KINGSTOWNE PARK

MASTER PLAN REVISION

November 2011

prepared by:

The Fairfax County Park Authority

and

The Department of Public Works and Environmental Services

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I. INTRODUCTION

A. PARK MASTER PLANS

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 22,000 acres of parkland and a myriad of recreational opportunities provided throughout the county. In 1950, the Fairfax County Park Authority was established with the charge of maintaining the viability and sustainability of this expansive system of parks and facilities. In providing quality facilities and services while protecting the County's cultural and natural resources, the Park Authority seeks to serve 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 consistent and equitable approach in the planning of park property and facilities. 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 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 the 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. The approved Park Master Plan is presented at a conceptual level of detail and future site design and engineering may result in a shift of use location within the park.

Kingstowne Park Master Plan Revision

For Kingstowne Park the process will be to revise the master plan approved in April 1989 as a part of the rezoning action that was associated with the planned community of Kingstowne. Revision of the approved master plan is needed to more accurately reflect the existing uses and conditions that differ from the approved plan. The original plan included multiple active recreation features that were not implemented. A subsequent zoning action resulted in conversion of the planned recreation facilities to a pond and wetland mitigation areas. Active recreation facilities were incorporated into other nearby parks such as Clermont, Island Creek and Franconia Parks. A large portion of the park site includes dams and ponds that were left from the previous quarry operation.

B. KINGSTOWNE PARK MASTER PLAN REVISION PURPOSE AND PLANNING PROCESS

The Kingstowne Park master plan revision process was initiated in 2010

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Figure 1: Kingstowne Park

coincident with a breach of the dam at Pond 5 in the park. The Department of Public Works and Environmental Services (DPWES) provided emergency repairs and proposed a plan to restore the pond in a manner that would provide stormwater management. This approach provided an opportunity to revise the park master plan to reflect more accurately the existing and potential site uses in the park. Given that a more limited area is available for park facilities than the original master plan envisioned, and the fact that DPWES recognized an opportunity to improve existing Ponds 4 and 5 to include stormwater management, the decision was made to have Park Authority and DPWES staffs work jointly to revise the master plan. This planning process began with:

- DPWES staff and consultants conducted a number of engineering studies to evaluate the current conditions, review the safety viability of the remaining dams and research the ability to utilize this area for treatment of off-site stormwater.

- Staff then developed a series of dam repair and enhancement options that were presented as part of the joint Public Information Meeting held for Kingstowne Park on August 9, 2011.

- This meeting provided an opportunity for Park Authority staff to share background information about the property, to explain the Park Master Plan process to the local community and allowed DPWES staff to provide updates and alternatives on dam repairs at the site.

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This meeting provided a forum for the community to share its vision for the park, express concerns and ask questions about park and stormwater management issues. The meeting was well attended and comments focused on a desire to see the park preserved in a natural state to the extent possible, to maintain or upgrade the existing trail network, and to replace the dam at Pond 4 with a similar structure. DPWES recommended a regional stormwater management concept design for Ponds 4 and 5 that would provide retrofitted water quantity and quality control for a share of the upstream watershed to the ponds.

Preferences expressed by the community were considered in balance with the existing site conditions, natural and cultural resource considerations, site management goals and stormwater management and design issues. These elements were evaluated and prioritized to formulate this draft Park Master Plan Revision for Kingstowne Park.

Photo 1: Existing Trail and Bridge in Kingstowne Park

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II. PARK BACKGROUND

A. PARK LOCATION AND GENERAL DESCRIPTION

Kingstowne Park is located on Old Telegraph Road in Alexandria, Virginia and is located within the Rose Hill Planning District and the Lee Supervisory District of Fairfax County, Virginia. The park is comprised of 76.9 acres of land and is jointly owned by the Park Authority and the Board of Supervisors. Kingstowne Village Parkway runs along the northern boundary of the site.

