

Old Colchester Park and Preserve



Colchester

PARK MASTER PLAN

MAY 27, 2015



A C K N O W L E D G E M E N T S

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INTRODUCTION

PURPOSE AND PLAN DESCRIPTION

Fairfax County is a thriving community that is home to more than one million residents and the base for over two hundred million square feet of commercial, industrial and retail space. The county's residents and work force all uniquely benefit from the more than 23,000 acres of parkland and the myriad of recreational opportunities provided throughout the county. In 1950, the Fairfax County Park Authority was established with the charge of developing and maintaining the viability and sustainability of this expansive system of parkland and facilities. Through the provision of quality facilities and services as well as the protection of the county's cultural and natural resources, the Park Authority seeks to improve the quality of life for the county's residents today and well into the future.

In order to achieve its long-range goals and objectives, the Park Authority has established a process for the planning of park property and facilities, framed to be consistent and equitable. A key part of this process includes development of Park Master Plans, specific to each park and intended to establish a long-range vision towards future park uses and site development. During the planning process, the site is evaluated to assess its context within the surrounding neighborhood as well as within the framework of the entire Fairfax County Park Authority park system. Potential and desired uses are considered with regard to the ability to establish them sensitively and sustainably on the subject property with public input as a key component in the decision-making process. When completed, the individual Park Master Plan will serve as a long-term, decision making tool to guide all aspects of development



related to planning, design, construction, resource management, and programming within that given park. To maintain the viability of the Park Master Plan as an effective tool, periodic updates may occur so that the plan accurately reflects the park and its surroundings, addressing changes that occur over time. Physical site development ultimately will require additional study and detailed engineering that exceeds the scope of the Park Master Plan; however, it is the framework established through the Park Master Plan process that assures cohesive, efficient and balanced development and usage of Park Authority assets.

PLANNING PROCESS AND PUBLIC INVOLVEMENT

Hearing the voice of the public is a key element in the Park Authority’s approach to developing a park master plan. As such, a Public Information Meeting was held for Old Colchester Park and Preserve on March 19, 2014. This meeting provided an opportunity for Park Authority staff to share background information about the park and to explain the park master planning process. Additionally, this meeting offered a forum for the community to share its vision for the park, express concerns and ask questions. There was a general interest in the archaeological work that has been done in the park and a desire to have that interpreted for the community. Several expressed concern about potential impacts to the surrounding properties, whether due to traffic or trails that might be located close to their homes. A few noted a desire to continue to use the property for deer hunting and fishing while a couple inquired about utilizing the park’s shore for boat access.



Figure 1 : Countywide Vicinity Map

Once a draft master plan had been prepared for this park, it was posted to a project website for public review. To continue to draw on the input of the community, a public meeting was also held on October 29, 2014 to present the draft plan to the community and listen to the response. There was an overall appreciation of the plan's focus on resource preservation and interpretation. Several spoke of a desire to advance the removal of a derelict barge from Belmont Bay although this feature is not on Park Authority property. There was also a level of dissent from the residents of the adjacent Harbor View community related to the proposed enhancement of a trail connection to the community.

The Harbor View trail connection was discussed further by the community and a petition forwarded to the Park Authority requesting that the connection be eliminated from the master plan. To help resolve the level of debate about this trail, Mount Vernon District Park Authority Board member Linwood Gorham prepared a letter, sent to each home in the Harbor View neighborhood, clarifying some of the issues about the trail which was intended solely for the benefit of the Harbor View residents. The mailing included a postage-paid postcard where each household could respond in favor of the trail connection, request the removal of the trail connection, or state that they would require further information to decide. Approximately fifty percent of those who received the mailing sent in a response. The requests to remove the trail connection from the plan were nearly double the requests to retain the connection. Very few indicated that they had insufficient information to decide. Ultimately, in response to community preference, the trail connection was removed from the Conceptual Development Plan and the community's preference clearly stated in the plan text.

The revised plan was presented to the Park Authority Board and approved on May 27, 2015.

PARK BACKGROUND

LOCATION AND GENERAL DESCRIPTION

Old Colchester Park and Preserve is located at 10646 Old Colchester Road in Lorton, Virginia. The park is located just one-quarter mile from Mason Neck West Park, also owned by Fairfax County Park Authority.

Old Colchester Park and Preserve, a 141-acre site, is rich in natural and cultural resources, with multiple resource protection issues and needs. The site is unique as it is home to one of the last remaining large forested tracts in Fairfax County, a freshwater marsh and extensive archeological findings. Its location along the waters of the Occoquan River has attracted human inhabitants throughout history, many of whom have manipulated and changed the landscape to serve their needs. Today, the park is one of only two parks owned and managed by the Fairfax County Park Authority that reflects a tidal river habitat.



Figure 2 : C.A.R.T Volunteers Assist With Excavations of the town of Colchester

ADMINISTRATIVE HISTORY

The property known today as the Old Colchester Park and Preserve was acquired by the Fairfax County Park Authority through a series of interrelated land transactions.

The process that led to the acquisition of Old Colchester Park and Preserve began in 2002 through the Federal Lands to Parks Program. This program seeks to create new parks and recreation areas by transferring surplus federal land to state and

local governments. The program helps to ensure public access to properties and stewardship of the land's natural, cultural and recreational resources.

The surplus land in question consisted of two parcels located to the west of Route 123 (See Figure 3). This 115-acre property [identified in Fairfax County tax records as 106 -3 ((1)) parcel 9 and 112-2 ((1)) parcel 14] was previously owned by the District of Columbia as part of the Lorton Correctional Complex. As this property was not critical to the operation of the correctional facility, the District of Columbia

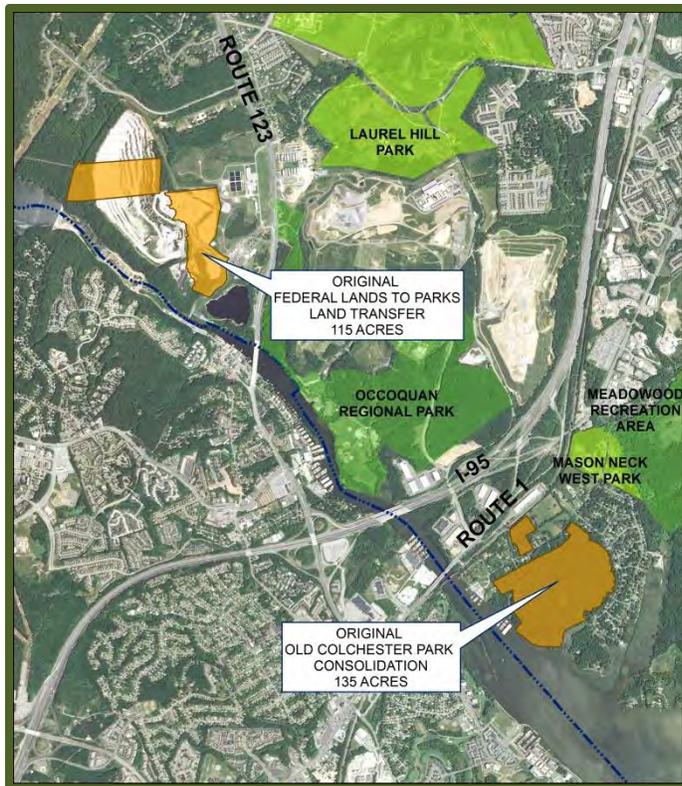


Figure 3 : Properties Involved in the Federal Lands to Parks Land Transfer

leased the property to Vulcan Materials Company in 1979 for its quarrying operation. When the prison officially closed in 2001, the quarry property was assigned to be divested by the National Park Service through the Federal Lands to Parks Program. The National Park Service ultimately conveyed the quarry property to Fairfax County Park Authority for use as a public park. The conveyance to the Park Authority carried a series of deed restrictions to ensure the protection of natural and cultural resources on the site (See Appendix A – Federal Lands to Parks Agreement).

Years of quarrying operations, however, had significantly impacted these two parcels, leaving little in the way of natural or cultural resources as well as challenging topography that made public access nearly impossible. However, the Vulcan Materials Company valued the property for continued quarry operations and proposed to purchase other property, more suitable for a public park, and affect a land exchange with the Park Authority. This type of exchange was contemplated with the original deed agreement and required that the protective provisions of the deed be transferred to any property given to the Park Authority in exchange.

The Park Authority identified a 135-acre parcel consolidation, frequently referred to as the McCue Property, as a suitable replacement property, with an expectation of protecting its significant cultural and natural resources. Additionally, the close proximity of the two sites (the quarry and the McCue site) insured that the same area would be served by the new parkland. Vulcan Materials proceeded to purchase and transfer the 135-acre McCue Property to the Park Authority in 2007 in exchange for the quarry property. The McCue Property was named Old Colchester Park and Preserve and consisted of the following properties, as identified on Fairfax County Tax Maps:

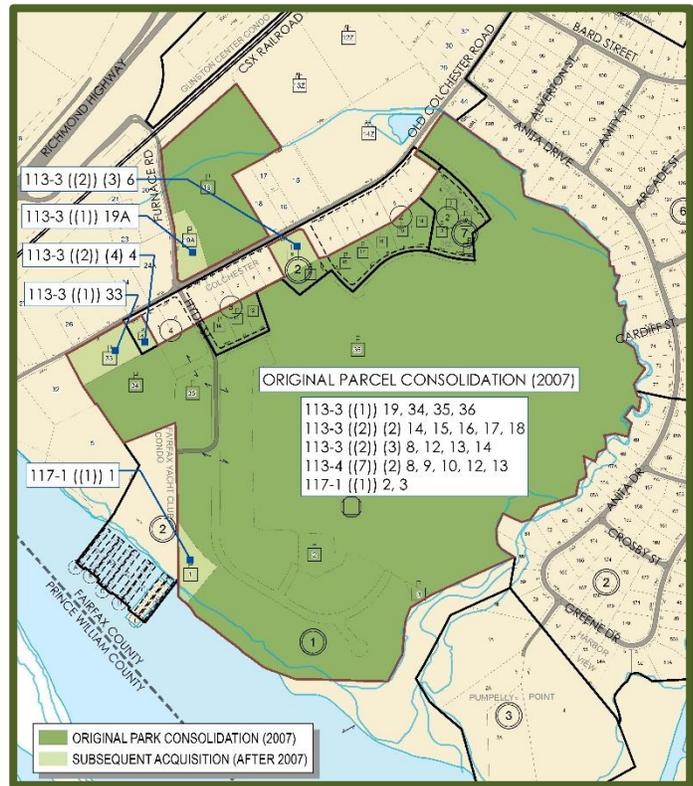


Figure 4 : Acquisition History

- 113-3 ((1)) parcels 19, 34, 35 and 36;
- 113-3 ((2)) (2) parcels 14, 15, 16, 17 and 18;
- 113-3 ((2)) (3) parcels 8, 12, 13 and 14;
- 113-4 ((7)) (2) parcels 8, 9, 10, 12 and 13; and
- 117-1 ((1)) parcels 2 and 3.

Although additional property has been added to Old Colchester Park and Preserve, only these parcels associated with the original consolidation are subject to the restrictions defined in Exhibits A and C of the deed restrictions (See Appendix A).

Subsequent to the original acquisition of the McCue Property, five additional properties have been added to the park. With the addition of these parcels, the total area of the park is 141.75 acres.

- 113-3 ((2)) (3) parcel 6 - (2008)
- 113-3 ((1)) parcel 33 - (2008)
- 113-3 ((2)) (4) parcel 4 - (2009)
- 113-3 ((1)) parcel 19A - (2011)
- 117-1 ((1)) parcel 1 - (2013)

PARK CLASSIFICATION

The Fairfax County Comprehensive Plan establishes a framework intended to guide long-term planning for the county, with respect to both the built and natural environments. As a component of the Comprehensive Plan, the Policy Plan addresses goals and objectives for various planning elements, including parks and recreation. The Policy Plan includes the framework for a Park Classification System which is intended to guide the planning of open space and facilities.

Within the Park Classification System, Old Colchester Park and Preserve is classified as a Resource-Based Park. Resource-Based Parks are intended primarily to preserve, protect, and interpret natural and/or cultural resources, although portions may be designated for recreation purposes. Location and size is determined by the specific resources and may vary greatly between individual Resource-Based Parks.



Figure 5 : Freshwater Tidal Marsh along the Occoquan River

Locations for resource-based parks within the county are determined by the location of specific resources. Size and access can take many forms depending on the setting and type of resources. Management plans should consider the resources and allow public use only as it is compatible with resource protection.



Figure 6 : Excavation of Foundation Structure

Resource-based parks are selected for inclusion in the park system because of their exemplary natural and/or cultural features. Such parks are identified, acquired, and preserved for stewardship of these resources, which provide a variety of public benefits. These parks provide interpretive opportunities

relative to environmental and cultural resources. The lands may offer opportunities to restore degraded areas to protect, increase, and restore biodiversity of species that may inhabit these areas. In addition, recreation opportunities and facilities may also be appropriate at these parks. Development which does not adversely affect resources and which enhances awareness of the resource values or serves community leisure needs is appropriate. Development should include opportunities to support education as well as outdoor enjoyment, and may include features such as interpretive (educational) facilities, visitor centers, nature centers, orientation kiosks, nature watching stations, demonstration areas, preserved specialty or historic structures, or gardens. Trails and connections are significant features at these parks, especially along stream valleys, which should be designated for hiking, biking, and equestrian uses. To the extent that they do not adversely impact the resources themselves, support amenities may also be developed such as picnic areas, restrooms, signs, benches, waterfront access areas, and parking.

PLANNING CONTEXT

Within the framework of the Fairfax County Comprehensive Plan, Old Colchester Park and Preserve is located within the Lower Potomac Planning District. The smaller portion of the park, situated at the northeast corner of the Furnace Road/Old Colchester Road intersection, is located within the LP2/Lorton-South Route 1 Community Planning Sector, Land Sub-unit H-6. The majority of the park's acreage, southeast of Old Colchester Road, is within the LP3/Mason Neck Community Planning Sector.

The recommendation for Land Sub-unit H-6 is for residential use at .2-.5 dwelling units per acre. The Comprehensive Plan recommendation notes the likely

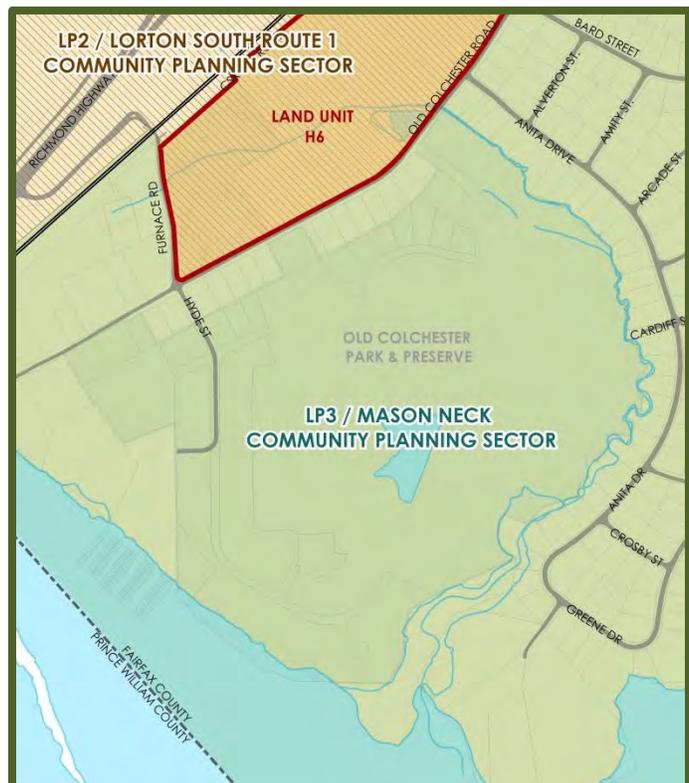


Figure 7 : Comprehensive Plan Planning Sectors

presence of significant cultural resources due to proximity to the historic town of Colchester and envisions the acquisition of this land unit as a Historic Resource Park. Of the 19 parcels in this land unit, two have been acquired and added to the Old Colchester Park and Preserve assemblage.

The LP3/Mason Neck Community Planning Sector, which includes the preponderance of Old Colchester Park and Preserve, is considerably less developed than the LP2 Planning Sector. Larger property holdings and over 6,000 acres committed to parks and other types of open space create a much more rural character to this planning sector. Significant natural and cultural resources are noted within this district. It follows that, included in the list of major objectives for the planning district, the Comprehensive Plan seeks to:

- Encourage the creation of additional parks, open space and recreation areas and acquisition of additional acreage in environmentally sensitive areas as part of the Environmental Quality Corridor program, and
- Identify, preserve and promote awareness of heritage resources through research, survey and community involvement.

Land use recommendations for the portion of Old Colchester Park and Preserve southeast of Old Colchester Road are for very low-density single-family development up to .1 dwelling units per acre and up to .2 dwelling units per acre with clustered development. This low-density level of development is to be accompanied by the use of minimum impact development techniques. These techniques seek to limit site disturbance, encourage maintenance and management of undisturbed open space, and emphasize maintenance of wildlife

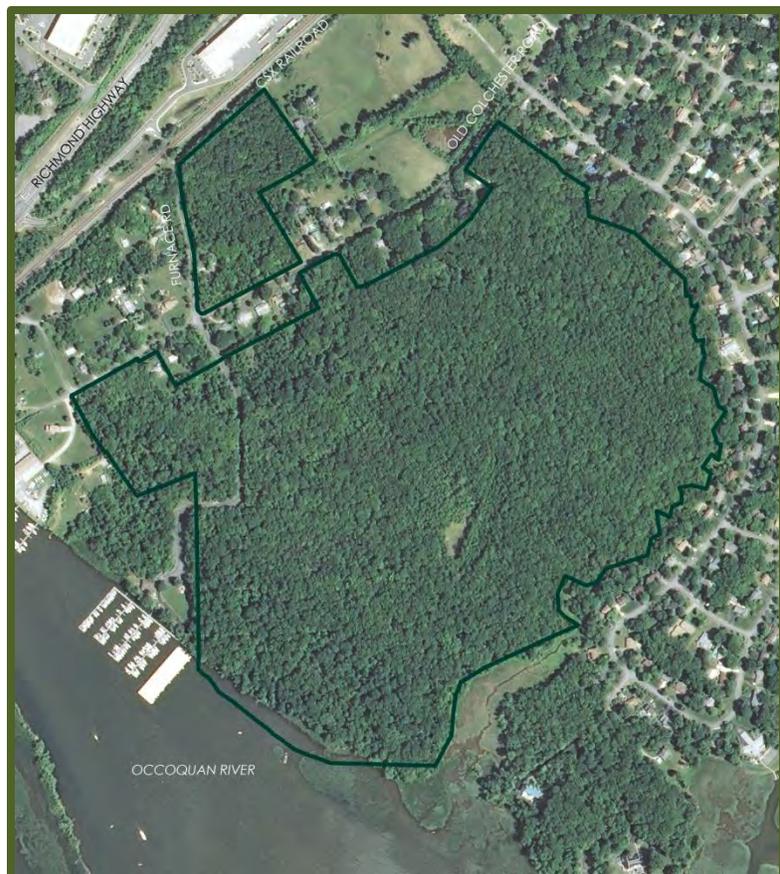


Figure 8 : Aerial Image

corridors. Related to the high incidence of heritage resources in the area, the Plan also recommends that heritage resource studies be conducted prior to any development or ground disturbance in this planning sector. No specific reference is made of the land area of Old Colchester Park and Preserve; however, the Comprehensive Plan Map does reflect a park designation across the collective site.

From a transportation perspective, access to Old Colchester Park and Preserve is via Old Colchester Road, a rural, two-lane road, Furnace Road, and Hyde Street. The Comprehensive Plan reflects improvements to Old Colchester Road for sight distance and shoulder improvements but no additional widening is proposed. At the northwest corner of parcel 113-3 ((1)) 19, Furnace Road exists as a single-lane underpass below the CSX railroad line, requiring an alternating flow of traffic in a limited sight distance situation. This underpass is intended to be upgraded to a double-lane configuration which could, conceivably, require some right-of-way acquisition and/or construction easements from park property.

