6' SYCAMORE	TR59	12' CEDAR	TR111	7' RED MAPLE
TR8	10' SYCAMORE	TR60	10' CEDAR	TR112	7' RED MAPLE
TR9	6' SYCAMORE	TR61	12' CEDAR	TR113	8' RED MAPLE
TR10	10' SYCAMORE	TR62	6' MAPLE	TR114	7' RED MAPLE
TR11	6' SYCAMORE	TR63	8' MAPLE	TR115	7' RED MAPLE
TR12	12' SYCAMORE	TR64	14' CEDAR	TR116	6' RED MAPLE
TR13	8' SYCAMORE	TR65	12' CEDAR	TR117	7' RED MAPLE
TR14	12' SYCAMORE	TR66	12' CEDAR	TR118	8' RED MAPLE
TR15	6' SYCAMORE	TR67	12' CEDAR	TR119	7' WHITE PINE
TR16	10' SYCAMORE	TR68	14' CEDAR	TR120	6' WHITE PINE
TR17	8' SYCAMORE	TR69	10' CEDAR	TR121	7' WHITE PINE
TR18	12' SYCAMORE	TR70	10' CEDAR	TR122	8' WHITE PINE
TR19	12' SYCAMORE	TR71	6' CEDAR	TR123	6' BLACK WILLOW
TR20	10' SPRUCE	TR72	8' MAPLE	TR124	7' BLACK LOCUST
TR21	8' SPRUCE	TR73	12' MAPLE	TR125	10' BLACK LOCUST
TR22	8' SPRUCE	TR74	12' CEDAR	TR126	11' WHITE PINE
TR23	10' SPRUCE	TR75	10' CEDAR	TR127	8' WHITE PINE
TR24	10' SYCAMORE	TR76	14' SPRUCE	TR128	8' RED MAPLE
TR25	12' SYCAMORE	TR77	12' SPRUCE	TR129	9' WHITE PINE
TR26	10' SYCAMORE	TR78	10' SPRUCE	TR130	12' RED MAPLE
TR27	10' SYCAMORE	TR79	10' SPRUCE	TR131	12' TULIP POPLAR
TR28	8' SYCAMORE	TR80	8' SPRUCE	TR132	10' TULIP POPLAR
TR29	6' SYCAMORE	TR81	8' WHITE PINE		
TR30	8' SYCAMORE	TR82	6' WHITE PINE		
TR31	6' SYCAMORE	TR83	6' WHITE PINE		
TR32	6' SYCAMORE	TR84	6' WHITE PINE		
TR33	10' MAPLE	TR85	12' SYCAMORE		
TR34	8' SYCAMORE	TR86	8' SYCAMORE		
TR35	8' SYCAMORE	TR87	10' DOGWOOD		
TR36	6' SYCAMORE	TR88	6' SYCAMORE		
TR37	8' SYCAMORE	TR89	6' DOGWOOD		
TR38	6' SYCAMORE	TR90	10' DOGWOOD		
TR39	10' SYCAMORE	TR91	6' SPRUCE		
TR40	8' SYCAMORE	TR92	6' SPRUCE		
TR41	8' SYCAMORE	TR93	8' WHITE PINE		
TR42	8' SYCAMORE	TR94	10' WHITE PINE		
TR43	10' SYCAMORE	TR95	12' WHITE PINE		
TR44	6' SYCAMORE	TR96	10' WHITE PINE		
TR45	6' SYCAMORE	TR97	8' AMERICAN BASSWOOD		
TR46	8' SYCAMORE	TR98	10' AMERICAN BASSWOOD		
TR47	6' SYCAMORE	TR99	8' WHITE PINE		
TR48	6' SYCAMORE	TR100	8' WHITE PINE		
TR49	8' SYCAMORE	TR101	10' WHITE PINE		
TR50	8' SYCAMORE	TR102	10' WHITE PINE		
TR51	14' PINE	TR103	12' WHITE PINE		
TR52	10' PINE	TR104	12' WHITE PINE		

STAND SUMMARY TABLE

	STAND A 2.19 ACRES	STAND B 0.26 ACRES
SIZE CLASS	2-11.9" DBH	12-19.9" DBH
DOMINANT SPECIES	GREEN ASH (<i>FRAXINUS PENNSYLVANICA</i>), NORTHERN RED OAK (<i>QUERCUS RUBRA</i>), TREE OF HEAVEN (<i>AILANTHUS ALTISSIMA</i>), CALLERY PEAR (<i>PYRUS CALLERYANA</i>), PIN OAK (<i>QUERCUS PALUSTRIS</i>), MIMOSA (<i>ALBIZIA JULIBRISSIN</i>), BLACK CHERRY (<i>PRUNUS SEROTINA</i>)	TULIP POPLAR (<i>LIRIODENDRON TULIPIFERA</i>), RED MAPLE (<i>ACER RUBRUM</i>), BLACK CHERRY (<i>PRUNUS SEROTINA</i>)
PERCENT CANOPY CLOSURE	90%	100%
CANOPY LAYERS	1	1
PERCENT HERBACEOUS	100%	60%
DOWNSIDE WOODY MATERIAL	SPARSE	COMMON
INVASIVE SPECIES	JAPANESE HONEYSUCKLE (<i>LONICERA JAPONICA</i>), TREE OF HEAVEN (<i>AILANTHUS ALTISSIMA</i>), GARLIC MUSTARD (<i>ALLIARIA PETIOLATA</i>), CALLERY PEAR (<i>PYRUS CALLERYANA</i>), WINE RASPBERRY (<i>RUBUS PHOENICOLASIVUS</i>), MULTIFLORA ROSE (<i>ROSA MULTIFLORA</i>), MIMOSA (<i>ALBIZIA JULIBRISSIN</i>)	JAPANESE HONEYSUCKLE (<i>LONICERA JAPONICA</i>), TREE OF HEAVEN (<i>AILANTHUS ALTISSIMA</i>), MULTIFLORA ROSE (<i>ROSA MULTIFLORA</i>), PRIVET SP. (<i>LIGUSTRUM SP.</i>), JAPANESE STILTGRASS (<i>MICROSTEGIUM VIMINEUM</i>), WINE RASPBERRY (<i>RUBUS PHOENICOLASIVUS</i>)
COMMENTS	STAND A IS THE RESULT OF WHAT APPEARS TO BE A REFORESTATION PLANTING. MANY OF THE GREEN ASH ARE DEAD OR DYING. MUCH OF THE REGENERATION IS CALLERY PEAR. HOWEVER, THERE ARE SCATTERED OAK SAPLINGS	STAND B HAS SEVERAL LARGER TREES WHICH APPEAR TO BE OPEN GROWN WHICH SUGGESTS THAT THIS AREA MAY HAVE FORMERLY BEEN A PASTURE OR AGRICULTURAL FIELD.

BURGESS & NIPLE

STRAUGHAN ENVIRONMENTAL SERVICES, INC.

APPLICANT
MONTGOMERY COUNTY
 MARYLAND

Natural Resources Inventory/ Forest Stand Delineation Plan

Seneca Crossing Park
 Montgomery County, Maryland
 February 2010