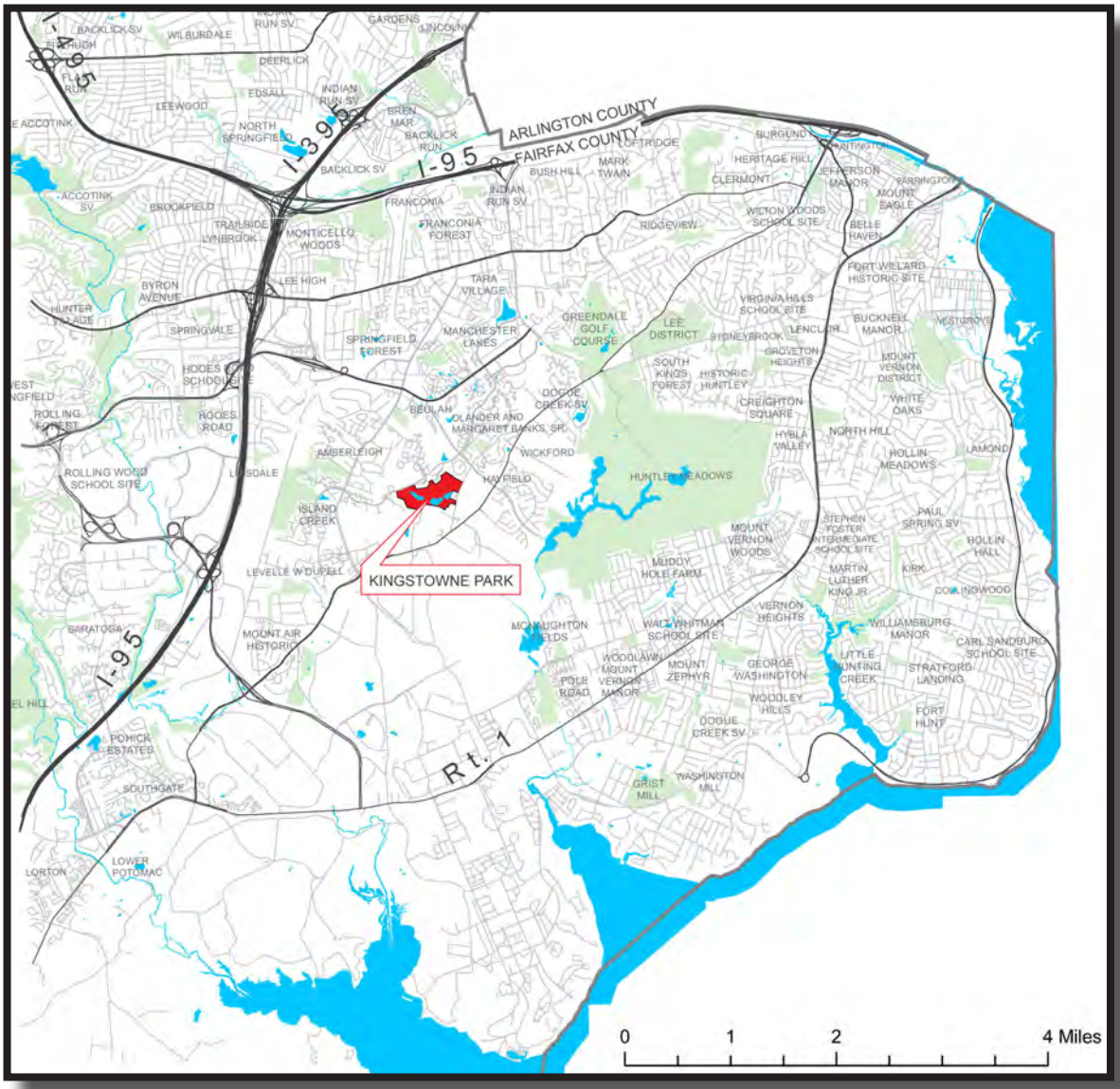

Figure 2:General Vicinity Map

The site is undeveloped with the exception of a single stone dust trail and a small picnic area both maintained by the Park Authority in the northwest corner of the site. Two thirds of the site is used for wetlands mitigation and stormwater management. There are three wetlands mitigation areas and two wet ponds. A network of informal unmaintained and unsanctioned trails also exists throughout the park and are regularly used by the local community.

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B. ADMINISTRATIVE HISTORY

As a part of the zoning approval for the Kingstowne community the developer, Greendale Development Company, Inc., proffered to dedicate Kingstowne Park to the Fairfax County Park Authority. The rezoning and proffers were approved by the Board of Supervisors (BOS) on June 17, 1985 and later amended on July 8, 1999. The park was dedicated by Halle Enterprises and Kingstowne LP to the BOS and the Park Authority as joint owners on December 9, 2002. The proffered park plan approved in the 1989 rezoning action envisioned mulitple athletic fields and other recreational facilities.