The Old Colchester Park and Preserve property is zoned R-1 and R-E. Public uses, such as parks, are permitted by-right within both of these zoning districts.

PARK AND RECREATION NEEDS

The Park Authority assesses the need for parkland and recreation facilities through its long-range planning efforts. Needs are established through a variety of measures including community outreach, surveys to assess county citizen recreation demand, and benchmarking with peer jurisdictions both locally and nationwide. Demand is then compared to a detailed inventory of available facilities and projected population growth to identify the current and projected need for parkland and facilities.

As part of the Needs Assessment process, the Park Authority Board adopted countywide service level standards for parkland and park facilities. Facility standards established in 2004 for typical park facilities include:

- Rectangle Fields (1 per 2,700 people),
- Adult Baseball Fields (1 per 24,000 people),
- Adult Softball Fields (1 per 22,000 people),
- Youth Baseball Fields (1 per 7,200 people),
- Youth Softball Fields (1 per 8,800 people),

- Basketball Courts (1 per 2,100 people),
- Playgrounds (1 per 2,800 people),
- Neighborhood Dog Parks (1 per 86,000 people),
- Neighborhood Skate Parks (1 per 106,000 people),
- Reservable Picnic Areas (1 site per 12,000 people),
- Indoor Gyms (2.8 square feet per person)

These countywide standards may change with updates to the Needs Assessment.



The Park Authority conducted a more localized examination of needs around Old Colchester Park and Preserve within the Lower Potomac Planning District framed by the planning district demographics and geography from the County Comprehensive Plan. Based on the adopted service level standards and the estimated population growth, projections indicate that by 2020 the greatest demand within the Lower Potomac Planning District will be for rectangle fields, adult and youth softball and baseball fields, basketball courts, playgrounds as well as neighborhood skate parks.

The same study indicated that parks within the Lower Potomac District include a variety of special uses, historic sites, recreational facilities, and stream valleys. The district is currently served by two off-leash dog areas, a nature center, and an indoor ice rink. Several nearby district or countywide parks provide sport facilities, fitness, and aquatics as well as indoor and outdoor program areas. Public schools and private facilities also supplement the provision of recreation facilities to Mount Vernon residents. Much of the district parkland is provided by government agencies other than the Park Authority, including the Potomac Shoreline Regional Park owned by the Northern Virginia Regional Park Authority; state-owned Mason Neck State Park; and federally-owned Meadowood Special Recreation Management Area, preserving acres of natural habitat and wetlands.

The Great Parks, Great Communities Plan (GPGC), which functions as the Park Authority's Comprehensive Plan, builds on the Needs Assessment and serves as a long-range planning tool for the entire park system. This plan provides guidance to decision makers on physical aspects of the park system, its land, natural and cultural resources, and facilities. Strategies outlined in the GPGC plan to strengthen the park system within the Lower Potomac Planning District include recommendations to:

- Incorporate natural landscaping techniques on parkland, avoid tree loss from development and where possible increase tree canopy;
- Include Old Colchester Park and Preserve as part of a Revolutionary War themed trail;
- Seek opportunities to address rectangle field deficiencies through capital planning, development review and park master planning processes;
- Construct appropriate cultural resource signage and facilities at Old Colchester Preserve, Mason Neck West and Accotink Stream Valley Parks;
- For any site subject to proposed construction activity, a preliminary assessment of the property will be carried out using GIS and pedestrian reconnaissance. Should potential resources be present, a cultural resource survey will be conducted and mitigation measures will be developed, as necessary;
- Document and record buildings and structures using Historic American Buildings/Historic American Engineering methods (research, measured drawings and archival photographs) and conduct data recovery excavations for archaeological sites, as appropriate;
- Direct development of park infrastructure to areas that, when inventoried, reflect few or poor quality natural resources, unless otherwise incompatible;



- Ensure sustainability of tree canopy on parkland by developing and implementing management plans and controlling threats such as non-native invasive plants and deer herbivory; and
- Ensure that natural resources are assessed prior to any park development. Use design principles that minimize natural resource impacts and include monitoring and restoration of impacted natural areas as part of development plans.

eagles as well as a multitude of other species of fauna and flora, some of which are quite rare. Over 200 species of birds have been observed in the area as well as at least one globally-rare plant community.

To the northwest of the park, the CSX Railroad abuts parcel 113-3 ((1)) 19, creating a very definitive separation from the industrially zoned land to the northwest. Along Furnace Road and Old Colchester Road, single-family homes abut the park. Those homes on the south side of Old Colchester Road, constructed in the 1950s, are

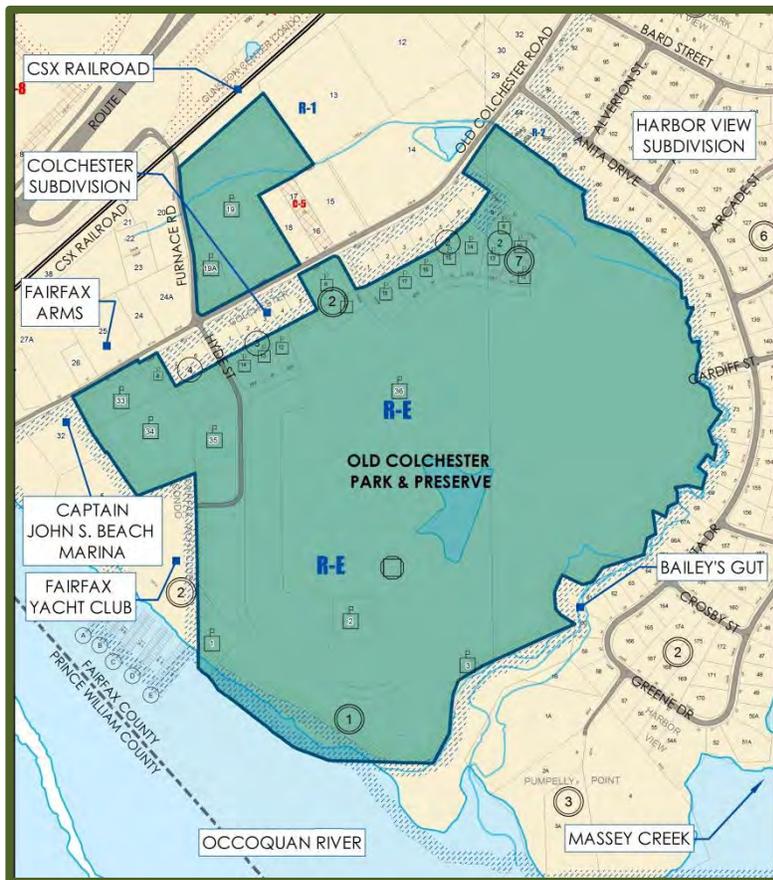


Figure 10 : Adjacent Development

typically sited on half-acre lots in the Colchester subdivision. The

properties on the northwest side of Old Colchester Road and along Furnace Road are much more variable in size as well as date of home construction.

The residence located at 10712 Old Colchester Road was constructed in the late 1750s and is listed on the National Register of Historic Places. It was once used as a tavern or eating house, called the Fairfax Arms, and is the only remaining above ground structure from the old town of Colchester.

North and east of the main body of the park are additional single-family homes on half-acre lots in the Harbor View subdivision. These homes were built in the 1960s and 1970s. Harbor View is bound on its eastern side by Massey Creek, a navigable stream with dock facilities and the neighborhood's private marina. A small tributary to the Occoquan River, referred to as Bailey's Gut, runs between the residential properties and the parkland, generally identifying the property line.

To the southwest, Old Colchester Park and Preserve fronts on the Occoquan River for approximately 300 feet of tidal marshland. The Fairfax Yacht Club is located just north of this frontage. Access to the yacht club, which offers condominium boat slips, is via an access easement across Old Colchester Park and Preserve based on a long-standing agreement made prior to the Park Authority's acquisition of the property. Just north of the yacht club, parcel 117-1 ((1)) 5 is also accessed via an ingress-egress easement across park property. Parcel 113-3 ((1)) 31 is operated as the Captain John S. Beach Marina. The marina is located on Old Colchester Road where it terminates at the Occoquan River.

NEARBY PARKS AND SCHOOLS

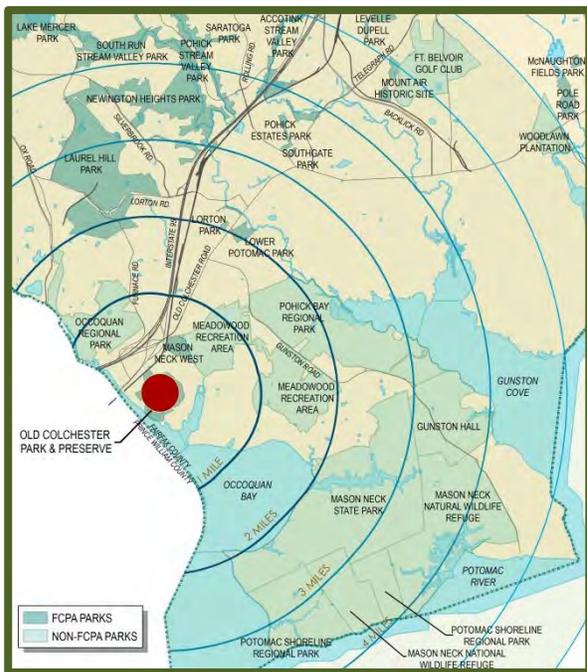


Figure 12 : Parkland in the Vicinity of Old Colchester Park

Preserve are noted in Table 1. In addition to facilities at local parks, a portion of the area's recreational needs are met through facilities at local schools. Typically, elementary schools have athletic fields and playgrounds that are available to the public during non-school hours. Middle schools often provide a broader range of active athletic facilities including tennis courts and diamond fields. High school fields and facilities, while being the

In addition to Old Colchester Park and Preserve, a portion of the local community's open space and recreational needs are served by several other parks in the vicinity. An understanding of nearby park facilities is helpful in evaluating which potential facilities might best serve the community at Old Colchester Park and Preserve. County parks and facilities within a six-mile radius of Old Colchester Park and

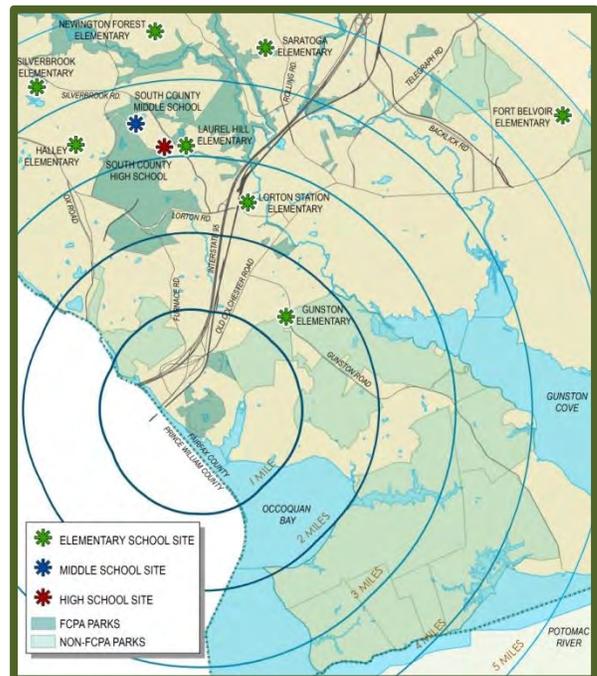


Figure 11 : Schools in the Vicinity of Old Colchester Park

most expansive, are typically reserved solely for the use of the high school and, for planning purposes, are not considered available to the public. Ten public schools are located within a six-mile radius of Old Colchester Park and Preserve. Nearby school sites are identified in Table 2.

Table 1: Parks and Facilities within the Vicinity of Old Colchester Park

PARK NAME	MULTI USE TRAILS	PICNIC SHELTER	OPEN PLAY	PICNIC TABLE	PLAY-GROUND	UNLIT RECTANLGE	GRASSED UNLIT 90' DIAMOND	SKINNED UNLIT 90' DIAMOND	SKINNED UNLIT 60' DIAMOND	TENNIS	BASKETBALL (UNLIT)
ACCOTINK STREAM VALLEY PARK	√										
CHAPEL ACRES PARK	√			√	√						1 (HALF COURT)
LAKE MERCER PARK	√										
LAUREL HILL PARK	√			√	√		1		1		
LEVELLE W. DUPELL PARK	√	√	√	√	√					1 (LIT)	1 (HALF COURT)
LORTON PARK	√		√	√	√						
LOWER POTOMAC PARK	√					1		1	2	2	1
MASON NECK WEST PARK	√		√						1	2	1
MIDDLE RUN STREAM VALLEY PARK	√										
MOUNT AIR HISTORIC SITE			√								
NEWINGTON COMMONS PARK	√										
NEWINGTON HEIGHTS PARK	√		√	√	√	1			1	2	1
OLD COLCHESTER PARK & PRESERVE											
POHICK ESTATES PARK	√		√	√	√				1	3	1
POHICK STREAM VALLEY PARK	√		√	√							1
ROLLING WOOD SCHOOL SITE	√		√	√	√					2	1
SARATOGA PARK	√										
SILVERBROOK PARK											
SOUTH RUN STREAM VALLEY PARK	√										
SOUTHGATE PARK											1

Table 2 : Schools and Facilities in the Vicinity of Old Colchester Park

SCHOOL NAME	SCHOOL TYPE	FITNESS TRACK	OPEN PLAY	PICNIC TABLES	PLAYGROUND	RECTANGLE FIELDS	90' DIAMOND FIELDS	60'-65' DIAMOND FIELDS	TENNIS COURTS	BASKETBALL COURTS
FORT BELVOIR	ELEMENTARY		Y		3					1
GUNSTON	ELEMENTARY				2					2
HALLEY	ELEMENTARY		Y		2	1		2		2
LAUREL HILL	ELEMENTARY		Y		1	1		2		3
LORTON STATION	ELEMENTARY									
NEWINGTON FOREST	ELEMENTARY		Y		1			1		
SARATOGA	ELEMENTARY		Y		2	1				
SILVERBROOK	ELEMENTARY			Y	2			1		
SOUTH COUNTY	MIDDLE SCHOOL									3
SOUTH COUNTY	HIGH SCHOOL	1				5	1	1	6	1

EXISTING SITE CONDITIONS

The Master Plan process includes an evaluation of the existing site conditions, seeking to identify both the opportunities and challenges for development within a park. Data gathered during site analysis helps define which uses might be best suited to the site. Such information is also beneficial in understanding how the desired uses might be most sustainably adapted to the site.

NATURAL RESOURCES

SOILS AND TOPOGRAPHY

Twelve different soil map units are identified in Old Colchester Park and Preserve based on the 2011 Fairfax County Soils Maps. These soil map units represented in the park include:

(7) Beltsville	(71) Kingstowne-Sassafras-
(36) Elkton	Marumsco Complex
(47) Grist Mill-Woodstown Complex	(77) Mattapex
(48) Gunston	(88) Rhodhiss-Rock Outcrop Complex
(60) Honga	(90) Sassafras
(69) Kingstowne-Elsinboro Complex	(91) Sassafras-Marumsco Complex
	(109) Woodstown

Each soil map unit is further defined by an alphabetic reference to indicate the slope condition in which that soil unit exists. Slope classes are identified as follows:

A = 0 - 2 percent slope	C = 7 - 15 percent slope	E = 25+ percent slope
B = 2 - 7 percent slope	D = 15 - 25 percent slope	

A description of each of the underlying soil map units is provided in Appendix B, as presented in the Description & Interpretive Guide to Soils in Fairfax County, dated April 2008 and revised August 2011.

Several pockets of Marumsco soils are noted within the boundary of Old Colchester Park and Preserve. These soil types are considered to be problem soils, noted for ground slippage and instability. Others soil types are noted for the presence of a seasonally high water table or flooding, plastic soils, and shallow depth of bedrock. These characteristics should inform appropriate location of any proposed site features. Preparation of a geotechnical report in conformance with the Virginia Uniform Statewide Building Code is required for all construction or site grading where these soils exist.

HYDROLOGY

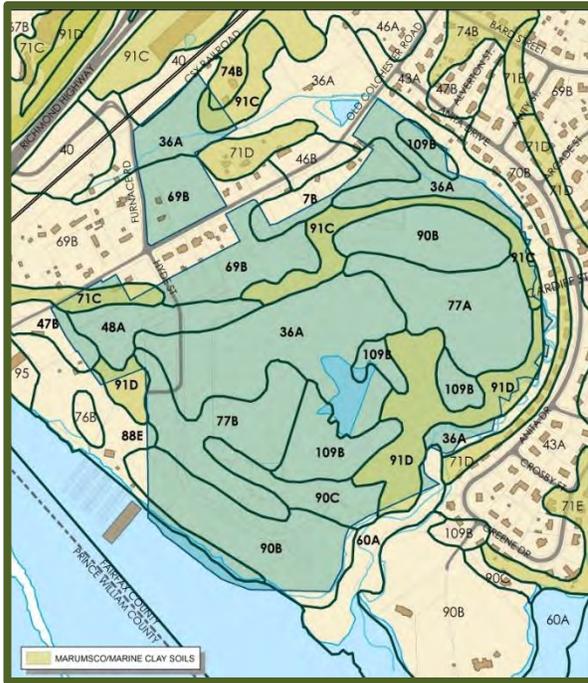


Figure 14: Soil Map Units



Figure 13 : Watershed Map

Old Colchester Park and Preserve is located within the Mill Branch Watershed, which is one of eight watersheds that comprise the Lower Occoquan Watershed. The Mill Branch Watershed is further subdivided into three Watershed Management Areas (WMA). Old Colchester Park and Preserve is situated within the Mill Branch/Giles Run South WMA which contributes 2,328 acres (approximately 8%) to the 28,301 acres of the total watershed. The Giles Run South WMA contains a wide variety of land uses that range from large areas of publicly held parkland to rural residential to industrial uses. Of the developed land within the WMA, much was constructed 30 to 40 years ago, indicating little to no stormwater treatment exists in these areas. Most notably, streams in the area have tested to show high levels of nitrogen and phosphorous, largely from chemical lawn fertilizers, and suspended sediments. Buffers along streams have been reduced due to development and stream banks incised from increasing runoff.

The Occoquan Reservoir is located within Lower Occoquan Watershed. This facility is one of two primary sources of drinking water for Fairfax County. To aid in the

protection of this critical resource, the Board of Supervisors adopted the Water Supply Protection Overlay District in 1982. Implementation of this district

A Water Resources Assessment was conducted for Old Colchester Park and Preserve by Versar, Inc. in 2011. The park contains formally-delineated tidal and non-tidal wetlands, including forested wetlands. Due to the presence of poorly draining hydric soils and soils of the Sassafras – Marumsco Complex (91), there is a significant amount of ponded water across the surface of the park, supporting both wetland vegetation and breeding reptiles and amphibians. Many of the herbaceous wetlands in the northeastern part of the park appear to be partially fed by groundwater. The vernal pools within the park have been mapped periodically by different consulting firms and park staff and exist in a natural state of flux. Vernal pools appear seasonally, based on rainfall and other site conditions.



Figure 16 : Vernal Pool within the Park

A stream runs along the eastern edge of the park, behind Anita Drive, and is heavily influenced by its close proximity to a residential area. In some cases, the stream forms the property boundary between the park and private lots. The stream empties into the Occoquan River at the southeastern edge of the park and changes in

character along its reach. The uppermost portion of the reach consists of a deeply incised stream channel that has cut its way down to hard clay pan. The stream banks are very unstable; bank erosion is often severe; and the stream is not only downcutting but also widening. In many places, adjacent residents have undertaken measures to redirect the erosion from their properties, sometimes in inadvisable ways and without required permits. Approximately 500 meters downstream, the stream becomes a meandering channel with a flatter slope and a wide, accessible floodplain. This form is more typical of streams of the Coastal Plain ecoregion.

NATURAL COMMUNITIES

The natural communities of Old Colchester Park and Preserve are well-documented, having been surveyed and mapped comprehensively by ESA, Inc. in 2011. The two most unusual natural communities in the park, the Coastal Plain Depression Swamp Forest and Coastal Plain Acidic Seepage Swamp, were further characterized by the Virginia Natural Heritage Program in July 2011. For each natural community type in the park there is a full description and species list of the plots surveyed, along with Global/State Ranking and United States National Vegetation Classification (USNVC) crosswalk (see Appendix C).



Figure 17 : Coastal Plain Depression Swamp

The Coastal Plain Depression Swamp Forest in the central portion of the park is classified as G3 (Globally Vulnerable)/S2 (Imperiled in Virginia) by the Virginia Natural Heritage Program. Protection and buffering of this rare and sensitive natural community should be one of the highest priorities for planning the park.



Figure 18 : Pink Lady Slippers (*Cypripedium acaule*)

Uncommon plants documented to occur within the park include river bulrush (*Bolboschoenus fluviatilis*), pumpkin ash (*Fraxinus profunda*), Turk's Cap lily (*Lilium superbum*) and pink lady's slipper (*Cypripedium acaule*). The river bulrush has not been confirmed largely due to the persistent lack of flower or fruit over many growing seasons, but the plant is believed by botanists to be present. River bulrush is ranked by the Virginia Natural Heritage Program as G5 (Globally Secure)/S2 (Imperiled in Virginia); it is the only federally- or state- listed species known to occur at the park.

A non-native invasive species assessment was also conducted for the park by ESA, Inc. The consultant followed the Park Authority's "Non-Native Invasive Assessment and Prioritization" (NNIAP) protocol to come up with relative rankings of invasive species infestation along with difficulty of control and other factors. Higher scores indicate less-impacted habitat and locations where treatment dollars are best spent to retain high-quality conditions. To date, invasive species management has been addressed across the entirety of the park to maintain the high resource value of the park's habitats.

Lastly, a carrying capacity analysis was conducted for each vegetation type within the park. The intent of this analysis was to ensure that the quality of the park's natural resources is not impacted by development. The carrying capacity was rated on the resource rarity, sensitivity, and quality. Taken together, these factors dictate how sensitive each community is to human use and thus provide a method for ranking each community in terms of protection priority.



Figure 19 : Park Inhabitants
Spotted Turtle (Clemmys guttata);
Needham's Skimmer (Libellula needhami);
Green Tree Frog (Hyla cinerea);
Marbled Salamander (Ambystoma opacum)

WILDLIFE

Comprehensive assessments of wildlife have been underway at Old Colchester Park and Preserve since it was first acquired by the Park Authority. These include the following inventories:

- Vernal Pool Assessment, including reptile and amphibian identification and egg mass counts
 - Dr. Michael Hayslett, Sweet Briar College (2013)
- White-tailed Deer Assessments
 - Camera surveys (2011 and 2013)
 - Forward-looking Infrared (FLIR) Inventory (2014)
- Dragonfly field surveys (2010 and 2012)
- Breeding bird surveys (2010-present)
- Reptile and amphibian surveys (2012-present)
- Salamander population counts and assessments (2013-present)
- Vernal pool monitoring (2013-present)

Vernal pools are a characteristic feature of Old Colchester Park and Preserve due to the abundance of hydric and marine clay soils. These ephemeral pools provide habitat for several species of reptiles and amphibians, including breeding populations of spotted turtles (*Clemmys guttata*), spotted salamander (*Ambystoma maculatum*), marbled salamanders (*Ambystoma opaca*), and wood frogs (*Rana sylvatica*). Vernal pools lack established fish populations, typically as a result of seasonal drying, and therefore support a predator-free environment for breeding reptiles and amphibians. Currently, the most important of these pools is the man-made dewatering pond in the center of the park, which is planned to be rehabilitated by the Park Authority to provide a more sustainable amphibian habitat. Hundreds of spotted salamander and wood frog egg masses were counted in this pond in early spring 2014 confirming its importance as a central breeding area within the park.



Over 20 species of dragonflies have been identified at the park by staff and volunteers. A 2012 inventory discovered the presence of the uncommon Arrow clubtail (*Stylurus spiniceps*). This species requires clean piedmont rivers and creeks as its habitat and is ranked S3 (Vulnerable) in Virginia by the Virginia Natural Heritage Program.

White-tailed deer are present at Old Colchester Park and Preserve and several population estimates have been undertaken using on-the-ground and aerial survey methods. September 2013 estimates ranged from 9 to 23 deer in the park depending on the method used. Browse impact data was collected at ten points within the park in 2010, showing moderate to severe impacts by deer. Four 2 x 6 meter deer enclosures were installed at the park in 2013 to obtain additional comparative data on the park's vegetation over time. The vegetation within the enclosures and adjacent forests will be sampled annually for several years.



Figure 21 : Osprey Nest

Breeding bird surveys have not identified any rare or endangered species, but there is the potential for Bald Eagle and Osprey to nest within the park along the shoreline of the Potomac River. Rusty Blackbirds have been documented each winter in the park's Coastal Plain Depression Swamp Forest by staff.

Rusty Blackbirds are one of North America's most rapidly declining species. The population has plunged an estimated 85 to 99 percent over the past forty years with no known cause for the decline. They are relatively uncommon denizens of wooded swamps, breeding in the boreal forest and wintering in the eastern U.S. In winter, they travel in small, loud flocks and are identified by their distinctive rusty feather edges and pallid yellow eyes.

CULTURAL RESOURCES

The Fairfax County Comprehensive Plan states that "the general low density development in this planning sector [LP2 Lorton-South Route 1 Community Planning Sector] and the presence of significant heritage resources, particularly

between Old Colchester Road and Richmond Highway, and in the Pohick Creek drainage shed, indicate a high potential for additional unidentified heritage resources. These resources can be expected to date from the earliest known human habitation of the region, some 11,000 years ago, through the 17th century "Frontier" period, to the early 20th century." (*Comprehensive Plan, Lower Potomac Planning District*, page 60) The expectation of a wealth of archaeological resources is, in part, what spurred the desire for the acquisition of Old Colchester Park and Preserve.



To provide a level of investigation commensurate to anticipated resources, the Park Authority established the Colchester Archaeological Research Team (CART) in 2010. CART consists of a team of archaeologists, historians, GIS and lithic specialists, numerous volunteers and interns as well as committed resources tasked with understanding and managing the cultural resources within Old Colchester Park and Preserve. Currently, approximately 22 sites have been identified, including Native

American sites that date from approximately 10,000 years ago through the arrival of Europeans in the seventeenth century. Likewise several historic sites dating from the mid-eighteenth through early twentieth century have been documented, including aspects of the historic port town of Colchester. Continued research will build on the base of knowledge that the park has already yielded.

NATIVE AMERICAN SITES

Evidence of Native American activity has been identified throughout the park spanning the majority of time that people have lived in the area of what is now Fairfax County. Numerous Native American artifacts have been found, dating from approximately 10,000 years ago. Other artifacts indicate occupation dating from approximately 2500 to 1250



BCE. Simple stone tools and pottery indicate human presence in the range of 2500 to 500 BCE as Native Americans began a cultural shift from a hunter-gatherer lifestyle to the beginnings of intentional agriculture. Distinctive artifacts indicate continued land use by Native American hunter-gatherers and later agriculturalists until the time of European settlement. Other finds reflect life around 900 to 1600 CE when Native American agriculturalists settled in large villages along the region's waterways.

TOWN OF COLCHESTER, VIRGINIA

The Town of Colchester was established in 1753 by the Virginia Assembly to serve as an inspection station for tobacco grown in plantations across the region. The town attracted commerce. As goods and people entered the port, visitors depended on the range of services expected in a town setting. Colchester would have been a place where every character in Virginia colonial society could be

found - from the wealthiest planters and merchants to European indentured servants and African slaves. As erosion resulted in the silting of the harbor at Colchester, the town began to wane in the early 1800s. Slowly residents purchased increasing numbers of what had been smaller town lots, coalescing them into larger land holdings until the mid-1800s when what had been a bustling port town reverted to agricultural fields. A

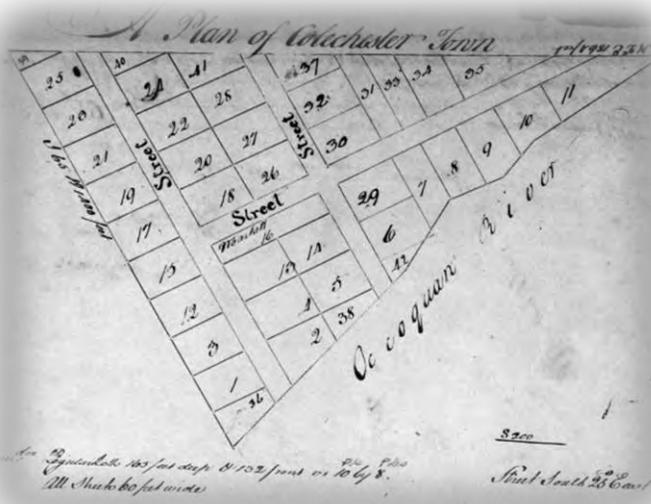


Figure 23 : Plat of the Town of Colchester, 1754

A broad range of artifacts attest to daily life during this part of Fairfax County's early history including a variety of ceramics and pottery, clothing features such as buckles and buttons, smoking pipes, and bottle fragments. The distribution of these artifacts across the landscape tells the story of how a colonial port town organized along socio-economic and racial boundaries. The discovery of long covered building foundations is beginning to reveal how the town may have looked. Further archaeological research will continue to provide a better understanding of the town of Colchester

CEMETERY SITE

A long since abandoned cemetery also contributes to the knowledge gained from Old Colchester Park and Preserve. The cemetery site was recorded on the Virginia Works Progress Administration Historical Inventory in 1937 as “The Occoquan Church.” The site contains one headstone and a scatter of brick, suggesting that there had once been a structure as well. Local lore identifies this as the location of the predecessor of Pohick Church where George Mason and George Washington would later serve as vestrymen. Excavations revealed the presence of two structures, a brick house and frame detached kitchen that most likely doubled as a slave quarters, dating to the mid-1700s. This collection of features is not consistent with what would be expected for a church site dating to a similar period. Further research is required to better understand what this site may yet reveal.



Figure 24 : Utilization of Ground Penetrating Radar to Investigate the Cemetery Site

HANNAH P. CLARK HOUSE

Hannah P. Clark was the daughter of James Potter who assembled Colchester Farm, of which the majority of the acreage from Old Colchester Park and Preserve was once a part. Married to James Clark in 1866, Hannah was a strong-willed and independent woman who managed all the business and finances for the Clark family. Years later, she successfully sued her abusive husband for divorce, the first woman in the area to do so.



Figure 25 : Hannah P. Clark and Billy Clark

Construction of the Hannah P. Clark house began in approximately 1876, although it was originally located closer to where the railroad tracks cross over Furnace Road. The house was moved to its current location around 1915 when the railroad expanded, threatening to demolish the house. Not one to be put off by a challenge, Hannah had the house lifted onto logs, tied to a team of horses, and moved to its current location. The move took two days. After the

first day, the team had pulled the house down Furnace Road, where work stopped for the day. That night, Hannah placed lights in the road to warn travelers of the hazard. Then, accompanied by her grandchildren, Hannah slept



Figure 26 : Hannah P. Clark House

in the house in the middle of Furnace Road. The next day, the house was settled into its current location at the corner of Old Colchester Road and Furnace Road. Archaeological investigations found several toys dating to the late-nineteenth through mid-twentieth century, evidence of Hannah's later generations.

Many years later, in 1986, the Hannah P. Clark House became the home of Janos and Diana Enyedi. Janos was an industrial artist in Washington, D.C. He was a sculptor, photographer and mixed media artist who focused on America's twentieth-century industrial landscape. Enyedi grew from a regional to international artist with work exhibited in museums, embassies, and corporate collections around the world. Almost immediately after purchasing the property in Colchester, the Enyedi's began construction on a new studio on the property. When work was completed in 1987, Janos named the red steel structure opposite the house "Furnace Road Studio" and used the space as a workshop and for additional storage.

EXISTING INFRASTRUCTURE

UTILITIES

A 12" water main runs along Furnace Road and Old Colchester Road, serving the residences in the area. This waterline is available to serve the property at the northeast corner of Furnace Road and Old Colchester as it previously served the home on that site. No immediate water service is provided to the bulk of the park property, south of Old Colchester Road.

An 8" sanitary sewer that serves the Harbor View neighborhood cuts across the lower portion of the park. No sewer service is currently provided to the park site.

ACCESS AND CIRCULATION

Old Colchester Park and Preserve has frontage on Furnace Road, Old Colchester Road, and Hyde Street although no formal vehicular access currently exists beyond a residential driveway to 113-3 ((1)) parcel 19A. A public street connection was provided with the development of the Harbor View subdivision on the eastern edge of the park which has not been extended beyond the park boundary.

In the 1950s, the land area of Old Colchester Park and Preserve was envisioned to be developed with single family homes. As part of this visioning, several rights-of-way were dedicated for public street purposes – first in 1952 with the Colchester subdivision and second in 1958 on the McCue tract. The only street construction actually to occur, however, is a portion of Hyde Street, running south of Old Colchester Road for approximately 1,000 feet. These rights-of-way are owned by the Board of Supervisors and, other than the existing portion of Hyde Street, are not planned to be constructed.

In 1982, when the property was still owned by the McCue and McCue Limited Partnership, an easement was granted to William L. Glover for the provision of access to the 117-1 ((2)) parcel 4. This easement agreement remains in effect and continues to provide ingress and egress from the property, currently operated as the Fairfax Yacht Club.

A series of trails exist within the site as a result of past and current users. Some trail segments have arisen from adjacent properties or cross sensitive resource areas. These existing trails may not reflect the best ultimate alignment for pedestrian access.



Figure 27 : Existing Utilities and Access Points



PARK ASPIRATIONS

PARK PURPOSE

Park purpose statements provide a framework for planning and decision-making. Like other Resource-Based Parks in the Park Authority's system, Old Colchester Park and Preserve seeks to protect unique and fragile natural and cultural resources while providing for education, research, and enjoyment of the outdoors in a manner compatible with the preservation goals.

DESIRED VISITOR EXPERIENCE

Old Colchester Park and Preserve, with its variety of resources, offers a rare opportunity to its visitors to experience a unique association of both cultural and natural resources. As county archaeologists continue to add to the understanding of the park's history, archaeological findings and the natural resources provide possibilities to interpret the effect of the environment on man's early development and, conversely, the effect of man on the environment. Gaining this understanding through a variety of interpretive elements in a beautiful, natural setting will be the primary user experience. Whether through a staff-led program or interpretive features, park visitors will be enlightened to Old Colchester Park and Preserve's distinctive features.

For some, a more casual enjoyment of Old Colchester Park and Preserve will be part of the user experience. Simply enjoying being out in nature or getting a glimpse of the Occoquan River provides a healthy way to reduce stress and recharge.

Typical user visits will last one to three hours. This will be an unstaffed park with limited development other than trails and interpretive elements.

MANAGEMENT OBJECTIVES

In order to achieve the park's purpose, the following objectives should guide the strategies and actions in addressing park management issues:

- Manage the park to protect the biological communities and cultural resources.
- Seek to foster attitudes that support conservation of natural and cultural resources.
- Encourage responsible stewardship practices
- Identify, record, manage, and preserve the park's natural and cultural resources.
- Provide a natural space for public education, research, and passive outdoor recreation.
- Provide a broad range of educational programs and exhibits promoting an appreciation of nature as well as history.
- Establish universal access to any future park facilities when such access is possible and feasible.
- Ensure park uses are compatible with preservation goals.



Figure 28 : Shoreline along the Occoquan River

RESOURCE AND SITE MANAGEMENT

NATURAL RESOURCE MANAGEMENT

Setting aside spaces to protect and enhance the environment for the benefit of future generations is one of the key tenets of the Park Authority's mission. The Natural Resources policy within the Park Authority's Policy Plan provides the foundation to achieve the natural resource preservation mission of the Fairfax

County Park Authority and requires the incorporation of resources management and protection measures into all Park Authority functions.

In accordance with its mission and values, the Fairfax County Park Authority works to ensure protection and stewardship of natural resources. Natural resources can also be addressed as natural capital: living organisms, non-living components to include air, water and soil, the ecosystems they make up and the services they provide. The framework for park natural resource protection and management is found in the Parks and Recreation section of the Fairfax County Comprehensive Plan. (FCPA 2013:200.2)

Due to the unique quality and characteristics of the natural resources at Old Colchester Park and Preserve, a coordinated plan was developed for natural resource management of this park. This guidance was developed and published as of December 2011 as the *Old Colchester Park and Preserve Natural Resource Management Plan*. (NRMP) The overarching goal of the document is to “preserve and protect the natural resources at Old Colchester Park and Preserve”. The management plan addresses six major objectives.

- **Protect and manage sensitive natural resources in the park**
 - Protect and enhance wetlands, tidal marsh, potential bog community and unnamed stream
 - Protect and manage vernal pools and dependent species
 - Protect the shoreline
 - Protect and enhance terrestrial vegetation communities
 - Work with adjacent properties, collaborate with other public and nonprofit agencies and coordinate with other researchers

- **Reduce and eliminate human activities that adversely affect sensitive resources in the park**
 - Eliminate unauthorized site use



- Designate clear access points and eliminate unsanctioned access points
- **Reduce the deer population in the park**
 - Reduce the deer population to ecologically healthy levels
- **Reduce non-native invasives (NNIs) plant species in the park**
 - Continue to control NNI plants throughout the park
 - Monitor management actions related to non-native invasive plants throughout the park
- **Integrate passive recreation development and interpretive activities while preserving and protecting the sensitive natural resources in the park**
 - Enforce and conform with NRMP recommendations related to resource protection zones and opportunity areas
 - Minimize impacts from development and archeology activities
 - Develop an interpretation plan for the site that combines interpretation of natural and cultural resources
- **Practice Adaptive Management approach and process**
 - Continually reassess and revise management approach based upon site findings and monitoring results



On-going site management should be in keeping with the recommendations included in the *Old Colchester Park and Preserve Natural Resource Management Plan* and in coordination with Resource Protection Division staff.

CULTURAL RESOURCE MANAGEMENT

The protection of cultural resources is another key aspect of the Park Authority's core mission and a fundamental component of planning for Old Colchester Park and Preserve. Fairfax County Park Authority Policy 203 adopts the standard for cultural resource management established in the federal National Historic Preservation Act. Specifically, the policy states:

"In order to carry out its role as the primary steward of Fairfax County's cultural resources, it shall be the policy of the Park Authority to identify, evaluate, preserve, and interpret cultural resources located on parkland..., according to federal, state and local laws and regulations, Park Authority policy and regulations, the Cultural Resource Management Plan, and approved park plans."
(FCPA 2013:200.6)

Compliance with all required state and federal guidance regarding historic resources is the standard for Old Colchester Park and Preserve as well as all Park Authority owned property. Additionally, the original 135 acres of Old Colchester Park and Preserve are provided an additional level of protection through specific deed restrictions. These restrictions, identified in the deed as Exhibit "C", were agreed upon by the National Park Service and the Park Authority as a condition of the Federal Land to Parks land exchange. The entirety of Exhibit "C" is included as Appendix A. The primary aspects of the restrictions include:

- Establishment of a 100' buffer, or Environmentally Sensitive Zone (ESZ), around a series of previously identified archaeological sites.
- Establishment of reasonable protection of the ESZs from looting, vandalism, and the like;
- Definition of acceptable methods for archaeological research conducted within an ESZ;
- Exclusion of structures or disturbance within an ESZ unless accompanied by appropriate archaeological surveys and data recovery/protection as indicated;
- Protection of the viewshed from Old Colchester Road as well as any adjacent homes that are more than 50 years old.

All of the land area in Old Colchester Park and Preserve has been the subject of an identification-level cultural resources survey. To date, several of the

archaeological sites in the park have been subjected to evaluation level investigation. As a result, the town of Colchester, as it exists on parkland, and the eighteenth century archaeological site and cemetery have both been evaluated as significant and eligible for listing on the National Register of Historic Places. The Park Authority will continue to build on the body of knowledge that will further inform its treatment, protection, and interpretation of park resources.