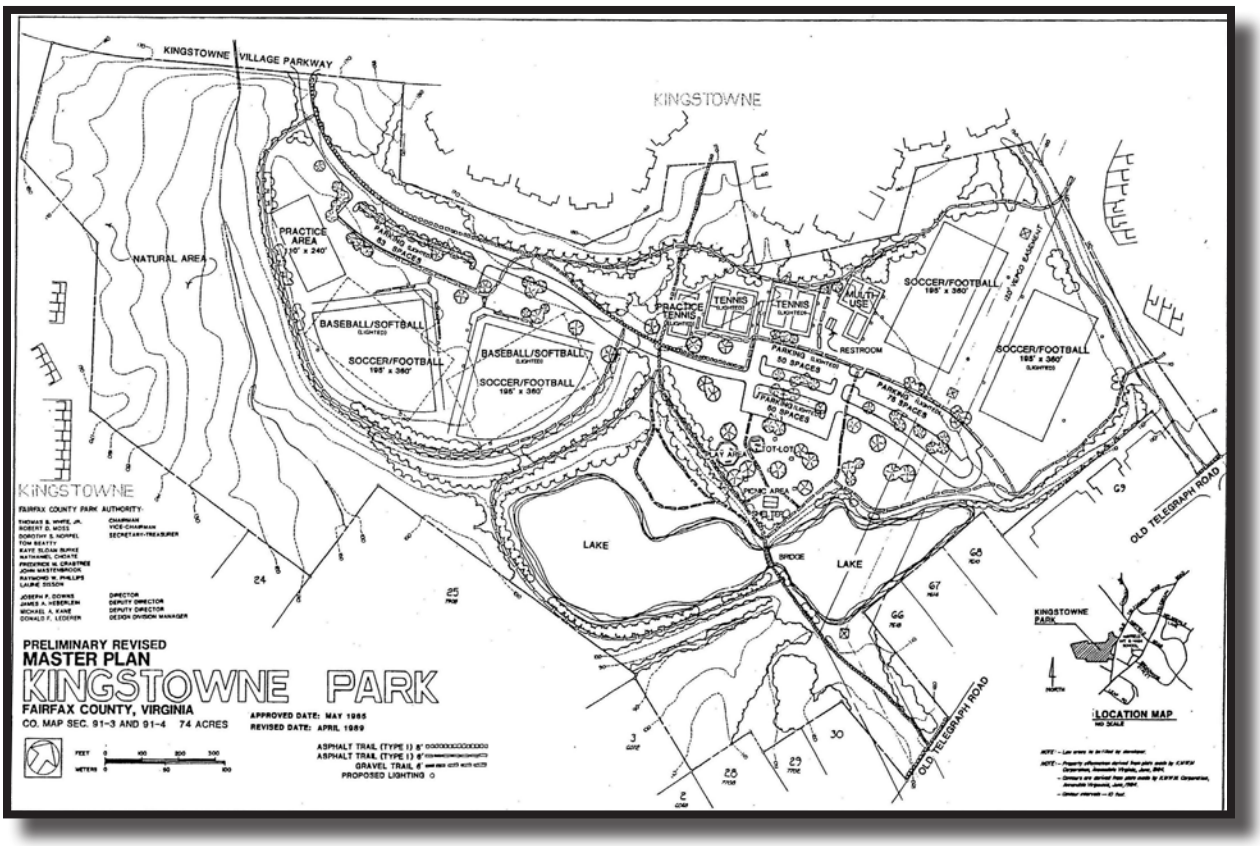

Figure 3: Kingstowne Park Master Plan approved May, 1989.

During the course of construction of the Kingstowne community, the Environmental Protection Agency (EPA) made a determination that wetlands were impacted by Halle. This determination resulted in an Administrative Order of Consent between Halle and the EPA to mitigate the wetlands impacts. As a result of this order, the park site was selected as the location for wetlands mitigation to satisfy EPA requirements. The mitigation areas and ponds comprise approximately two thirds of the park area, limiting the ability to place park facilities as originally planned. As a result, the proffered park plan was amended through a proffered condition amendment (PCA) that converted the area planned for athletic fields to wetland mitigation areas. Each of these areas are distinct and numbered as shown in Figure 4.