Any development within the park will require additional archaeological investigation. The Park Authority generally discourages any development within known archaeological sites; yet, nearly all the developable land within Old Colchester Park and Preserve contains known archaeological sites. Accordingly, any proposed park development must consider impacts to archaeological resources. If a site has been evaluated as significant, any proposed development within site boundaries will require appropriate treatment as determined in consultation with Park Authority resource specialists.

SITE CONSIDERATIONS

The Park Authority's area maintenance crew will provide periodic maintenance and repairs to park facilities. This includes periodic trail maintenance, limbing-up of trees, and tree removal (in coordination with the Resource Management Division). The maintenance crew also responds to park maintenance issues brought to their attention by citizens or staff.



GENERAL MANAGEMENT PLAN

The General Management Plan (GMP) is based on the research, site analysis, and data presented in this document. Due to the significant and often overlapping nature of the natural and cultural resources at Old Colchester Park and Preserve, a series of Resource Protection Zones (RPZ) have been defined, using this information. These zones organize the site and provide a framework for site management and decision making. The following description of each zone identifies the resources within that area, providing guidance for determining a range of acceptable uses and carrying capacity within each zone. Further management of these zones will be as directed by the Old Colchester Park and Preserve Natural Resource Management Plan and Cultural Resource Management Plan, which are administered by park staff.

RESOURCE PROTECTION ZONES

CENTRAL WETLANDS RESOURCE PROTECTION ZONE NATURAL RESOURCES

The Central Wetlands RPZ encompasses some of the most ecologically sensitive features of the park, including an extensive, high-quality Coastal Plain Depression Swamp and numerous vernal pools connected to a man-made central freshwater pond that dries out seasonally. The Coastal Plain Depression Swamp is a significantly rare natural community in Virginia, with a ranking of “imperiled” due to only 6 to 20 occurrences statewide of limited acreage. This forest is saturated and/or inundated in the winter and spring, and supports many plant species dependent on wet surface conditions that are susceptible to disturbance.



Figure 29 : Central Wetlands

The resource protection zone has been drawn to include the naturally-occurring rare plant communities and vernal pools, as well as a hydrologic buffer that protects the upslope areas to the north and west. Any alterations to the contributing hydrology of the wetlands may adversely affect the health of the natural communities and wildlife present. The depression swamp is highly sensitive to trampling and soil

compaction. Non-native species are currently uncommon in this area further indicating its high quality and low historic disturbance.

CULTURAL RESOURCES

Areas of standing water or repeated inundation are generally considered poor locations for human habitation. Historic occupants undoubtedly utilized this area for the floral and faunal communities they support; however, their impact on the archaeological record is considered likely to be minimal.

PROTECTION

Publicly designated trails should be maintained closely within their existing footprints after implementing ADA improvements and no new trails should be constructed in the Central Wetlands RPZ, especially north and west of the depression swamp. Trails may be rerouted for resource management purposes if they are found to impact significant natural resources. Due to the high sensitivity to soil compaction, off-trail access should be limited only to resource management activities.

The freshwater pond has recently been restored to include a water control structure, and is less sensitive to human access than the depression swamp and vernal pools. However, because it supports the most significant breeding populations of salamanders and frogs in the park, it should be considered part of this resource protection zone. Visitors to the park should be educated about the sensitive species that seasonally breed in the freshwater pond.

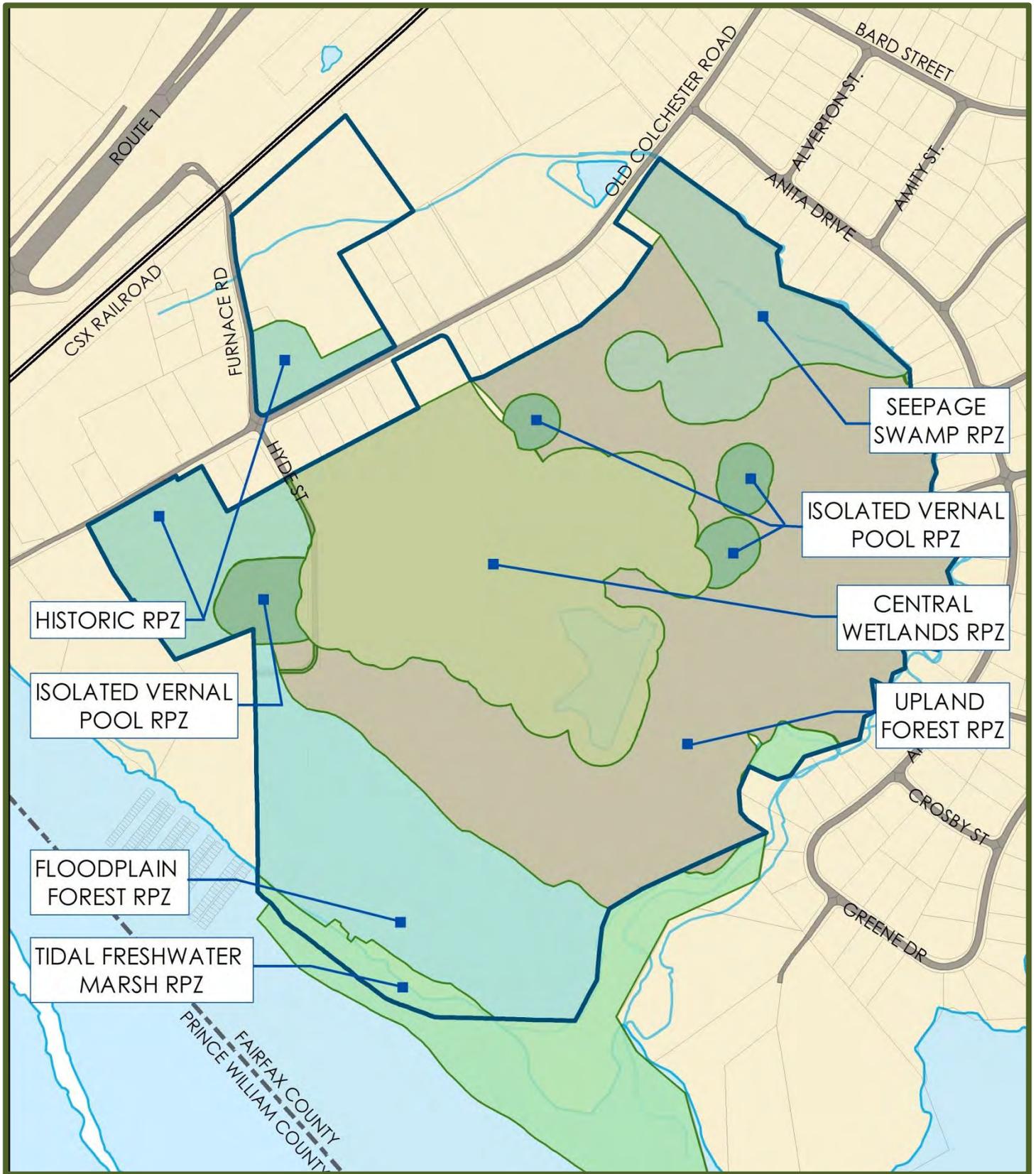


Figure 30 : General Management Plan / Resource Protection Zones

Although the hydrological conditions of this RPZ indicate the low likelihood of any persistent archaeological resources, limited archaeological investigation would be warranted should any site disturbance be necessary.

ISOLATED VERNAL POOL RESOURCE PROTECTION ZONE

NATURAL RESOURCES

This zone includes all known seasonal vernal pools that fall outside of the Central Wetland Resource Protection Zone. This RPZ includes the footprints of the pools along with 100 foot buffers to protect the most important upland areas surrounding the pools. Several of these pools are man-made but contain breeding populations of amphibians, including pools that formed in topographic depressions in the compacted road bed throughout the park. Recently created vernal pools west of Hyde Street are expected to harbor breeding amphibians by 2015.



Figure 31 : Vernal Pool

CULTURAL RESOURCES

Similar to the Central Wetlands RPZ, vernal pools are areas generally considered poor locations for past human habitation. The archaeological record is considered to be limited in the areas of the vernal pools.

PROTECTION

In the short-term, these pools should be protected in-place until suitable wetland habitat can be created in more sustainable locations within the park. Any planned improvements to the existing road network or necessary trail connections should be timed to avoid the destruction of viable egg masses. Although the hydrological conditions of this RPZ indicate the low likelihood of any persistent archaeological resources, limited archaeological investigation would be warranted should any disturbance be warranted.

SEEPAGE SWAMP RESOURCE PROTECTION ZONE

NATURAL RESOURCES

This forested wetland is hydrologically-driven by groundwater seeps and drains to the tributary along the eastern boundary of the park near Anita Drive. The natural community is currently defined as a Coastal Plain Acidic Seepage Swamp, and while not rare in Virginia, it is sensitive to trampling and soil compaction. This resource protection zone also includes several naturally-occurring vernal pools that harbor breeding populations of amphibians.

CULTURAL RESOURCES

Areas of persistent inundation are areas generally considered poor locations for human habitation. The archaeological record is considered to be limited within this RPZ.

PROTECTION

Access within this RPZ should be limited to resource management activities only. Non-native species are currently uncommon in this area further indicating its high quality and low historic disturbance. No trails should be constructed within this resource protection zone, based on its susceptibility to soil compaction, the potential for invasive species and water pollution. Ideally, the stream forming the eastern edge of this natural community would be restored. Limited archaeological investigation would be warranted should any disturbance be necessary within this RPZ.

TIDAL FRESHWATER MARSH RESOURCE PROTECTION ZONE

NATURAL RESOURCES



Figure 32 : Tidal Freshwater Marsh

One of the most unique and overt natural resource elements of Old Colchester Park and Preserve is that it is situated on the Occoquan River waterfront at Belmont Bay, near the mouth of the Potomac River. Tidal freshwater high marsh and low marsh occur in the southeastern region of the park, and represent one of only two occurrences that are managed by the Park Authority. Portions of the low marsh contain exposed mud flats

at low tide and these marshes transition slowly upstream into more typical riparian habitats.

The high marsh habitat includes unconfirmed aggregates of the Virginia state rare river bulrush (*Bolboschoenus fluviatilis*), an obligate wetland species that is considered 'imperiled' (S2) in Virginia by the Virginia Natural Heritage Program and at high risk of extirpation in Virginia with fewer than 20 populations. This species is considered to be common elsewhere in other parts of its range. Old Colchester Park and Preserve falls at the southernmost extent of its range.

The tidal marsh forbs (i.e. narrow-leaved cattail, spatterdock, sweetflag and pickerelweed) are highly susceptible to trampling. Additionally, this natural community may contain a rare plant, river bulrush, which may be threatened by the spread of invasive species from hikers or from the soil being compacted or disturbed. Soil characteristics do not support foot traffic.

CULTURAL RESOURCES

The hydrology of the Tidal Freshwater Marsh would not be conducive to human habitation or the longevity on any archaeological record. The archaeological record is considered to be limited within this RPZ.

PROTECTION

The Old Colchester Natural Resource Management Plan recommends that marine recreation and boat access be prohibited from the park's shoreline in order to protect steep slopes from erosion and protect the marsh communities from tramping and misuse. Fishing should also be prohibited from the shoreline for similar reasons. Oil spills from the neighboring marinas pose a threat to this community. Limited archaeological investigation would be warranted should any disturbance be necessary within this RPZ.

UPLAND FOREST RESOURCE PROTECTION ZONE

NATURAL RESOURCES

This Resource Protection Zone contains typical examples of Mesic Mixed Hardwood Forest. Some portions of this forest were logged in the 1980s, and other areas supported past grazing and agriculture. The quality of this habitat has also been impacted by fire suppression, deer herbivory, and overcrowding and shading by now-dominant American beech. While not of ideal quality, these upland forests are a critical component of the life cycle of the amphibians breeding in vernal pools throughout the park and provide upland habitat for

breeding birds. They also provide significant water quality benefits to wetlands and the Occoquan River.

CULTURAL RESOURCES

The upland areas within Old Colchester Park and Preserve have supported people for approximately 10,000 years. While past agricultural practices, deer, and invasive species have impacted the natural resources within this RPZ, the cultural record remains largely intact. Site evidence demonstrates the presence of some of the earliest Native American hunter-gatherer societies to have inhabited Fairfax County. Other findings display the development of agriculture and the arrival of European colonists. Archaeological investigations have located the remains of a house occupied from approximately 1750 until approximately 1775 with strong indications of the presence of enslaved African Americans. The integrity of the archaeological record in this RPZ, over a tremendous expanse of time, indicates that this site will continue to help define the county's past.



Figure 33 : Stone Foundation

PROTECTION

As one of the drier RPZs within the park, the Upland Forest RPZ is the best suited for the limited amount of site development proposed with this plan. Sensitive siting of parking and trail connections will make the park accessible to visitors while protecting valuable resources. Any planned site disturbance should be preceded by a thorough archaeological investigation, which should help inform the final design of any facility to be implemented.

After initial development, public use within the Upland Forest Resource Protection Zone should be restricted to foot traffic on designated, park-maintained trails and their associated interpretive areas. Designated trails will ideally be maintained within their existing footprints to limit disturbance to natural and cultural resources. Trails may be rerouted for resource management purposes if they are found to be impacting significant resources.

Limited off-trail activity will be permitted for resource management activities along with programs scheduled and supervised by the Park Authority that are compatible with resource management goals as described in the site Natural Resource Management Plan and Cultural Resource Management Plan.

FLOODPLAIN FOREST RESOURCE PROTECTION ZONE

NATURAL RESOURCES

This resource protection zone includes the relatively young forested floodplain and bottomland adjacent to the Occoquan River. This forest appears to be rarely flooded and much of it falls outside of the 100-year floodplain, however portions are included within the officially-designated Resource Protection Areas (RPA) along the Occoquan River.



Figure 34 : Potomac Creek Pottery Fragment

CULTURAL RESOURCES

Archaeological excavations within this RPZ have revealed land use by Native Americans of all cultural periods – the Early Woodland cultural period being the most intensely represented. This dynamic period represents the introduction of early forms of agriculture among Native American societies and the transition away from the hunter-gatherer lifestyle.

PROTECTION

Forested areas within the Floodplain Forest Resource Protection Zone should remain vegetated to comply with the Chesapeake Bay Act and protect water quality into the river.

Public use within the Floodplain Forest Resource Protection Zone should be restricted to foot traffic on designated, park-maintained trails and their associated interpretive areas. Designated trails will ideally be maintained within their existing footprints to limit disturbance to natural and cultural resources. New trail construction is discouraged within this zone, although trails may be rerouted for resource management purposes if they are found to impact significant resources. Any planned site disturbance should be preceded by a

thorough archaeological investigation, which should help inform the location of any necessary site disturbance.

Limited off-trail activity will be permitted for resource management activities along with programs scheduled and supervised by the Park Authority that are compatible with resource management goals as described in the site Natural Resource Management Plan and Cultural Resource Management Plan.



Figure 35 : Staff-led Programming

HISTORIC RESOURCE PROTECTION ZONE

NATURAL RESOURCES

The Historic Resource Protection Zone is typified by land that has experienced significant disturbance from human activities. While this area offers significant cultural resources, the remaining natural resources are considered to be highly disturbed.

CULTURAL RESOURCES

This Resource Protection Zone includes portions of what was “downtown” Colchester. Old Colchester Road served as the main thoroughfare to and from the port at Colchester; and, properties along this route would have been highly desirable. Historic records show that wealthy merchants favored such locations.

The Historic RPZ includes property once owned by Morris Pound, a vintner who was spoken well of by George Washington. Archaeological excavations have identified the foundations of several buildings in this zone that date to the period of the colonial port town. The town of Colchester is considered eligible for listing in the National Register of Historic Places.

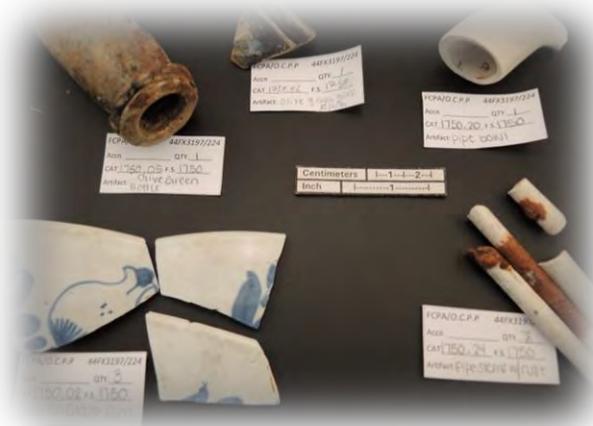


Figure 36 : Collection of Colonial Era Artifacts

PROTECTION

Further development in this area is strongly discouraged so as to avoid impacts to this highly significant archaeological area. Any necessary disturbance required for site management should be preceded by a thorough archaeological investigation that should inform the planned work. The findings within the Historic Resource Protection Zone should also be interpreted for public enjoyment and could easily support ongoing archaeological and historic research.



CONCEPTUAL DEVELOPMENT PLAN

INTRODUCTION

The Conceptual Development Plan (CDP) provides recommendations for future park uses and facilities. The CDP contains descriptions of the proposed plan elements and design concerns and is accompanied by a graphic that shows the general location of the recommended project elements. Large portions of Old Colchester Park and Preserve will remain undeveloped for the protection of the unique resources that exist within the park.

Development of the CDP is based on an assessment of area-wide needs and stakeholder preferences in balance with the existing site. The scope of the master plan process does not include detailed site engineering; therefore, it should be understood that the CDP is conceptual in nature. Although sound site analysis has contributed to the basis of the design, final facility location for the recommended elements will be determined through more refined site analysis and engineering that will be conducted when funding becomes available for the development of this park. Final design will be influenced greatly by concern for protecting both the distinctive cultural and natural resources, as well as to satisfy all pertinent federal, state, and county codes and permitting requirements.

PLAN ELEMENTS

SITE ACCESS

Defining clear and welcoming points of entry into the park, both vehicular and pedestrian, is a key beginning step in the design process. Surrounding roads and adjacent development provide several points of access to Old Colchester Park and Preserve.

VEHICULAR ACCESS

The character of the resources at Old Colchester Park and Preserve has generated significant interest, attracting people from well beyond the immediate neighborhood. For those traveling to the park by car, access is provided via



Figure 37 : View along Hyde Street

Hyde Street. While it appears that vehicular access could be provided from the park's frontage on Old Colchester Road or by Cardiff Street through the adjacent Harbor View Subdivision, construction is inhibited by unfavorable topography or impacts to sensitive resource areas. As an existing road directly onto park property, Hyde Street provides the most efficient means of access with no additional disturbance to site resources.

Hyde Street also provides the sole source of access to the Fairfax Yacht Club. To clarify a driver's route, the existing 90 degree bend in Hyde Street should be converted to a standard "T" intersection to connect with the proposed parking. This allows a clear point of decision for the driver to determine which route to take and minimize misguided traffic.

PEDESTRIAN ACCESS

Separate from the primary park access from Hyde Street, pedestrian access is provided from Old Colchester Road. A route currently exists into the park from this location, a remnant from previous logging and dredging activities on the site. There are few homes along this section of Old Colchester Road and the addition of a roadside trail is not likely in the foreseeable future. However, maintaining the route as a natural surface trail connection for the existing homes causes no further disruption to the resources in the area so the trail connection remains to the benefit of these adjacent homeowners.

Alternately, no pedestrian access is provided from Cardiff Street on the eastern side of the park. As noted previously the desirability of this pedestrian connection was specifically considered by residents of the Harbor View community. The majority of respondents stated a preference that there would be no pedestrian connection between the park and Cardiff Street. No improvements should be made that would enhance access or encourage pedestrians to enter the park in this location.