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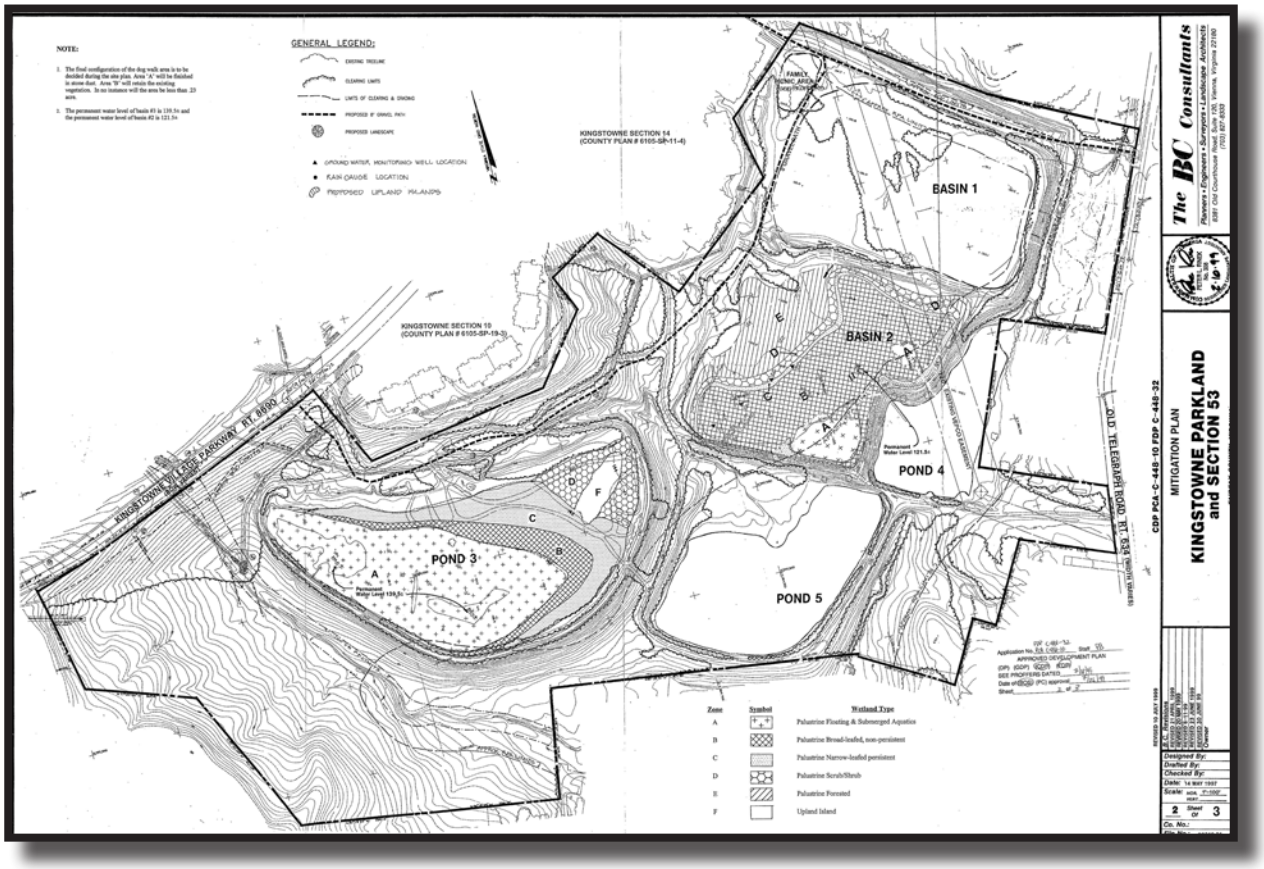

Figure 4: Kingstowne Park Plan Approved in 1999 Proffered Condition Amendment

C. PARK CLASSIFICATION

Kingstowne Park is designated as a Local Park in the Park Authority's classification system. Local Parks are intended to serve local residential and employment centers. Local Parks provide facilities for active and/or passive recreation, which may include areas for scheduled or unscheduled recreation activities or social gatherings. Areas designated for natural and/or cultural resource protection may also be included. In suburban settings, park size will typically range between 2.5 and 50 acres. Typical facilities within Local Parks include playgrounds, picnic areas, open play areas, and trails. In a suburban setting, the Local Park service area generally includes communities within a three-mile radius of the park. The typical duration of visits to Local Parks is two hours or less.

D. PLANNING CONTEXT

Kingstowne Park is located in the Lehigh Planning Sector (R4) of the Rose Hill Planning District as identified in the Fairfax County Comprehensive Plan. The Comprehensive Plan recommendation for this site is to initiate a master planning process and develop for active recreation. This recommendation is consistent with the original 1989 Kingstowne Park Master Plan and was not updated with subsequent changes in uses at the park. There is also a general sector plan recommendation to provide a complete network of trails including access through Environmental Quality Corrider areas as feasible.

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E. PARK & RECREATION NEEDS

The Park Authority assesses the need for parkland and recreation facilities through its long range planning efforts. Countywide park and recreation 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. The most recent Needs Assessment was completed in 2004. Due to the constrained nature of Kingstowne Park, typical active recreation facility needs are less relevant.

The Needs Assessment shows that trails are the most used and needed parks facility. Kingstowne's central location and the existence of an extensive network of informal community trails suggest that trail use is important to the surrounding community.

Photo 2: View of Island in Pond 3

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III. EXISTING CONDITIONS

A. PARK CONTEXT

In addition to assessing area-wide needs, park planning efforts must evaluate proposed park development within the context of the existing community. An understanding of the surrounding community helps provide a framework for revisions to the Kingstowne Park master plan.

1. ADJACENT DEVELOPMENT

Kingstowne Park is located entirely within the Kingstowne community. This planning community began development in the late 1980's and the original development plan has been fully implemented. The community is managed by a central homeowner's association, the Kingstowne Residential Owners Corporation (KROC). (Figure 5)

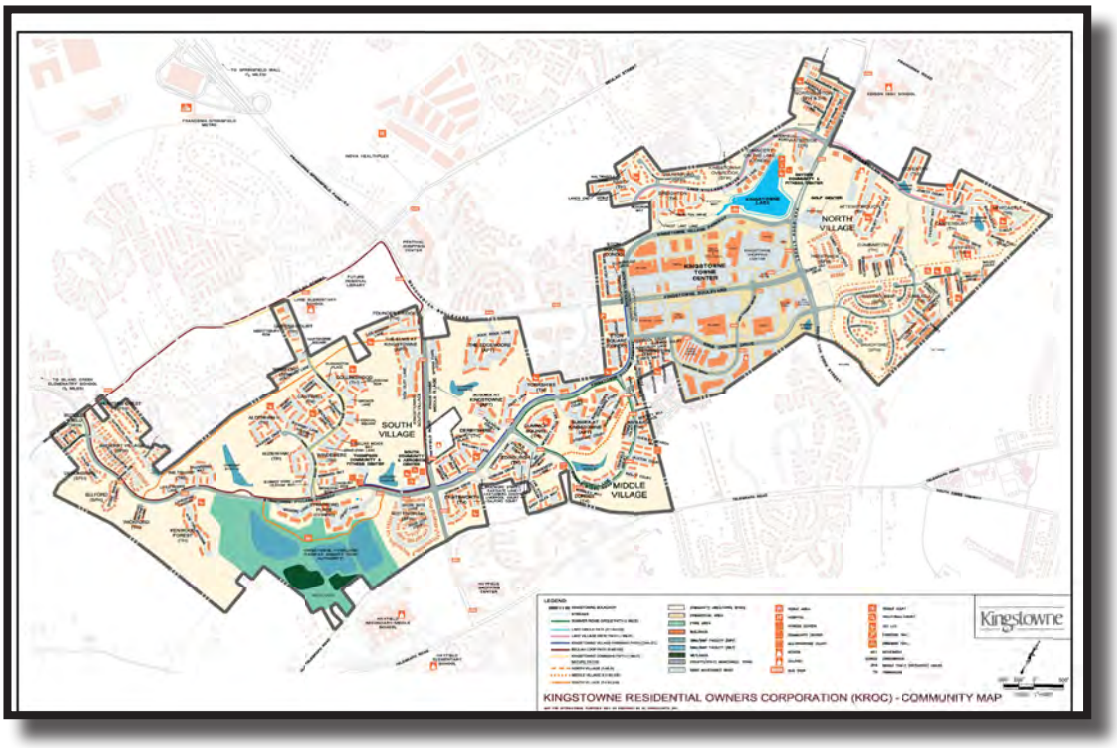

Figure 5: Kingstowne Park Location Within Kingstowne Community

Figure 6 shows a closer view. To the north, the park is bounded by Kingstowne Village Parkway and some multi-family housing developments. Land along the northern and eastern boundaries is common area land managed by KROC.

To the south, a portion of the Hilltop Assemblage abuts the site. This section of the Hilltop property has been approved for a senior housing facility. The approved plan includes a large natural area along the park boundary with proposed trails connecting to the park site.