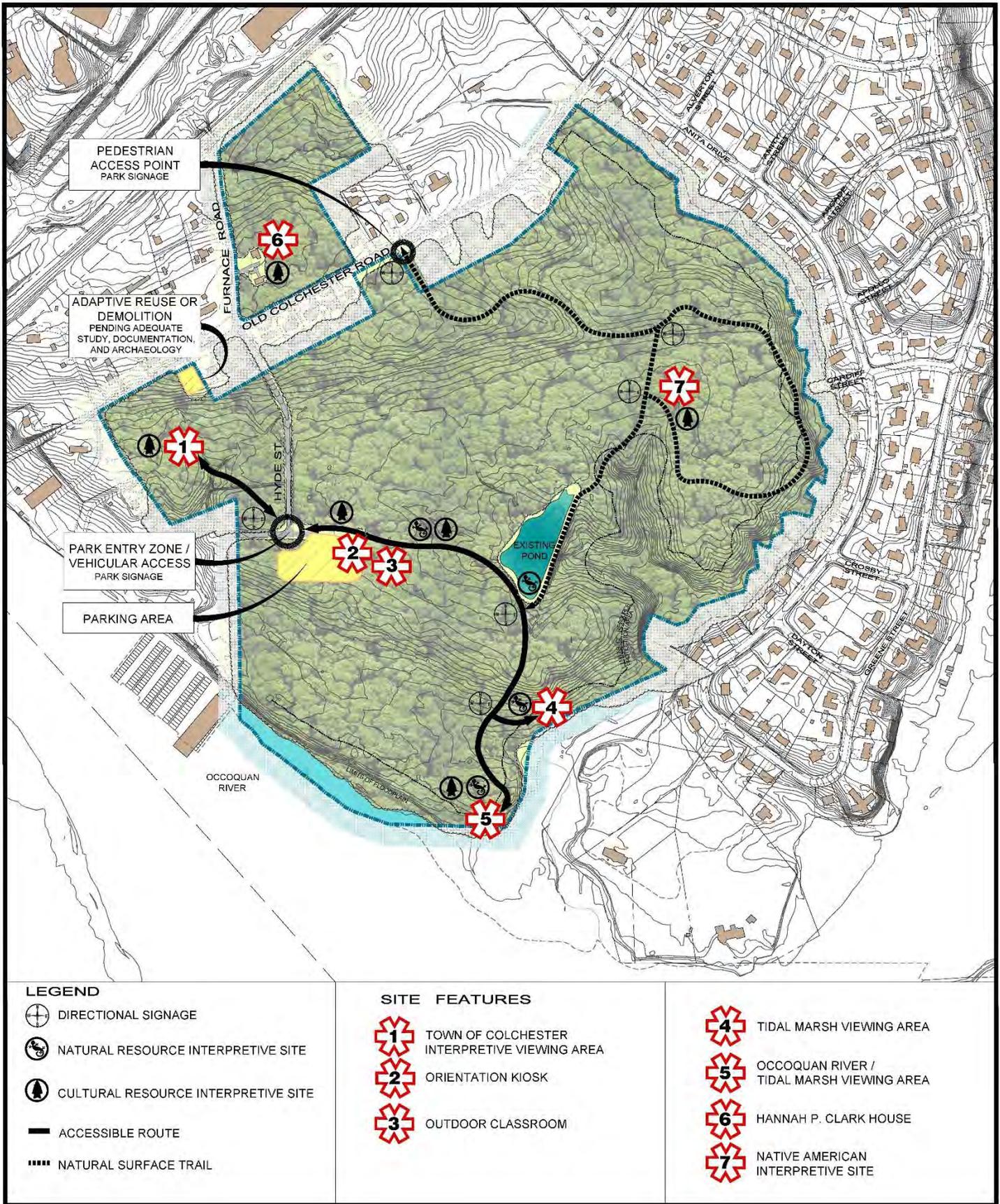


Figure 38 : Old Colchester Park and Preserve Conceptual Development Plan

PARKING AREA

The provision of a parking area is an important component of welcoming people to the park. On a day to day basis, a few people may come to the park to walk the trails and learn from the interpretive features. Periodically, larger groups may be led by Park Authority staff for site-specific programs. The ability to accommodate up to 30 parking spaces is intended. This may include a mix of permanent and temporary parking spaces. Geometrically, parking should be designed to accommodate the turning movements of school buses, allowing for the opportunity to accommodate school field trips. Bus parking might be accommodated across the permanent parking spaces or at nearby Mason Neck West Park.



Sensitivity of the areas resources indicate that all efforts should be made to reduce the impact of establishing impervious surfaces here. Narrowing pavement widths for one-way circulation, using permeable pavers in parking spaces, and orienting drainage to a central bioretention area are among possible mitigation measures.



OUTDOOR CLASSROOM

In proximity to the parking area is the outdoor classroom. This simple seating area provides a space for Park Authority staff to stage site tours and programs. It defines a meeting space and place where park staff can orient visitors to the park and its resources.



ORIENTATION KIOSK

For those visitors that come to the park on their own, an orientation kiosk near the parking lot provides another opportunity to familiarize visitors to the park and begin telling the park's story.

TRAILS

The primary development within Old Colchester Park and Preserve is a sanctioned trail network. Trails are located to lead visitors through the site's special features without damage to the resources. Often threaded between protected cultural and natural resource areas, the trails provide the conduit for interpretation and passive recreation.



There is a hierarchy to the trail system at Old Colchester Park and Preserve. The principal route originates from the parking area and is intended to be constructed as an accessible route. Specific construction materials may vary in different locations, depending on the particular site conditions along the route, but the surface should be constructed to address accessibility goals. This principal route connects to the vast majority of the interpretive areas, town viewing point, and views of the Occoquan River.



A secondary series of natural surface trails allows for further exploration of the park through more sensitive resource areas. This route follows an existing series of foot trails and requires little or no additional site disturbance.

INTERPRETIVE ELEMENTS

Old Colchester Park and Preserve is rich in both natural and cultural resources for preservation and protection. Sharing the knowledge learned

through interpretive features will benefit the casual user, students of all ages, scientists, historians, and the broader community, in alignment with the Park Authority’s stewardship education goal. The specific interpretive features and their locations will be further developed and refined. Some key locations for interpretation are generally identified on the Conceptual Development Plan. As research continues and the body of knowledge evolves, these locations and themes may evolve as well. Interpretive themes may include:

NATIVE AMERICAN ARCHAEOLOGICAL SITES

Information gained from the archaeological investigations of Native American sites offers opportunities to interpret ancient lifestyles, the influence of the surrounding landscape on man, and the effects of man on the environment.

OLD COLCHESTER ROAD

In 1662, the Virginia Assembly required construction of roads linking churches and courts with the, then, colonial capital at Jamestown. In this region, it is said that colonists utilized an existing, Native American trail that they referred to as the Potomac Path. This included what is now Old Colchester Road and was integrated into a larger network, the King’s Highway, which England’s King Charles II mandated link Boston to Charleston, South Carolina.



Figure 39 : View along Old Colchester Road where It Terminates at the Occoquan River

HANNAH P. CLARK HOUSE

Constructed around 1876, the Hannah P. Clark House demonstrates changing trends in construction materials and methods over more than 100 years. In 2014, a Park Authority architectural historian revealed that the original core of the house utilized vertical log construction. The bark had been stripped or “peeled” from the logs. Later additions used traditional milled lumber frame construction. Beyond the architectural features of the site, the Hannah P. Clark House provides chance to recall the story of one of the area’s most memorable residents.

COLONIAL CEMETERY

The features found in the Colonial Cemetery site provide a chance to interpret the features themselves, but also to point out that even with the best research, sometimes we're still left with questions.

TOWN OF COLCHESTER

As the park's namesake, the town of Colchester offers a wide variety of interpretive elements. The development of the town, competition with Alexandria, daily life, societal structure, connections to George Washington are all possible components of town interpretation along with the town structures themselves. Much of the town area on park property is low and wet – a problem for the original town dwellers as well. An elevated walkway could lead to a central town point and orient much of the interpretation from there.

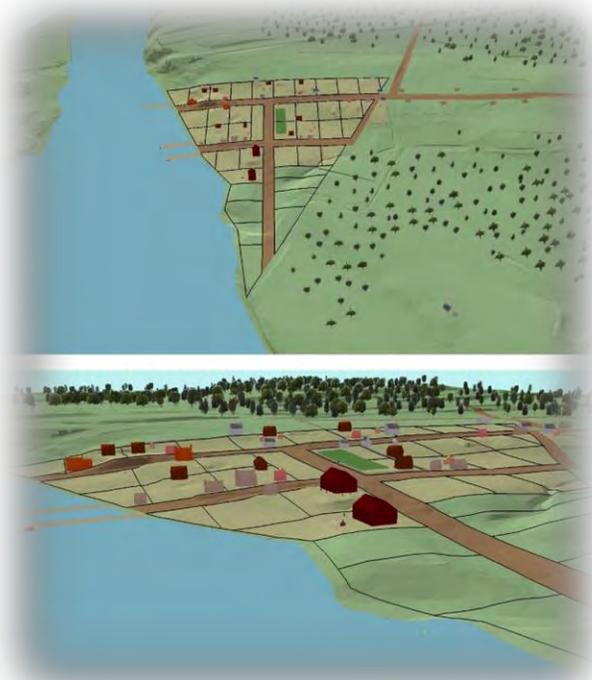


Figure 40 : Virtual Representation of the Town of Colchester

FORESTED WETLANDS

Old Colchester Park and Preserve possesses a rare ecosystem called a "Coastal Plain Depression Swamp Forest" which covers about forty acres of the park. There are no creeks or waterways nearby, yet the forest holds pools of water which allow frogs and salamanders to breed in the springtime. Ancient marine clays are present in the soil that create a physical barrier and hold water at the surface for a long time. Many water-loving plants occur here. Often, farmers were able to drain these types of areas to make way for agriculture, but this particular forest has been present for a long time.



Figure 41 : Sampling for Amphibian Larvae in a Vernal Pool



Figure 44 : Tidal Marsh with Occoquan River Beyond



Figure 44 : Freshwater Marsh



Figure 44 : Mixed Hardwood Forest

of the tide become less pronounced. Some common plants in this sunny, open area include spatterdock, narrow-leaved cattail, pickerelweed and arrow arum.

POND AND VERNAL POOLS

The pond, located centrally within the park, functions as a man-made vernal pool. A vernal pool dries out regularly, most often in the hot summer months, while holding water during the winter and spring. The drying prevents fish from living in the pool, allowing amphibians to breed safely without predators. This particular pool supports thousands of breeding frogs and salamanders. The pond is being rehabilitated so that park naturalists can create ideal water depths for breeding amphibians at different times of the year. Many species of dragonflies are also found within this habitat.

OCCOQUAN RIVER OVERLOOK/ TIDAL FRESHWATER MARSH

One of the most unique natural resources of Old Colchester Park and Preserve is the tidal freshwater marsh along the Occoquan River at Belmont Bay. Exposed tidal mud flats appear at low tide, and submerged aquatic vegetation is a nursery and breeding ground for fish. Osprey and bald eagle are a common sight flying along the Occoquan River.

FRESHWATER MARSH

Further up the marsh, the effects

Within this habitat, many species of birds can be seen including herons, egrets, sandpipers, ducks, and red-winged blackbirds.

MIXED HARDWOOD FOREST

Old Colchester's upland forests have been impacted by deer overabundance, selective logging, and reduced fire frequency. The most common species of tree in these areas is American Beech, which was resistant to many of these pressures. Park naturalists have undertaken experiments to girdle mature beech trees to allow in more light and help native oaks and hickories regenerate. Eastern box turtles and American toads are commonly observed in this forest type.

POTENTIAL AREA OF ADAPTIVE REUSE OR DEMOLITION

The acquisition of parcel 113-3 ((1)) (4) 4, sometimes referred to as the Roysdon Property, includes a residential structure constructed in 1957. This structure may be utilized to support ongoing resource management activities at Old Colchester Park and Preserve. Due to the age of the home and structural conditions, it may be determined that continuing building maintenance costs exceed the value of its use. Should this structure be deemed unsuitable for park purposes, demolition may be considered.

DESIGN CONCERNS

COORDINATION WITH RESOURCE MANAGEMENT STAFF

As a theme repeated throughout this document, Old Colchester Park and Preserve possesses a broad range of resources, often with overlapping areas of interest between cultural and natural resources. What may appear as simple site adaptations could have far reaching implications on resource protection. It is critical that decisions regarding Old Colchester Park and Preserve be made through a coordinated effort with resource management staff.

PROTECTION OF SITE HYDROLOGY

Many of the natural resources within this park are highly dependent on a delicate balance of site hydrology. Although this is a factor throughout the park, it is particularly true of the wetland areas. Areas north of the large central wetland have been left undisturbed as a conscious decision of this master plan for the benefit of the wetland health and dependent species.

WATER ACCESS TO OCCOQUAN RIVER

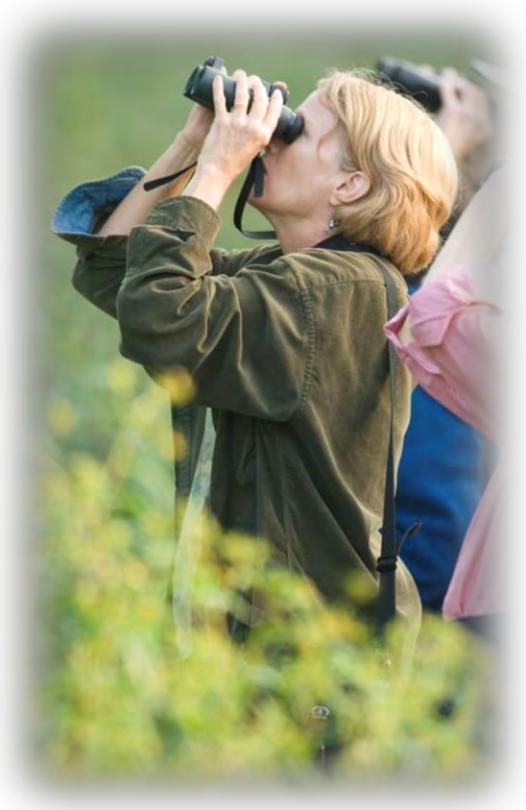


During the planning process, requests were made by some in the community to consider establishing public water access along the shoreline of Old Colchester Park and Preserve. The limited amount of shoreline within the park is very marshy and not conducive to successful boating access. This area is ecologically fragile and rich archaeologically. Although a destination area is provided to allow views of the river, the element of public water access is intentionally not included with this master plan.

LINKS TO THEMATIC TRAILS

The Potomac Heritage National Scenic Trail is comprised of an extensive linking of trails following the routes explored by George Washington. Spanning from the Potomac River to the upper Ohio River basins, the trail links numerous sites that were key in the formation of the United States. The archaeology at Old Colchester Park and Preserve, particularly the research related to the town of Colchester, would be well suited for inclusion with this thematic trail.

The Washington-Rochambeau Trail commemorates a strategic military alliance between American and French forces during the Revolutionary War. In America's battle for independence, France provided aid that was crucial to the outcome – money, munitions, and troops. Sent by King Louis XVI, the Comte de Rochambeau with an accompanying 5,800 troops joined with George Washington and the Continental Army to support the American efforts. Over fifteen months, the combined troops marched from Newport, Rhode Island to Yorktown, Virginia and a decisive victory for American independence in October 1781. Rochambeau's armies camped along Old Colchester Road both on the way to and from Yorktown. Campsites



have been identified in the vicinity of Old Colchester Park and Preserve. The park's location along the primary route of this military campaign makes Old Colchester Park and Preserve a logical inclusion in this thematic trail.

The Virginia Birding and Wildlife Trail highlights locations across the state noted for the range of species or unique habitats that support specialized bird populations. The variety of habitats within the park and the range of species seen in the area, make Old Colchester Park and Preserve a worthy inclusion for this thematic route. The accessibility of parking and accessible route may open the opportunity for bird watching to a broader population.

OPPORTUNITIES FOR INTERPRETATION

While the overall interpretive plan for this site will be developed separately, it is recommended that a variety of interpretive features be included to address a society that is increasingly tech savvy. Mobile device links to extended site information vastly expands on the level of information that can be shared as well as offering a range of age-appropriate information that can be communicated to different age groups. Interactive site features, such as those with hand-generated power, directly engage the viewer and add the possibility of an audio component that is beneficial to those with limited vision.



FISCAL SUSTAINABILITY

Economic realities require that public park funding be supplemented by revenue generated by park offerings, sponsorships, donations, and volunteerism. Fiscal sustainability within the park system and at Old Colchester Park and Preserve is essential to be incorporated into the master plan implementation. The demand for programming Old Colchester Park and Preserve should be viewed as an opportunity to support the park within the framework of its mission. The master plan envisions facilities that will permit group programming while maintaining the significant resources that define this special park. Enhanced fiscal sustainability will allow Old Colchester Park and Preserve to address inevitable maintenance needs as well as stewardship needs by providing latitude in funding options and decisions.

PROBLEM SOILS

There are two soils types identified within the park that are considered to be problem soils – Kingstown-Sassafras-Marumsc Complex (71) and Sassafras-Marumsc Complex (91). These soils are noted for high shrink/swell potential, landslide susceptibility, high compressibility, low bearing strength, and shallow water tables.

As outlined in the Description & Interpretive Guide to Soils in Fairfax County, May 2013,

“a detailed geotechnical investigation and report are required. Geotechnical problems must be addressed with adequate engineering evaluations and designs prior to development. A geotechnical report, prepared according to the geotechnical guidelines of PFM Chapter 4 and the Virginia Uniform Statewide Building Code (USBC) is mandatory for all construction and grading within these problem soil areas. The engineering evaluation and report shall be submitted for approval and the recommendations incorporated into the grading plans as requirements prior to plan approval. Construction inspections and certifications are required from the engineer of record.”

RESIDENT CURATOR PROGRAM

As the Park Authority continually investigates ways to better manage its land holdings, the establishment of a Resident Curator Program is currently being explored. Typically, Resident Curator Programs first identify publicly-held historic properties with no immediate or practical use. Under this program, a vision for the property is developed, along with the necessary resources, and an outside party (curator) with the necessary skills to accomplish that vision is selected. The curator is permitted use of the property, for little or no rent, in exchange for rehabilitating the property.

Should a Resident Curator Program be put into place, the Hannah P. Clark House is considered to be a prime candidate for this program. As there is no formal plan in place at this time, it is impossible to predict what impacts the program requirements may have on the implementation of this master plan. Adjustments to the design may become necessary to effectively coordinate with any future Resident Curator Program.

Until the establishment of a Resident Curator Program or should the Hannah P. Clark House not be selected for inclusion in the program, the home and property may be adaptively reused by the Park Authority in a manner appropriate to the building's architecture.

POTENTIAL DEMOLITION OF THE ROYSDON HOUSE

As addressed under the heading of Potential Adaptive Reuse, structural repair and maintenance costs for the Roysdon House may render continued usage of the Roysdon House as fiscally unadvisable. Should the option of demolition be determined most prudent, plans for demolition should be carefully coordinated with the Resource Management Division as the presence of cultural resources may indicate the need for special demolition methods.

RIGHT-OF-WAY ABANDONMENT

Prior to acquisition by the Park Authority, previous subdivision plans in 1952 and 1958 included areas of right-of-way to be dedicated for public street purposes. Planned streets were subdivided but never accepted into the state street system. Only a portion of Hyde Street was actually constructed. Formal ownership of the right-of-ways is retained by the Fairfax County Board of Supervisors. No physical construction of these platted, "paper" streets is planned and the area is generally considered as part of Old Colchester Park and Preserve. To clarify ownership and maintenance responsibilities within the park, vacation of these right-of-ways should be pursued with the land area dedicated to the Park Authority.

APPENDIX A - Federal Lands to Parks Agreement

RELEASE AND TRANSFER OF TERMS, CONDITIONS, COVENANTS AND RESTRICTIONS

THIS RELEASE AND TRANSFER OF TERMS, CONDITIONS, COVENANTS AND RESTRICTIONS is made this 24th day of September, 2009, by and between the FAIRFAX COUNTY PARK AUTHORITY, FAIRFAX COUNTY, VIRGINIA, a body corporate and politic (hereinafter referred to as "PARK AUTHORITY" and to be indexed as both Grantor and Grantee) and the UNITED STATES OF AMERICA, acting by and through the National Park Service, an agency of the United States Department of the Interior (hereinafter referred to as the "UNITED STATES" and to be indexed as both Grantor and Grantee).