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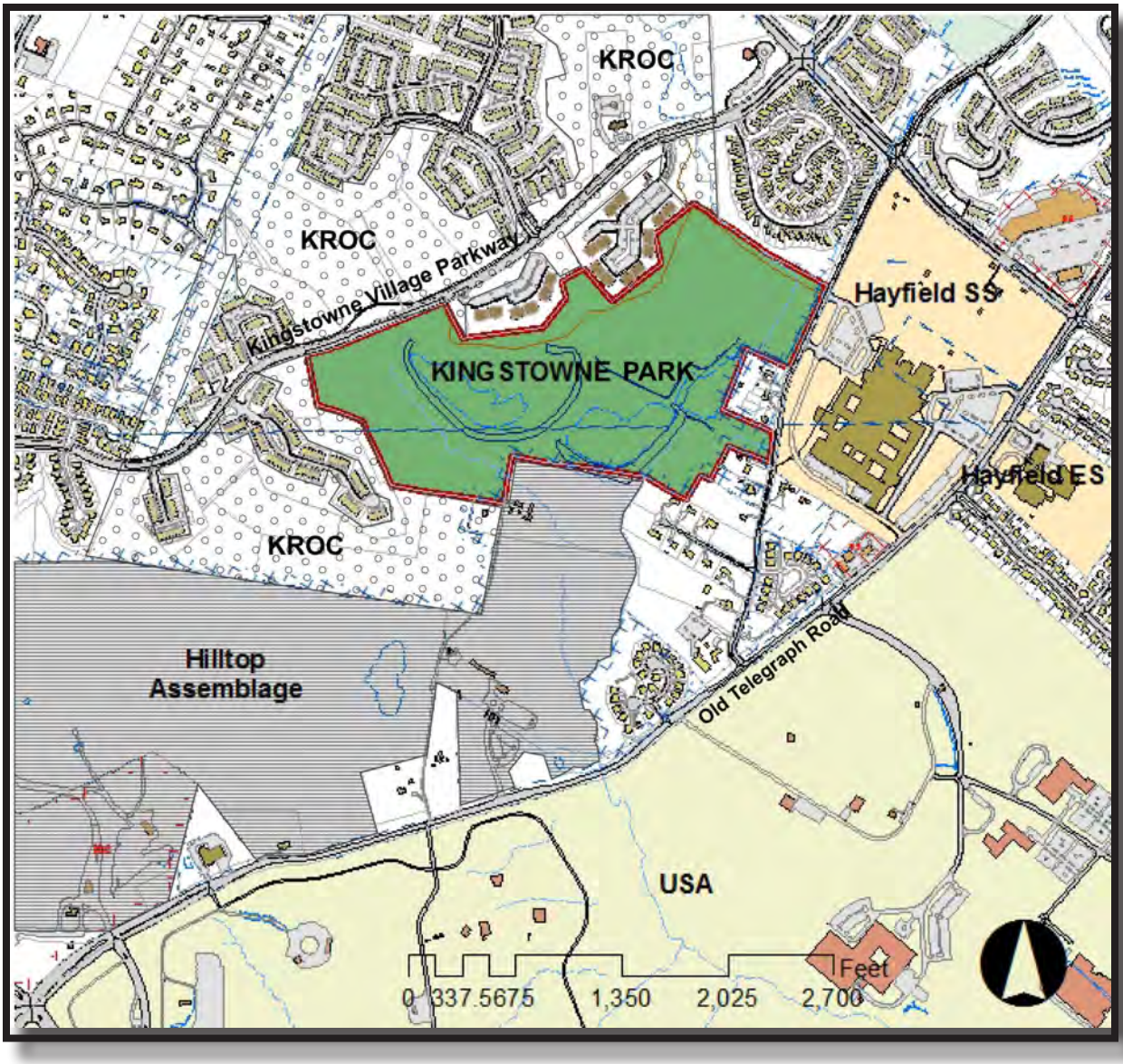

Figure 6:Kingstowne Park Neighborhood Context

Hayfield Secondary School is located along the southeastern boundary. The school utilizes the park site for educational opportunities and athletic activities such as cross-country practices.

2. NEARBY PARKS AND SCHOOLS

An understanding of the nearby facilities is helpful in evaluating which potential recreation facilities might best serve the community at Kingstowne Park. Parks and facilities within a one-mile radius of Kingstowne Park are noted in Table 1 below and identified in Figure 7.

Three public schools are also located within one mile of Kingstowne Park. In addition to nearby park facilities, local school facilities serve a portion of the area's recreational needs. 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 courts

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and athletic fields. High school fields and facilities, however, are typically reserved solely for the use of the high school and, for planning purposes, are not considered available to the public.

In addition to Kingstowne Park, a portion of the local community's open space and recreational needs are served by KROC, other area parks and local schools. Kingstowne offers it's residents access to a number of private recreation facilities in various locations around the community.

Kingstowne Area Recreation Facilities P = Planned	Park Acreage	Multi-Use Trails	Playgrounds	Picnic Tables	Tennis Courts	Tennis Practice Wall	Basketball Courts	Baseball/Softball Fields	Rectangle Fields / natural	Rectangle Field /synthetic	Open Play Areas	Community Center	Fitness Center	Pool / Water Park	Picnic Shelter
FAIRFAX COUNTY PARKS															
BANKS	10	P	P	P							•				
BEULAH	10.8	•			1		2								
HAYFIELD	2.08	•	•								•				
HUNTLEY MEADOWS	1480	•		•											
ISLAND CREEK	96.5	•													
LEE DISTRICT	138	•	•	•	2	1	2	3	•	3	•		•	2	•
MANCHESTER LAKES	28	•	•						2		•				
FAIRFAX COUNTY PUBLIC SCHOOLS															
BEULAH ES			1				1								
HAYFIELD ES			1				2	2							
HAYFIELD SS				6			2	2	1						
KINGSTOWNE RESIDENTIAL OWNERS CORPORATION															
VARIOUS LOCATIONS		•	24	6			3					2	2	2	

Table 1: Kingstowne Area Recreation Facilities

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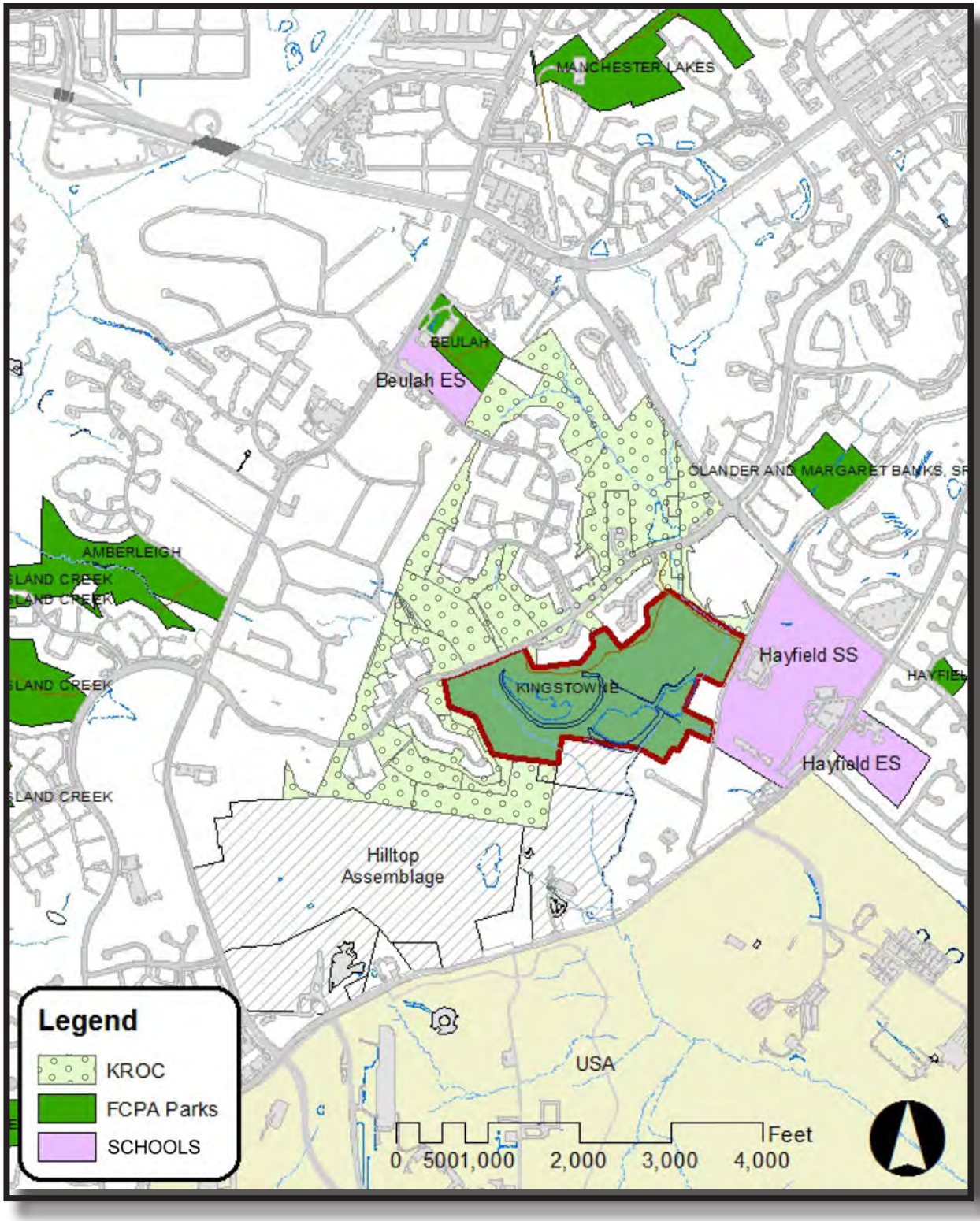

Figure 7: Kingstowne Area Parks, Recreation Resources and Open Space

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B. EXISTING SITE CONDITIONS

The Master Plan process includes an evaluation of the existing site conditions, seeking to identify both the opportunities and challenges to future park development. 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.