The purpose of this instrument is to release the terms, conditions, covenants and restrictions imposed by the UNITED STATES OF AMERICA upon two parcels of land identified below (the Vulcan Property), and to impose those certain terms, conditions, covenants and restrictions on different parcels of land, also identified below (the Old Colchester Property) and to impose additional terms, conditions, covenants and restrictions on the Old Colchester Property.

WITNESSETH:

WHEREAS, the UNITED STATES, acting by and through the Regional Director, Southeast Region, National Park Service, United States Department of the Interior, under and pursuant to the power and authority contained in the provision of the Federal Property and Administrative Services Act of 1949 (63 Stat. 377), as amended, and particularly as amended by Public Law 91-485 (84 Stat. 1084) (the "Act"), and the regulations and orders promulgated thereunder, conveyed approximately 115 acres, more or less, composed of two parcels known as the Portion of Lorton Correctional Complex, Lorton, Virginia (the "Vulcan Property"), as more particularly described in Exhibit A, attached hereto and made a part hereof, to the PARK AUTHORITY by Quitclaim Deed dated April 11, 2002, and recorded on April 23, 2002, in the Land Records of Fairfax County, Virginia in Deed Book 12874 Page 1772 (the "Conveyance"); and

WHEREAS, the Conveyance required the Vulcan Property to be used and maintained for public park or recreational purposes and impressed the Vulcan Property with certain other terms, conditions, covenants and restrictions, more specifically described in Exhibit A, that limit the Park Authority's use of the Property; and

WHEREAS, twenty (20) parcels of land containing 140 acres, more or less (the "Old Colchester Property"), were conveyed to the PARK AUTHORITY by McCue and McCue Limited Partnership by Court Order dated March 23, 2007, and recorded in the Land Records of Fairfax County, Virginia in Deed Book 19206 Page 2018, more particularly described in Exhibit B attached hereto and made a part hereof; and

Prepared by: WALKER TITLE
11781 LEE JACKSON MEMORIAL HWY
SUITE 300
FAIRFAX, VIRGINIA 22033
A0900896
Box 230

WHEREAS, PARK AUTHORITY proposes to remove the terms, conditions, covenants and restriction enumerated in Exhibit A from the Vulcan Property (except those numbered 10, 11 and 12), and to transfer these same terms, conditions, covenants and restrictions, including the requirement to use and maintain the Vulcan Property in perpetuity for public park or public recreational purposes, to the Old Colchester Property; and

WHEREAS, 40 U.S.C. 550 (b)(1) (2003) authorizes the Secretary of the Interior to release lands from the terms, conditions, covenants and restrictions contained in quitclaim deeds conveyed pursuant to the Act and this authority has been re-delegated to the Director of the National Park Service (the "Service") and the Regional Directors of the Service; and

WHEREAS, on June 23, 2009, the Service requested concurrence from the General Services Administration (GSA) to release the Vulcan Property from those terms, conditions, covenants and restrictions in the Conveyance, and to impose the terms, conditions, covenants and restrictions described in Exhibit A to the Old Colchester Property; and

WHEREAS, on May 20, 2009 the PARK AUTHORITY wrote to the Office of Review and Compliance, Department of Historic Resources of the Commonwealth of Virginia (the DHR") and requested its review and determination that "the exchange will not result in an adverse impact on the historic resources located on the properties involved in the exchange"; and

WHEREAS, on July 31, 2009 the DHR responded to the PARK AUTHORITY and advised that it "fully support[ed] the proposed property exchange" but recommended that certain conditions/restrictions, as described in Exhibit C attached hereto and made a part hereof, be imposed on the Old Colchester Property; and

WHEREAS, on September 1, 2009, GSA concurred with the proposed release and transfer of terms, conditions, covenants and restrictions from the Vulcan Property to the Old Colchester Property;

NOW, THEREFORE in consideration of and pursuant to all the foregoing:

The UNITED STATES, in exchange for (1) the PARK AUTHORITY'S agreement to impose the terms, conditions, covenants and restrictions set forth in Exhibit A (except those numbered 10, 11 and 12) to the Old Colchester Property, and (2) the PARK AUTHORITY'S agreement to impose the terms, conditions, covenants and restrictions as set forth in Exhibit C to the Old Colchester Property, does hereby release the Vulcan Property from the terms, conditions, covenants and restrictions set forth in the Exhibit A (except those numbered 10, 11 and 12).

The UNITED STATES does hereby impose the terms, conditions, covenants and restrictions set forth in Exhibits A (except those numbered 10, 11 and 12) and C upon the Old Colchester Property.

The PARK AUTHORITY, in exchange for the release of the Vulcan Property from the terms, conditions, covenants and restrictions imposed in Exhibit A, and as otherwise noted above, does by executing this document, hereby accept and agree that the terms, conditions, covenants and restrictions set forth in Exhibits A (except those numbered 10, 11 and 12) and C are imposed upon the Old Colchester Property.

IN TESTIMONY WHEREOF, PARK AUTHORITY and the UNITED STATES have caused this release and transfer to be executed for them and on their behalf and have caused to be affixed hereunder their seals, by their duly authorized officers or agents, the day and year first above written.

[SIGNATURES APPEAR ON THE FOLLOWING PAGES.]

Executed and approved on behalf of the Fairfax County Park Authority, by the authority granted by the said Park Authority.

FAIRFAX COUNTY PARK AUTHORITY

By: *John W. Dargle, Jr.*
John W. Dargle, Jr., Director

WITNESS:

By: *Julie B. Cline*
Printed Name: Julie B. Cline
Title: Acting Branch Manager

STATE OF VIRGINIA

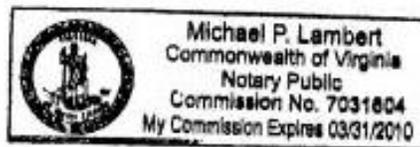
COUNTY OF FAIRFAX

On this 21st day of SEPTEMBER, 2009, before me, the subscriber, personally appeared John W. Dargle, Jr., Director of the Fairfax County Park Authority, and known to me to be the same person described in and who executed the foregoing instrument, and that he executed the foregoing instrument for and on behalf of the Fairfax County Park Authority for the purposes and uses therein described.

Michael P. Lambert
Notary Public

My Commission Expires:
March 31, 2010

Notary Registration Number:
7031604



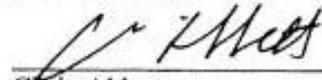
UNITED STATES OF AMERICA:

Acting by and through the
Secretary of the Interior

Through:

Regional Director
Southeast Region
National Park Service

By:



Chris Abbett
Assistant Regional Director For
Partnerships

WITNESS:

By: Linda L. York

Printed Name: Linda L. York

Title: SE Regional Coastal Geomorphologist

STATE OF GEORGIA

COUNTY OF FULTON

On this 17 day of SEPTEMBER, 2009, before me, the subscriber, personally appeared Chris Abbett, Assistant Regional Director For Partnerships, Southeast Region, National Park Service of the United States Department of the Interior, a governmental agency of the United States of America, and known to me to be the same person described in and who executed the foregoing instrument, as the act and deed of the United States of America, for and on behalf of the Secretary of the Interior, duly designated, empowered and authorized so to do by said Secretary and he acknowledges

that he executed the foregoing instrument for and on behalf of the United States of America for the purposes and uses therein described.

William Lamar Aire
Notary Public

My Commission Expires:

APRIL 19, 2010

Notary Registration Number:

Federal Lands to Parks Agreement Exhibit "A"

QUITCLAIM DEED

The UNITED STATES OF AMERICA, acting by and through the Secretary of the Interior, acting by and through the Regional Director, Southeast Region, National Park Service, under and pursuant to the power and authority contained in the provisions of the Federal Property and Administrative Services Act of 1949 (63 Stat. 377), as amended, and particularly as amended by Public Law 485, 91st Congress, and regulations and orders promulgated thereunder (hereinafter designated "Grantor"), for and in consideration of the perpetual use of the hereinafter described premises for public park and public recreation area purposes by the Fairfax County Park Authority, Fairfax County, Virginia, (hereinafter designated "Grantee"), does hereby release and quitclaim to Grantee, and to its successors and assigns, subject to the reservations, exceptions, restrictions, conditions and covenants hereinafter expressed and set forth, all Grantor's right, title and interest in and to the following described property, consisting of 115.1856 acres in fee, also known as the Portion of the Lorton Correctional Complex, Lorton, Virginia, and being situate in Fairfax County, Virginia, and being more particularly described as follows:

METES AND BOUNDS DESCRIPTION PARCEL 1 TM 106-4-001-54 MOUNT VERNON DISTRICT FAIRFAX COUNTY, VIRGINIA

Beginning at an iron pipe found at the southwesternmost corner of the 57.384189 Hectares parcel quitclaimed by the United States of America unto Fairfax County Water Authority in Deed Book 10373 Page 1122 ~ TM 106-4-001-56, said iron pipe found also being S 84° 21' 39" W 123.65 feet from the northwesternmost corner of Parcel 2, another parcel to be conveyed, and described separately; said iron pipe found also lying on the northern line of the lands of Newton Asphalt Company Incorporated of Va. ~ TM 112-2-001-12 ~ Deed Book 5431 Page 1105;

Thence departing the lands of Fairfax County Water Authority and with said northern line of the lands of Newton Asphalt Company Incorporated of Va., and then continuing with a northern line of another parcel owned by Fairfax County Water Authority ~ TM 112-2-001-8 ~ Deed Book 2955 Page 1, S 84° 21' 39" W 2,046.17 feet (passing through an iron pipe found at 1,969.42 feet) to a concrete monument found at the northeasternmost corner of the 2.241765 Hectares parcel quitclaimed by the United States of America unto Fairfax County Water Authority In Deed Book 10373 Page 1122 ~ TM 106-4-001-56;

Return to: Office of the County Attorney
12000 Government Center Parkway, Suite 549
Fairfax, Virginia 22036-0064
ATTN: Alan M. Weiss
Consideration: \$0

Thence departing said lands of Fairfax County Water Authority ~ TM 112-2-001-8, and with said northern line of said 2.241785 Hectares parcel, N 89° 28' 25" W 488.45 feet to an iron pipe found at the southeasternmost corner of the lands of Occoquan Overlook Limited Partnership ~ TM 106-3-001-4A ~ Deed Book 9287 Page 102;

Thence departing said lands of Fairfax County Water Authority, and with said lands of Occoquan Overlook Limited Partnership, and then continuing with a line of the lands of Vulcan Lands, Inc. ~ TM 106-3-001-4B ~ Deed Book 7659 Page 208, N 13° 42' 47" E 842.82 feet to a concrete monument set;

Thence with the lands of Vulcan Lands, Inc. the following three (3) courses and distances:

N 32° 37' 47" E 325.10 feet to a concrete monument found;

S 05° 15' 03" E 110.85 feet to a stone found;

N 85° 52' 35" E 2,184.09 feet to an iron pipe found at the northwesternmost corner of the aforesaid 57.384189 Hectares Fairfax County Water Authority parcel;

Thence departing said lands of Vulcan Lands, Inc. and with the western line of said 57.384189 Hectares parcel, S 02° 22' 30" W 941.86 feet to the Point of Beginning and containing 2,328,873 Square Feet ~ 53.4177 Acres.

**METES AND BOUNDS DESCRIPTION
PARCEL 2
TM 106-4-001-54
MOUNT VERNON DISTRICT
FAIRFAX COUNTY, VIRGINIA**

Commencing at an iron pipe found at the southeasternmost corner of Parcel 1, another parcel to be conveyed, and described separately and the southwesternmost corner of the 57.384189 Hectares parcel quitclaimed by the United States of America unto Fairfax County Water Authority in Deed Book 10373 Page 1122 ~ TM 106-4-001-56, said iron pipe found also lying on the northern line of the lands of Newton Asphalt Company Incorporated of Va. ~ TM 112-2-001-12 ~ Deed Book 5431 Page 1105;

Thence departing said Parcel 1, and with the common line of said lands of Fairfax County Water Authority and Newton Asphalt Company Incorporated of Va., N 84° 21' 39" E 123.65 feet to an iron pipe set at the northwesternmost

corner of said lands of Newton Asphalt Company Incorporated of Va., and also being the **Point of Beginning** of the Parcel described herein;

Thence departing the lands of Newton Asphalt Company Incorporated of Va. And with the lands of Fairfax County Water Authority the following seven (7) courses and distances:

N 84° 21' 39" E 1,400.62 feet to an iron pipe found;

S 12° 18' 44" E 521.04 feet to an iron pipe found;

S 10° 05' 37" W 817.10 feet to an iron pipe found;

S 39° 38' 51" W 270.34 feet to an iron pipe found;

S 50° 58' 48" E 395.31 feet to an iron pipe found;

S 58° 43' 06" E 152.04 feet to an iron pipe found;

S 66° 33' 59" E 95.07 feet (passing through an iron pipe found at 94.75 feet) to a point, said point being the southernmost corner of said 57.384189 Hectares parcel of the lands of Fairfax County Water Authority, and also lying on a western line of another parcel of the lands of Fairfax County Water Authority ~ TM 112-2-001-8 ~ Deed Book 2955 Page 1;

Thence departing said 57.384189 Hectares parcel of the lands of Fairfax County Water Authority, and with the other lands of Fairfax County Water Authority ~ TM 112-2-001-8 the following eight (8) courses and distances:

S 34° 10' 46" W 62.70 feet to an iron pipe found;

S 10° 02' 48" W 201.72 feet to an iron pipe set;

S 03° 41' 36" E 302.52 feet to a concrete monument found;

S 29° 14' 09" W 174.50 feet to a bent rebar found, said bent rebar found to be replaced by an iron pipe set;

S 56° 15' 22" W 265.89 feet to an iron pipe set;

S 37° 29' 36" W 204.10 feet to an iron pipe set;

S 73° 48' 26" W 67.00 feet to an iron pipe set;

N 66° 12' 43" W 474.25 feet to an iron pipe set, said iron pipe set also being on an eastern line of aforesaid lands of Newton Asphalt Company Incorporated of Va. and also being at a point in the center of Little Occoquan Run as it existed prior to being diverted for quarry purposes;

Thence departing the lands of Fairfax County Water Authority and along said center of Little Occoquan Run as it existed prior to being diverted for quarry purposes (and also along the lands of said Newton Asphalt Company Incorporated of Va.) the following forty-two (42) courses and distances:

- N 10° 22' 09" E 98.87 feet to a point;
- N 53° 14' 19" E 64.50 feet to a point;
- N 03° 31' 21" W 131.24 feet to a point;
- N 40° 21' 31" W 45.49 feet to a point;
- N 66° 41' 31" W 61.40 feet to a point;
- N 28° 10' 41" W 66.48 feet to a point;
- N 05° 37' 11" W 41.01 feet to a point;
- N 36° 34' 41" W 77.03 feet to a point;
- N 08° 11' 11" W 49.01 feet to a point;
- N 28° 35' 21" W 46.24 feet to a point;
- N 67° 32' 31" W 26.42 feet to a point;
- N 10° 42' 31" W 31.06 feet to a point;
- N 34° 02' 19" E 41.11 feet to a point;
- N 01° 40' 09" E 72.84 feet to a point;
- N 21° 38' 29" E 98.01 feet to a point;
- N 28° 37' 51" W 57.01 feet to a point;
- N 28° 31' 19" E 25.81 feet to a point;

N 05° 56' 11" W 53.01 feet to a point;

N 68° 58' 21" W 121.24 feet to a point;

N 23° 18' 41" W 61.81 feet to the Point of Beginning and containing
2,690,796 Square Feet – 61.7719 Acres.

THIS CONVEYANCE is made subject to any and all existing rights-of-way, easements, covenants and agreements affecting the above-described premises, whether or not the same now appear of record, such to specifically include easements granted by the National Park Service to the Fairfax County Water Authority and the Board of Supervisors of Fairfax County.

To Have and to Hold the hereinbefore described property, subject to the reservations, exceptions, restrictions, conditions and covenants herein expressed and set forth unto the Grantee, its successors and assigns, forever.

Pursuant to authority contained in the Federal Property and Administrative Services Act of 1949, as amended, and applicable rules, regulations and orders promulgated thereunder, and specifically in accordance with Public Law 105-33, the Balance Budget Act of 1997, the General Services Administration determined the subject property to be surplus to the needs of the United States of America and assigned the property to the Department of the Interior for further conveyance to the Fairfax County Park Authority.

It is agreed and understood by and between the Grantor and Grantee, and the Grantee, by its acceptance of this deed, does acknowledge its understanding of the agreement, and does covenant and agree to itself, and its successors and assigns, forever, as follows:

1. This property shall be used and maintained for the public park and recreation purposes for which it was conveyed in perpetuity as set forth in the program of utilization and plan contained in the application, submitted by the Grantee on November 11, 1998, which program and plan may be amended from time to time at the request of either the Grantor or Grantee, with the written concurrence of the other party, and such amendments shall be added to and become a part of the original application.

2. The Grantee shall, within six (6) months of the date of the deed of conveyance, erect and maintain a permanent sign or marker near the point of principal access to the conveyed area which says:

This park land was acquired through the FEDERAL LANDS TO PARKS PROGRAM of the United States Department of the Interior, National Park Service, for use by the general public.

3. The United States hereby grants the Fairfax County Park Authority the right to transact a property exchange with Vulcan Materials Company which currently leases a section of this property and which has proposed the transfer of similarly valued tracts in exchange for this tract. Otherwise, this property shall not be sold, leased, assigned, or otherwise disposed of except to another eligible governmental agency that the Secretary of the Interior agrees in writing can assure the continued use and maintenance of the property for public park or public recreational purposes subject to the same terms and conditions in the original instrument of conveyance. However, nothing in this provision shall preclude the Grantee from providing related recreational facilities and services compatible with the approved application, through concession agreements entered into with third parties, provided prior concurrence to such agreements is obtained in writing from the Secretary of the Interior.

4. From the date of this conveyance, the Grantee, its successors and assigns, shall submit biennial reports to the Secretary of the Interior, setting forth the use made of the property during the preceding 2-year period, and other pertinent data establishing its continuous use for the purposes set forth above, for ten consecutive reports and as further determined by the Secretary of the Interior.

5. Funds generated on this property may not be expended for nonrecreation purposes. Until this property has been fully developed in accordance with the Program of Utilization, all revenues generated on this property must be used for the development, operation and maintenance of this property. After this property has been fully developed in accordance with the Program of Utilization, revenue generated on this property may be expended on other recreation properties operated by the Grantee.

6. As part of the consideration for the Deed, the Grantee covenants and agrees for itself, its successors and assigns, that (1) the program for or in connection with which this Deed is made will be conducted in compliance with, and the Grantee, its successors and assigns, will comply with all requirements imposed by or pursuant to the regulations of the Department of the Interior in effect on the date of this Deed (43 C.F.R. Part 17) issued under the provisions of Title VI of the Civil Rights Act of 1964; (2) this covenant shall be subject in all respects to the provisions of said regulations; (3) the Grantee, its successors and assigns, will promptly take and continue to take such action as may be necessary to effectuate this covenant; (4) the United States shall have the right to seek judicial enforcement of this covenant, and (5) the Grantee, its successors and assigns, will (a) obtain from each other person (any legal entity) who, through contractual or other arrangements with the Grantee, its successors and assigns, is authorized to provide services or benefits under said program, a written agreement pursuant to which such other person shall, with respect to the services or benefits which he is authorized to provide, undertake for himself the same obligations as those imposed upon the Grantee, its successors and assigns, by this covenant, and (b) furnish a copy of such agreement to the Secretary of the Interior, or his successor, and that this covenant shall run with the land hereby conveyed, and shall in any event, without regard to technical classification or

designation, legal or otherwise, be binding to the fullest extent permitted by law and equity for the benefit of, and in favor of the Grantor and enforceable by the Grantor against the Grantee, its successors and assigns.

7. The Grantee agrees to comply with the requirements of Public Law 90-480 (82 Stat. 718), the Architectural Barriers Act of 1968, as amended by Public Law 91-205 of 1970 (84 Stat. 49), to assure that development of facilities on conveyed surplus properties for public park and recreation purposes are accessible to the physically handicapped; and, further assure in accordance with Public Law 93-112, the Rehabilitation Act of 1973 (87 Stat. 394), that no otherwise qualified handicapped individual shall solely by reasons of his handicap be excluded from the participation in, be denied benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

8. Grantee shall be on the lookout for archeological artifacts during its construction activities and shall take appropriate action should any artifacts be discovered. Grantee shall comply with the provisions of 36 C.F.R. Part 800, regarding protection of historic and cultural properties. Grantee's development plans shall avoid sites identified by a Cultural Resources Assessment of the property, and, prior to any alteration or construction on the property, Grantee shall consult with the Commonwealth of Virginia Historic Preservation Office.

9. The Grantee further covenants and agrees to comply with the National Environmental Policy Act of 1969, as amended, the 1977 Amendments to the Federal Water Pollution Control Act (Clean Water Act of 1977), and Executive Order 11990 (May 24, 1977), for Protection of Wetlands and Executive Order 11988 (May 24, 1977) for Floodplain Management, where and to the extent said amendments and Orders are applicable to the property herein conveyed, and Grantee shall be subject to any use restrictions issued under said Amendments and Orders.

10. As of the date of conveyance, all remedial action necessary to protect human health and the environment, with the respect to any known hazardous substance activity on the subject property, has been taken and no further remedial action is required at this time. However, any remedial action necessary after the date of conveyance, which is due to contamination occurring prior to the date of conveyance, will be conducted by the United States.

In the event any environmental contamination is discovered or additional remedial action is deemed necessary after conveyance, the Federal sponsoring agency should be notified immediately. Additionally, expenditures for environmental restoration projects that are not imminent threats to public health and safety will not be considered an off-set for purposes of abrogation unless these expenditures are to remediate contamination and unless prior concurrence is obtained from the Federal sponsoring agency.

11. In accordance with CERCLA Section 120(h)(3)(A)(iii), the United States, its officers, agents, employees, contractors and subcontractors shall have the right to enter upon the transferred property in any case in which remedial or corrective action is found to be necessary after the date of transfer. The right to enter shall include the right to conduct tests, investigations, 5 year reviews and surveys, including, where necessary, drilling, test pitting, boring and other similar activities. Such right shall also include the right to construct, operate, maintain or undertake any other response or remedial action as required or necessary including, but not limited to; monitoring wells, pumping wells and treatment facilities. These access rights are in addition to those granted to federal, state and local authorities under appropriate and applicable environmental laws and regulations.

12. The federal government shall hold harmless, defend and indemnify Fairfax County Park Authority and any future successor, assignee, transferee, lender, or lessee of the subject property from any suit, demand, cost or liability arising out of any claim for personal injury or property damage that may result from, or be predicated upon, the release or threatened release of any hazardous substance, pollutant or contaminant resulting from United States Government activities on the property subject to the conditions specified in, and to the extent authorized by, Section 330 of Public Law 102-484.

13. In the event there is a breach of any of the conditions and covenants herein contained by the Grantee, its successors and assigns, and such breach shall continue for sixty (60) days after written notification by Grantor to Grantee of such breach, whether caused by the legal or other inability of the Grantee, its successors and assigns, to perform said conditions and covenants, or otherwise, all right, title and interest in and to said premises shall revert to and become the property of the Grantor at its option, which in addition to all other remedies for such breach shall have the right of entry upon said premises, and the Grantee, its successors and assigns, shall forfeit all right, title and interest in said premises and in any and all of the appurtenances thereunto belonging; provided, however, that the failure of the Secretary of the Department of the Interior to require in any one or more instances complete performance of any of the conditions or covenants shall not be construed as a waiver or relinquishment of such future performance, but the obligation of the Grantee, its successors and assigns, with respect to such future performance shall continue in full force and effect. If a reversion of the said premises should occur, the grantee agrees to provide an acceptable level of protection and maintenance of the property until title has formally returned to the Grantor.

IN WITNESS WHEREOF, the Grantor has caused these presents to be executed in its name and on its behalf this the 11th day of April, 2002.

UNITED STATES OF AMERICA
Acting by and through the
Secretary of the Interior
Through:
Regional Director
Southeast Region
National Park Service

By: Wallace C. Brittain
Wallace C. Brittain
Chief, Recreation and
Conservation Division

WITNESSES:

William L. Harris

[Signature]

STATE OF GEORGIA
COUNTY OF FULTON

On this 11th of April, 2002, before me, the subscriber, personally appeared Wallace C. Brittain, Chief, Recreation and Conservation Division, Southeast Region, National Park Service, of the United States Department of the Interior, a governmental agency of the United States of America, and known to me to be the same person described in and who executed the foregoing instrument, as the act and deed of the United States of America, for and on behalf of the Secretary of the Interior, duly designated, empowered and authorized so to do by said Secretary and he acknowledges that he executed the foregoing instrument for and on behalf of the United States of America for the purposes and uses therein described.

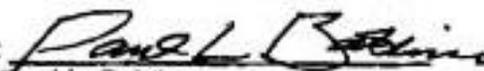
[Signature]
NOTARY PUBLIC

My commission expires:

Notary Public, Rockdale County, Georgia
My Commission Expires July 23, 2003

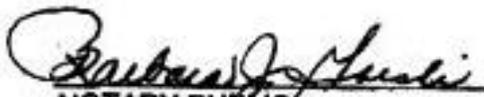
The foregoing conveyance is hereby accepted and the undersigned agrees, by this acceptance, to assume and be bound by all the obligations, conditions, covenants and agreements therein contained.

FAIRFAX COUNTY PARK AUTHORITY

By: 
Paul L. Baldino
Director

COMMONWEALTH OF VIRGINIA
COUNTY OF FAIRFAX

On this 12th day of April, 2002, before me, the undersigned officer, personally appeared Paul L. Baldino, to me known and known to me to be the same person whose name is subscribed to the foregoing acceptance, who being by me duly sworn, did depose and say that he is the Director of the Fairfax County Park Authority, that he is duly designated, empowered and authorized by a Resolution, dated November 10, 1999, to execute the foregoing acceptance and sign his name thereto; and that he signed his name, thereto and acknowledges that he executed the foregoing for and on behalf of the Fairfax County Park Authority, for the purposes and uses therein described.


NOTARY PUBLIC

My commission expires:

11/30/05

site significant, the work may proceed upon the written approval of the CRMPS. If as a result of the evaluation (Phase II) archaeological survey, the CRMPS finds that the archaeological site does meet the National Register criteria at 356 CFR Part 61, a treatment plan to avoid, minimize or mitigate the adverse impacts of the proposed action shall be developed and approved in writing by the CRMPS prior to implementation. Once the measures addressed in the treatment plan are completed, work may proceed following approval in writing from the CRMPS.

No buildings, structures, roads, or other improvements shall be constructed within the portion of the Old Colchester Road (architectural inventory number 029-0953) located in the northeast corner of the property or within the viewshed of the Old Colchester Road without approval in writing from the Architectural Review Board (ARB) and the CRMPS after a formal review process outlining the size, height, siting and purpose of the of the proposed building, structure, road, or other improvement and taking into account both direct and indirect effects. At the recommendation of the ARB and CRMPS, indirect effects shall be addressed through protective measures including but not limited to relocation, redesign or appropriate vegetative screening. Direct effects shall be addressed in a manner consistent with the procedure in condition 3.b above.

No buildings, structures, roads, or other improvements shall be constructed within the viewshed of any dwellings 50 years of age or older adjacent to the property boundaries without approval in writing from the Architectural Review Board (ARB) and the CRMPS after a formal review process outlining the size, height, siting and purpose of the of the proposed building, structure, road, or other improvement. Approval shall take into consideration the impact of the size, height and siting of the proposed construction on the historic and scenic values of the property. At the recommendation of the ARB and CRMPS, indirect effects shall be addressed through protective measures including but not limited to relocation, redesign or appropriate vegetative screening.

APPENDIX B – Soil Map Unit Descriptions

Soil Map Unit Descriptions for the soil typed identified at
Old Colchester Park and Preserve

Descriptions taken from the
Description & Interpretive Guide to Soils in Fairfax County

Prepared by the
Fairfax County Department of Public Works
and Environmental Services

Dated April 2008, as revised through May 2013

(7) Beltsville - This gravelly and silty soil occurs on hilltops in the Coastal Plain and on old Coastal Plain terraces. A naturally occurring dense layer is encountered at depths of 2 to 2½ feet. The depth to hard bedrock is typically greater than 50 feet. Permeability of the dense layer is very slow, resulting in a perched seasonal high water table 1½ to 2½ feet below the surface. Foundation support is typically good with proper drainage. Foundation drains and waterproofing are necessary to prevent wet basements. Grading and subsurface drainage is usually required to eliminate wet yards. Septic drainfields are poorly suited and infiltration trenches are marginally suited because of slow permeability and the perched water table.

(36) Elkton - This wet soil occurs on nearly level landscapes in low elevation area of the Coastal Plain. The lowest areas of this soil, near larger streams, are within the floodplain. Silty and clayey layers overlie stratified sandy material deep in the subsoil. Organic strata (peat and muck) may be encountered in some areas. The clays typically have a moderate shrink-swell potential that has resulted in foundation damage on some existing residential dwellings. The seasonal high water table is between 0 and 1 foot below the surface; long duration puddles are common. Depth to bedrock is greater than 200 feet. Permeability is slow to very slow. Foundation support may be poor because of soft soils, plastic clay and seasonal saturation. Basements below existing grade are not recommended because of potential severe wetness problems. Engineered drainage designs are often required to eliminate wet yards. Suitability for septic drainfields and infiltration trenches is poor because of wetness and slow permeability. Elkton is predominantly hydric and may contain potential non tidal wetlands.

(47) Grist Mill-Woodstown Complex - This complex is a mixture of the development disturbed Grist Mill soil and the natural Woodstown soil. The complex occurs in low elevation areas of the Coastal Plain that have been developed but retain a good portion of undisturbed soil. Grist Mill soil will be clustered around foundations, streets, sidewalks, playing fields and other graded areas. Woodstown soil will be found under older vegetation in ungraded back and front yards and common areas. For a description of the two soils that make up this map unit, please see (40) Grist Mill and (109) Woodstown.

(40) Grist Mill - This soil consists of sandy, silty and clayey sediments of the Coastal Plain that have been mixed, graded and compacted during development and construction. Characteristics of the soil can be quite variable depending on what materials were mixed in during construction. The subsoil is generally a clay loam, but can range from sandy loam to clay. The soil has been compacted, resulting in high strength and slow permeability. The soil is well drained and depth to bedrock is greater than 20 feet below the surface. In most cases, foundation support is suitable assuming that the soil is well compacted and contains few clays. Because of the slow permeability, suitability for septic drainfields is poor and for infiltration trenches is marginal. Grading and subsurface drains may be needed to eliminate wet yards caused by the slow

permeability. This soil is found in low elevation developed areas of the Coastal Plain.

(109) Woodstown – See below

(48) Gunston – This silty and clayey soil occurs on flat portions of the Coastal Plain in Mason Neck. The topsoil is typically grey silt loam while the subsoil consists of deep moderately plastic clays. Bedrock is greater than 20 feet below the surface. The seasonal high water table ranges from 10 inches to 2½ feet below the surface. Foundation support is poor because of the high water table, soft soil and plastic clays. Extensive foundation drains (both exterior and interior), waterproofing and surface grading are necessary to prevent wet basements. Suitability for septic tanks and infiltration trenches is poor because of the high water table and slow permeability. Surface grading and subsurface drainage are needed to prevent wet yards.

(60) Honga – This soil occurs in tidal wetlands along the mouths of large streams and the shoreline of the Potomac. It consists of 1 to 2 feet of peaty organic material atop stratified silts and clays. Honga is frequently flooded and the water table is at the surface. Suitability for all uses is poor because of saturation, flooding and soft soil.

(69) Kingstowne-Elsinboro Complex - This complex is a mixture of the development disturbed Kingstowne soil and the natural Elsinboro soil. The complex occurs in higher elevation areas of the Coastal Plain that have been developed but retain a good portion of undisturbed soil. Kingstowne soil will be clustered around foundations, streets, sidewalks, playing fields and other graded areas. Elsinboro soil will be found near drainageways in ungraded back and front yards and common areas. For a description of the two soils that make up this map unit, please see (66) Kingstowne and (37) Elsinboro.

(37) Elsinboro – This loamy and clayey soil occurs on old stream terraces of the Piedmont and consists of old alluvium. It is subject to rare, but brief, flooding. It is well drained and the depth to bedrock is greater than 6 feet. Suitability for foundation support is fair because of the flooding. Flooding makes the soil poorly suited for septic drainfields and infiltration trenches. Surface grading and subsurface drainage are needed to prevent wet yards.

(66) Kingstowne - This soil consists of sandy, silty and clayey sediments of the Coastal Plain that have been mixed, graded and compacted during development and construction. Characteristics of the soil can be quite variable depending on what materials were mixed in during construction. The subsoil is generally a clay loam but can range from sandy loam to clay. Water-worn pebbles may be found throughout the soil. The soil has been compacted, resulting in high strength and slow permeability. The soil is well drained and depth to bedrock is greater than 20 feet. In most cases, foundation support is suitable assuming that the soil is well compacted and contains few clays. Because of the slow permeability, suitability for septic drainfields is poor and it is marginally suitable for infiltration trenches. Grading and subsurface drains may be needed to eliminate wet yards

caused by the slow permeability. This soil is found in higher elevation developed areas of the Coastal Plain.

(71) Kingstowne-Sassafras-Marumsco Complex - This complex is a mixture of the development-disturbed Kingstowne soil and the natural Sassafras and Marumsco soils. The complex occurs along the slopes between high and low elevation areas of the Coastal Plain that have been developed, but retain a good portion of undisturbed soil. Kingstowne soil will be clustered around foundations, streets, sidewalks, playing fields and other graded areas. Sassafras and Marumsco soils will be found on un-graded, sloping back and front yards and common areas. Sassafras-Marumsco complex contains Marine Clay and is highly problematic. For a description of the soils that make up this map unit, please see (66) Kingstowne and (91) Sassafras-Marumsco Complex.

(66) Kingstowne – See above under heading for (69) Kingstowne-Elsinboro Complex

(91) Sassafras-Marumsco Complex – See below

(77) Mattapex - This soil occurs on uplands in sand, silt, and clay sediments of the lower Coastal Plain. Loams and clay loams overlie very sandy layers. The seasonal high water table is between 2 and 3 feet below the surface. Depth to hard bedrock is typically greater than 200 feet. Foundation support may be marginal because of occasional soft soil and seasonal saturation. Foundation drains and waterproofing are needed to prevent wet basements. Grading and subsurface drainage are often necessary to eliminate wet yards. Suitability for septic drainfields and infiltration trenches is poor because of the high water table.

(88) Rhodhiss-Rock Outcrop Complex - This soil consists of sandy and clayey Rhodhiss soil mixed in with outcrops of granite bedrock. It occurs in the Piedmont mainly on steep side slopes. Outcrops and boulders occupy 15 to 40 percent of the soil surface. Bedrock can be found from the surface to more than 6 feet deep. Foundation support is good, but excavation can be very difficult due to the rock outcrops and slope. Blasting is often necessary. Septic drainfields and infiltration trenches are poorly suited due to the rockiness and shallow depth to bedrock.

(90) Sassafras - This soil occurs on hilltops and sideslopes in sandy, clayey and gravelly Coastal Plain sediments. The upper 5 feet consists of predominantly sandy and sandy clay loam materials. Water-worn pebbles are common. Depth to hard bedrock is greater than 50 feet. The soil typically provides adequate support for small buildings (i.e., 3 stories or less). Suitability for septic drainfields and infiltration trenches is good.

(91) Sassafras-Marumsco Complex – This soil complex occurs along steeper slopes separating the high elevation and low elevation areas of the Coastal Plain and along slopes bordering larger Coastal Plain streams. This complex was formerly referred to as Marine Clay. Dry, sandy and gravelly Sassafras material is stratified with layers of thick, highly plastic marine clays. Water perches on top of the clay layers and springs can form

APPENDIX C – Natural Communities Descriptions

Vegetative Community Assessment of Old
Colchester Park and Preserve
Performed and Prepared by Lardner/Klein
Landscape Architects, P.C.
For Fairfax County Park Authority
December 15, 2011

- ◊ The contributing drainage area of the pool should be mapped, and it should be shown that the proposed

RARE, THREATENED AND ENDANGERED SPECIES

From April through September 2011, ESA conducted an analysis of the park's vegetation using the Virginia Department of Conservation and Recreation/Virginia Natural Heritage Program (DCR/VANHP) Vegetation Classification Protocol and the Park Authority's Non-Native Invasive Assessment and Prioritization (NNIAP) Protocol at Old Colchester Park and Preserve. The results of ESA's fieldwork and analysis are compiled in the report titled *Old Colchester Park and Preserve Vegetation Assessment*, dated November 4, 2011. This report provides data and results of the field work, as well as the GIS mapping of distinct habitats, vegetation communities and NNI plant units. Additionally, ESA provides recommendations for the management of on-site vegetation through the use of a carrying capacity analysis that focused on the degree of soil compaction and vulnerability of vegetation communities to various threats.

DCR/VANHP provided ESA with the GIS files of rare, threatened and endangered (RTE) species occurrence in the area around Old Colchester Park and Preserve. No known RTE species or their habitat buffers occur within the park. However, bald eagles are known to nest nearby. DCR/VANHP does track S2 species in their GIS meta-data, although river bulrush (a S2 species) is not listed in the data layer received from DCR/VANHP. This may be because river bulrush is suspected of being on the site, but it has not been confirmed.

Due to the characteristics of the site, there are other rare or uncommon species that could potentially occur on site. As such, a habitat evaluation and search was conducted on this site in 2006 (WSSI, 2006), specifically looking for a small whorled pogonia (*Isotria medeoloides*), a Federally Listed Threatened and State Listed Endangered. No related habitat or plants were found in 2006 and ESA does not believe further studies are warranted.

VEGETATION CLASSIFICATION

ESA classified vegetation into natural communities that differ from each other in species composition and in relationships between species. Dominant factors in controlling distribution of woody species throughout the park include underlying geology, topography, soil type and disturbance history. Vegetation data plots were located within each non-aquatic habitat zone. Plots in the forest were 20m x 20m and plots in herbaceous communities were 10m x 10m. There was at least one plot in every vegetation community.

Using the field findings from site visits in April and June 2011, ESA classified each data plot as a natural community as described in the *Natural Communities of Virginia Classification of Ecological Community Groups, Second Approximation, Version 2.4*, DCR Natural Heritage Program, April 2010, a comprehensive classification of natural communities in Virginia. The report, overseen by the Virginia Department of Conservation and Recreation's Division of Natural Heritage (DCR-DNH), provides a comprehensive classification of natural communities in Virginia, with a purpose of constructing a broad framework for understanding and defining such communities at



Vegetation Communities

 **Old Colchester Park and Preserve**
Natural Resources Management Plan

 **Lardner/Klein Landscape Architects, P.C.**
In association with Environmental Systems Analysis, Inc.

-  Park Boundary
-  Stream/Waterbody
-  **Vegetation Plot #**
-  Large Tree

GIS Sources: Fairfax County

Figure 12: Vegetation Communities map

several hierarchical levels. Because the site contains tidal and nontidal wetlands, as well as forest, there are multiple vegetation communities as described by the *Natural Communities of Virginia*, with at least one State-Rare community and a few communities that are too immature to meet the definitions of the State's natural communities. Where on-site communities did not align with the Commonwealth of Virginia's classification system, ESA developed appropriate descriptions of vegetative associations such as a description for young and disturbed vegetation communities. The initial natural community boundaries were refined based on data collected by ESA and an earlier wetland delineation (WSSI, 2006). The revised boundaries are reflected in the Vegetation Communities Map. (see Figure 12)

ESA developed a comprehensive species list based on data collected while walking transects, during orientation field walks and while collecting data within each vegetation community. Additional species were added during the NNIAP exercise. These species were added to the list started by the Park Authority with additions provided by WSSI during their 2006 field studies to identify wetlands and rare, threatened and endangered (RTE) species for the prior property owner. The list is included in Appendix B.

Besides river bulrush and pink lady's slipper (*Cypripedium acaule*), both unconfirmed but believed to be on the site, other uncommon plants including pumpkin ash (*Fraxinus profunda*) and lilies and orchids, such as Turk's cap lily (*Lilium superbum*) are found on-site. Trees greater than 30 inches in diameter were also noted during the field work and are shown in Figure 12. These citing's do not reflect a comprehensive inventory of large trees within Old Colchester Park and Preserve.

VEGETATION COMMUNITIES DESCRIPTION

Vegetation communities identified and mapped on-site include:

- Northern Coastal Plain Mesic Mixed Hardwood Forest
- Acidic Oak-Hickory Forest
- Coastal Plain Floodplain Forest
- Coastal Plain Depression Swamp
- Coastal Plain Acidic Seepage Swamp
- Tidal Freshwater Marsh
- Coastal Plain Floodplain Swamp
- Forested Nontidal Wetland
- Early Seral Pine-Hardwood Forest
- Herbaceous Nontidal Wetland
- Tidal Freshwater Aquatic Bed

The following is a summary of the natural communities found in the park, as compiled by ESA. It is expected that the communities may become more heterogeneous with edges "blending" through time. Definitions for the classification and ranking codes for each vegetation community can be found in Appendix I.



Figure 13: Northern Coastal Plain Mesic Mixed Hardwood Forest

1 Northern Coastal Plain Mesic Mixed Hardwood Forest

This forest is common throughout the uplands in the park on both sides of Old Colchester Road and Hyde Street. American beech (*Fagus grandifolia*) dominate the canopy of this natural community and some beech are more than 30 inches in diameter. Some areas of this community have a strong canopy component of oak (*Quercus falcata*, *Q. phellos*, *Q. rubra*, *Q. velutina*), hickory (*Carya glabra* and *C. tomentosa*), and tulip poplar (*Liriodendron tulipifera*). Indicator species within this forest include American strawberry-bush (*Euonymus americana*), Christmas fern (*Polystichum acrostichoides*), partridgeberry (*Mitchella repens*), and flowering dogwood (*Cornus florida*). Some of this forest was logged at least once in the 1980s and other parts were released from grazing and agriculture. Based on a review of historical (1937 and 1953) aerial photographs, parts of this community were previously developed as agricultural fields and other areas were conifer dominated forest, most likely pine. Plots 7, 17, 19, 20, and 21 match the description for Northern Coastal Plain Mesic Mixed Hardwood Forest, provided in the *Natural Communities of Virginia Classification of Ecological Community Groups*. Deer browse is particularly apparent on strawberry-bush and the entire shrub stratum is sparse. Seeds, seedlings and saplings are being removed by deer and regeneration of shrubs will continue to be hindered if the deer population remains unchanged.

American beech dominates the side slopes and dry forest at Old Colchester. It is a native component of the forest and provides food and shelter for wildlife. However, beech is highly allelopathic and retards other vegetative species, especially as it matures. Other environmental factors favor beech and include the following list.

- Beech's shade tolerance allows it to out-compete oaks and hickories in aging forest stands and those with dense shade.
- Past fire suppression has favored beech, maple and tulip poplar as fire usually kills thin-barked trees more often than the thicker barked species such as oaks and hickories.
- Deer browse has likely been present at elevated levels for at least 20 years and has likely influenced which trees make it through to the canopy. Deer browse also limits the number of acorns and hickories that actually germinate, and may significantly impact understory or lack thereof.

- Past logging operations that may have favored taking mature oaks and hickories and left behind beech. Beech does not have a high economic value and is difficult to convert into lumber. Because of these characteristics, beech trees are often left untouched in selective harvest operations.

DCR Classification: *Fagus grandifolia* - *Quercus (alba, rubra)* - *Liriodendron tulipifera* / (*Ilex opaca* var. *opaca*) / *Polystichum acrostichoides*

USNVC: CEGL006075

Global/State Ranks: G5/S5



Figure 14: Acidic-Oak Hickory Forest

2 Acidic Oak-Hickory Forest

Although this forest is usually only found in the Piedmont region, portions of forest along a side slope and Plot 16 match the description for Acidic Oak-Hickory Forest, as defined by the *Virginia Classification of Ecological Community Groups*. This forest community is also found in nearby Mason Neck National Wildlife Refuge. The Northern Coastal Plain Mesic Mixed Hardwood Forest, previously described on page II:18, may mature into this type of vegetation community if the site experiences only limited and endemic disturbance. The Acidic Oak Hickory Forest is dominated by oaks and pignut hickory (*Carya glabra*) or mockernut hickory (*Carya tomentosa*) in the canopy and also contains deerberry (*Vaccinium stamineum*), lowbush blueberry (*Vaccinium pallidum*), flowering dogwood and lion's foot (*Prenanthes serpentaria*). Based on historical aerial photography, this area was conifer-dominated forest in 1953 and cleared fields in 1937. (see Figure 6)

DCR Classification: *Quercus alba* - *Quercus rubra* - *Carya alba* / *Cornus florida* / *Vaccinium stamineum* / *Desmodium nudiflorum*

USNVC: CEGL008475

Global/State Ranks: G4G5/S4S5

Lardner/Klein Landscape Architects, P.C
in association with ESA, Inc.

II:19



Mark Burechick

Figure 15: Coastal Plain Floodplain Forest

3 Coastal Plain Floodplain Forest

The bottomland adjacent to the Occoquan River contains a forest that is relatively young. It appears to be rarely flooded and much of it is outside of the 100-year floodplain. It also has a south-facing aspect that provides greater sun exposure than other natural communities receive. Boxelder (*Acer negundo*) dominates the sub-canopy, which is not addressed in the DCR description of this vegetation community type. Boxelder can be “weedy” and may lose dominance over time. Although not a community type as defined in the *Natural Communities of Virginia Classification of Ecological Community Groups*, this community better fits the US National Vegetation Classification’s (USNVC) *Acer negundo* Forest (Box-elder Floodplain Forest, Unique Identifier: CEG005033). The USNVC code serves as the basis for Virginia’s classification system. (For more information on either the USNVC or Virginia system, see Appendix I.) Other indicator species (referring ‘indicator’ as being common within this forest but less common in other forest communities based on ‘expert’ knowledge of vegetation communities) include tulip poplar, green ash (*Fraxinus pennsylvanica*) and black walnut (*Juglans nigra*) in the canopy, ironwood (*Carpinus caroliniana*) in the sub-canopy; a thick shrub layer dominated by spicebush (*Lindera benzoin*) and wineberry (*Rubus phoenicolasius*); and a strong component of grape (*Vitis* sp.), as well as other vines including Japanese honeysuckle, Virginia creeper (*Parthenocissus quinquefolia*), and Asiatic bittersweet (*Celastrus orbiculatus*). The shrub layer is dense in this community, possibly because of its southern exposure, the invasive nature of wineberry and because wineberry and spicebush are not preferred food for deer. Pumpkin ash, a secure but uncommon species is found within this community. This tree can be found in fresh tidal swamps and is associated with swamp black gum (*Nyssa aquatica*). The pumpkin ash is slow growing and larger specimens occurring in seasonal high-groundwater can develop buttressed, swollen or pumpkin-shaped butts (base of tree). Based on historical aerial photography, this area was cleared and may have been in agricultural production in 1937 (see Figure 6) and 1953. Plots 2, 11 and 12 match the description for this forest.

DCR Classification: see text

USNVC: CEG005033

Global/State Ranks: G4G5/no state rank

II:20 **100% Submission**

Fairfax County Park Authority, December 15, 2011



Figure 16: Coastal Plain Depression Swamp

4 Coastal Plain Depression Swamp

This potentially rare natural community will be officially defined by DCR after they analyze their data collected during a field visit on July 8, 2011. DCR will name the community and determine if it is rare after analyzing the collected data. DCR's initial determination is that the community is Coastal Plain Depression Swamp. ESA's survey results found the canopy to be dominated by red maple (*Acer rubrum*), sweetgum (*Liquidambar styraciflua*), willow oak (*Quercus phellos*) and black gum (*Nyssa sylvatica*). Indicator species include mosses (*Polytrichum sp.*), slender spikerush (*Eleocharis tenuis*), helmet skullcap (*Scutellaria integrifolia*), blue sedge (*Carex glaucodea*), black highbush blueberry (*Vaccinium fuscatum*) and southern blueberry (*Vaccinium formosum*). The forest is saturated and/or inundated in the winter and spring and supports sphagnum moss (*Sphagnum sp.*) with a high groundwater table being the driving source of hydrology. Plot 3 matches the description of this natural community type. More disturbed wetlands surround this natural community and are hydrologically connected to it but were defined as Forested Nontidal Wetland because these areas do not have the indicators species or saturation levels of a Coastal Plain Depression Swamp.

This community has a state ranking of "imperiled" (S2) because of rarity or other factors making it vulnerable to extirpation. A community is considered "imperiled" in Virginia if there are 6 to 20 occurrences of the community and/or these cover less than 618-acres in aggregate; or cover a larger area but are highly threatened with destruction or modification.

In 1937, this area was partially cleared. (see Figure 6) One portion appeared to be an agricultural field or meadow and had a wet signature on the aerial photograph with a few lines that may have been ditches. The other portion appeared to be a Pine-Hardwood Forest.

DCR Classification: *Quercus phellos - Acer rubrum - Liquidambar styraciflua / Vaccinium (formosum, fuscatum)* Forest

USNVC: CEGL006110

Global/State Ranks: G3/S2



Figure 17: Coastal Plain Acidic Seepage Swamp

5 Coastal Plain Acidic Seepage Swamp

This forested wetland is hydrologically driven by groundwater seeps and drains to the tributary along the eastern boundary of the park, near Anita Drive. Indicator species include skunk cabbage (*Symplocarpus foetidus*), red maple, sweetgum, swamp white oak (*Quercus bicolor*), round seed panic grass (*Dichanthelium polyanthes sphaerocarpon*), fowl mannagrass (*Glyceria striata*), lady fern (*Athyrium filix-femina*), leafy bulrush (*Scirpus polyphyllus*), smooth carrionflower (*Smilax herbacea*) and star sedge (*Carex radiata*). Turk’s cap lily and an unknown orchid also grow in this community. Plots 1, 4 and 5 are located within this natural community. Plot 5 is the driest of these plots and is located in a transition area between the Coastal Plain Acidic Seepage Swamp as defined by the *Natural Communities of Virginia Classification of Ecological Community Groups* and the Northern Coastal Plain Mesic Mixed Hardwood Forest. This forest appears to be an even-aged stand and, based on historical aerial photographs, was released from agriculture in the late 1930s. (see Figure 6)

DCR Classification: *Acer rubrum - Nyssa sylvatica - Magnolia virginiana / Viburnum nudum / Osmunda cinnamomea - Woodwardia areolata* Forest

USNVC: CEGL006238

Global/State Ranks: G3?/S3

6 Tidal Freshwater Marsh

One of the most unique and overt natural resource elements of Old Colchester Park and Preserve is that it is situated on the Occoquan River waterfront at Belmont Bay, near the mouth of the Potomac River. Fresh-tidal high and low marsh occur in the southwest portion of the tract. Portions of the low marsh are exposed tidal mud flats at low tide. River bulrush (not confirmed) grows among the wild rice (*Zizania aquatica*) and narrow-leaved cattail (*Typha angustifolia*). Marsh dewflower, a NNI, is found throughout the marsh and it is a prostrate plant that grows under many of the native grasses, sedges and forbs.

The Natural Communities of Virginia identifies four sub-classifications that are applicable per ESA’s findings. The high marsh includes components of Tidal Freshwater Marsh (Mixed High Marsh Type) because of the predominance



Figure 18: Tidal Freshwater Marsh

of narrow-leaved cattail observed on-site. The other high marsh component is the Tidal Freshwater Marsh (Wild Rice Mixed Forbs Type) due to observed wild rice and mixed forbs (around but not in plot 14). The low marsh consists of Tidal Freshwater Marsh (Spatterdock Mudflat Type) because of extensive areas of spatterdock (*Nuphar advena*) along the ill-defined, tidal stream channel and exposed mudflats at low tide. The second low marsh type is Tidal Freshwater Marsh (Arrow Arum-Pickerelweed) due to the many aggregates of observed pickerelweed (*Pontederia cordata*) in flower and arrow arum (*Peltandra virginica*) intermixed within the stands. Plots 13, 14 and 15 meet the description for Tidal Freshwater Marsh, as defined by the *Natural Communities of Virginia Classification of Ecological Community Groups*. The tidal marsh appears to have expanded slightly since 1937 with the incision of the upstream perennial stream. (see Figure 6)

DCR Classification: *Zizania aquatica* - *Pontederia cordata* - *Peltandra virginica* - *Polygonum punctatum* Tidal Herbaceous Vegetation
Tidal Freshwater Marsh (Wild Rice - Mixed Forbs Type)

USNVC: CEGL004202

Global/State Ranks: G4?/S4?

DCR Classification*: *Impatiens capensis* - *Polygonum arifolium* - *Peltandra virginica* - (*Typha angustifolia*) Tidal Herbaceous Vegetation
Tidal Freshwater Marsh (Mixed High Marsh Type)

*Note: This community contains the plant that has been initially identified as river bulrush that has a ranking of S2.

USNVC: CEGL006325

Global/State Ranks: GNR/S4?

DCR Classification: *Peltandra virginica* - (*Pontederia cordata*) Tidal Herbaceous Vegetation
Tidal Freshwater Marsh (Arrow-Arum - Pickerelweed Type)

USNVC: CEGL004706 (in part)

Global/State Ranks: G3G4/S3S4

DCR Classification: *Nuphar advena* Tidal Herbaceous Vegetation
Tidal Freshwater Marsh (Spatterdock Mudflat Type)

USNVC: CEGL004472

Global/State Ranks: G4G5/S3



Figure 19: Coastal Plain Floodplain Swamp

7 Coastal Plain Floodplain Swamp

The Natural Communities of Virginia describes one of the four Coastal Plain/Piedmont Swamp Forest Types as the Red Maple - Green Ash/Lizard's Tail Forest. Plot 9 was dominated by red maple in the overstory with green ash as an associate. The forb layer was a thick stand of near monotypic lizard's tail (*Saururus cernuus*). This natural community is at the uppermost extent of fresh tidal influence, at the confluence of a riverine intermittent stream channel and the delta of a perennial stream. Much of the basin is saturated for most of the growing season but would appear as braided stream channels and exposed ground in the leaf-off season. Deer may be entering this community when the ground is not saturated. Based on historical aerial photographs, this very wet forest does not appear to have been logged or cleared since before the 1930s. (see Figure 6)

DCR Classification: *Acer rubrum* - *Fraxinus pennsylvanica* / *Saururus cernuus* Forest
Coastal Plain / Piedmont Floodplain Swamp (Green Ash - Red Maple Type)

USNVC: CEGL006606

Global/State Ranks: GNR/S3S4



Figure 20: Forested Nontidal Wetland

8 Forested Nontidal Wetland

This forested wetland is located west of Hyde Street around a ditched channel, northwest of Old Colchester Road around an intermittent stream, and between the Herbaceous Nontidal Wetland and the Coastal Plain Depression Swamp. This is a recently disturbed, younger forest that does not match the natural community descriptions provided by DCR in the *DCR Natural Communities of Virginia Classification of Ecological Community Groups*. Instead, ESA developed an appropriate description of vegetative associations such as young and disturbed vegetation communities. The dominant canopy species are red maple, tulip poplar and hickory, though pin oak (*Quercus palustris*), sweetgum and green ash are also present. Arrowwood viburnum (*Viburnum dentatum*) is dominant in the shrub layer. An orchid, thought to be pink lady's slipper, grows on the edge of this community near the railroad tracks.

The forested wetland to the west of Hyde Street has been ditched, (ditch lines can be seen in the 1937 aerial photograph—see Figure 6) which limits the extent of the wetlands and has dried out this area. Most of these ditches are in straight lines and some still have side-cast material adjacent to the channel, which is overt evidence of man-made manipulation. Some of the extant wetland species such as sweetbay magnolia suggest that the site was historically wetter and that ditching has performed the function reducing wetland hydrology. These wetlands may mature into a Coastal Plain Depression Swamp or a Non-Riverine Wet Hardwood Forest if disturbance is minimized and hydrology restored.

DCR Classification: N/A

USNVC: N/A

Global/State Ranks: N/A



Figure 21: Early Seral Pine-Hardwood Forest

9 Early Seral Pine-Hardwood Forest

An approximate two-acre area in the northern parcel of the park includes a Virginia pine grove, where the pine dominates in the overstory. Much of the pine is in decline, dying, dead and/or as woody debris on the ground. The pine occurs on depauperate dry, sandy slopes and is beginning to allow suppressed hardwoods to become sub-canopy, associate species include black locust, eastern red cedar (*Juniperus virginiana*), five oak species (including shingle oak, *Quercus imbricaria*), black cherry (*Prunus serotina*) and sweetgum. Plot 8 is within this community. This community is too young to match any descriptions within *Natural Communities of Virginia*. (ESA developed appropriate descriptions of vegetative associations such as young and disturbed vegetative communities that did not match the communities described in the DCR *Natural Communities of Virginia* document.) Given time, this community may become an Acidic Oak-Hickory Forest. This community has educational interpretive value to help explain natural succession. In aerial photographs from 1937 and 1953, it is evident that this area was not forest at either period and may have been in use as agriculture fields. (see Figure 6)

DCR Classification: N/A

USNVC: N/A

Global/State Ranks: N/A



Figure 22: Herbaceous Nontidal Wetland

10 Herbaceous Nontidal Wetland

A temporary stormwater management pond and associated haul road was built within the central portion of the property in the 1990s. The basin was built in-line, within mapped wetlands/waters, and contains a low-hazard dam, emergency spillway and galvanized barrel riser through the dam. The riser opening is flush with the ground but the impoundment holds/ponds spring waters and acts to provide vernal pool habitat. The basin footprint is highly disturbed and is classified as palustrine emergent wetlands (wet meadow) with a palustrine forested fringe (PEM/PFO). The hydrology of the basin is saturated/inundated in the early part of the growing season and then pulses saturated wet and dry for the summer months. An aspect dominant plant is the NNI marsh dewflower. Native, but less dominant, forbs included fox sedge (*Carex vulpinoides*), soft rush (*Juncus effusus*), rice cutgrass (*Leersia oryzoides*), beaked spikerush (*Eliocarpus* sp.) and smartweeds (*Polygonum hydropiperoides*). Annual ragweed (*Ambrosia artemisiifolia* L.) and mile-a-minute occupy the outer perimeter and banks, along with a band of black willow (*Salix nigra*) and red maple. Plot 18 is within this community. It is also too young and too disturbed to match any descriptions within *Natural Communities of Virginia*. (ESA developed appropriate descriptions of vegetative associations such as young and disturbed vegetative communities that did not match the communities described in the DCR *Natural Communities of Virginia* document.)

DCR Classification: N/A

USNVC: N/A

Global/State Ranks: N/A



Mark Berchick

Figure 23: Tidal Freshwater Aquatic Bed

11 Tidal Freshwater Aquatic Bed

Submerged aquatic vegetation (SAV) beds are quite apparent in the late spring through summer months and matting grasses appear thick at low tide along the Occoquan River shoreline. Functionally, the SAV bed minimizes the erosive effect on the Occoquan River' shoreline. SAV also discourages boating and fishing activities.

Likely species include wild celery (*Vallisneria americana*), hydrilla (*Hydrilla verticillata*), common waterweed (*Elodea canadensis*), coontail (*Ceratophyllum demersum*) and water stargrass (*Heteranthera dubia*). *Natural Communities of Virginia* makes provisions for Tidal Freshwater Aquatic Bed designations, though none are dominated by hydrilla.

DCR Classification: N/A

USNVC: N/A

Global/State Ranks: N/A