1. NATURAL RESOURCES

Kingstowne Park is a large mostly undeveloped park. It is bound by land in private ownership and roadways on all sides. Several ponds and dams are located on the site, mostly the remnants of the previous gravel quarry operations. The dam areas have extremely steep slopes, most greater than 30%, and studies have shown them to be constructed of a mix of fill materials. The dams have been extensively studied over the years and will require on-going monitoring and maintenance. The park has adjacent natural areas that provide connections for wildlife and for natural systems.

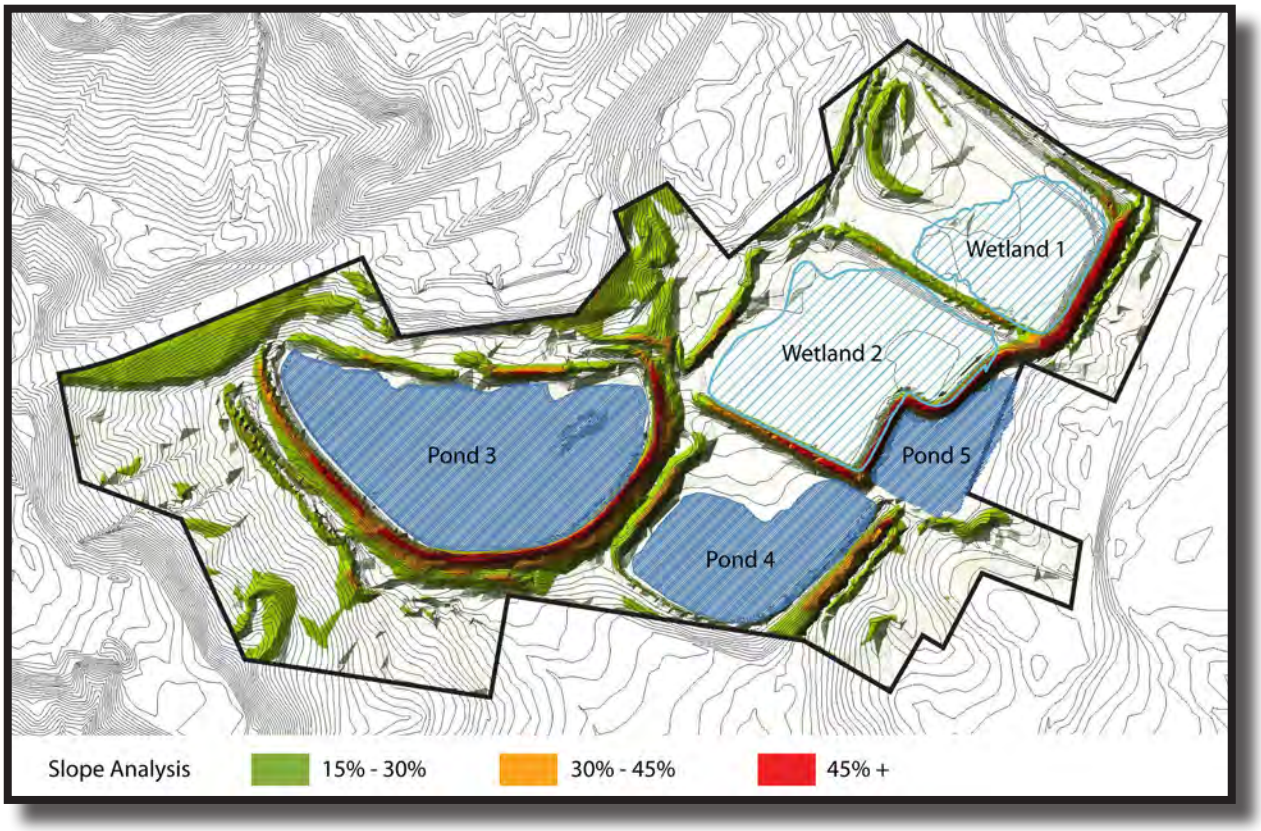

Figure 8: Kingstowne Park Slope Analysis

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a) Soils and Topography

A large percentage of Kingstowne Park has slopes that exceed 15%. Development of facilities and trails on slopes greater than 15% is challenging and expensive due to the higher engineering and construction costs. Generally these steep slopes are avoided for development.

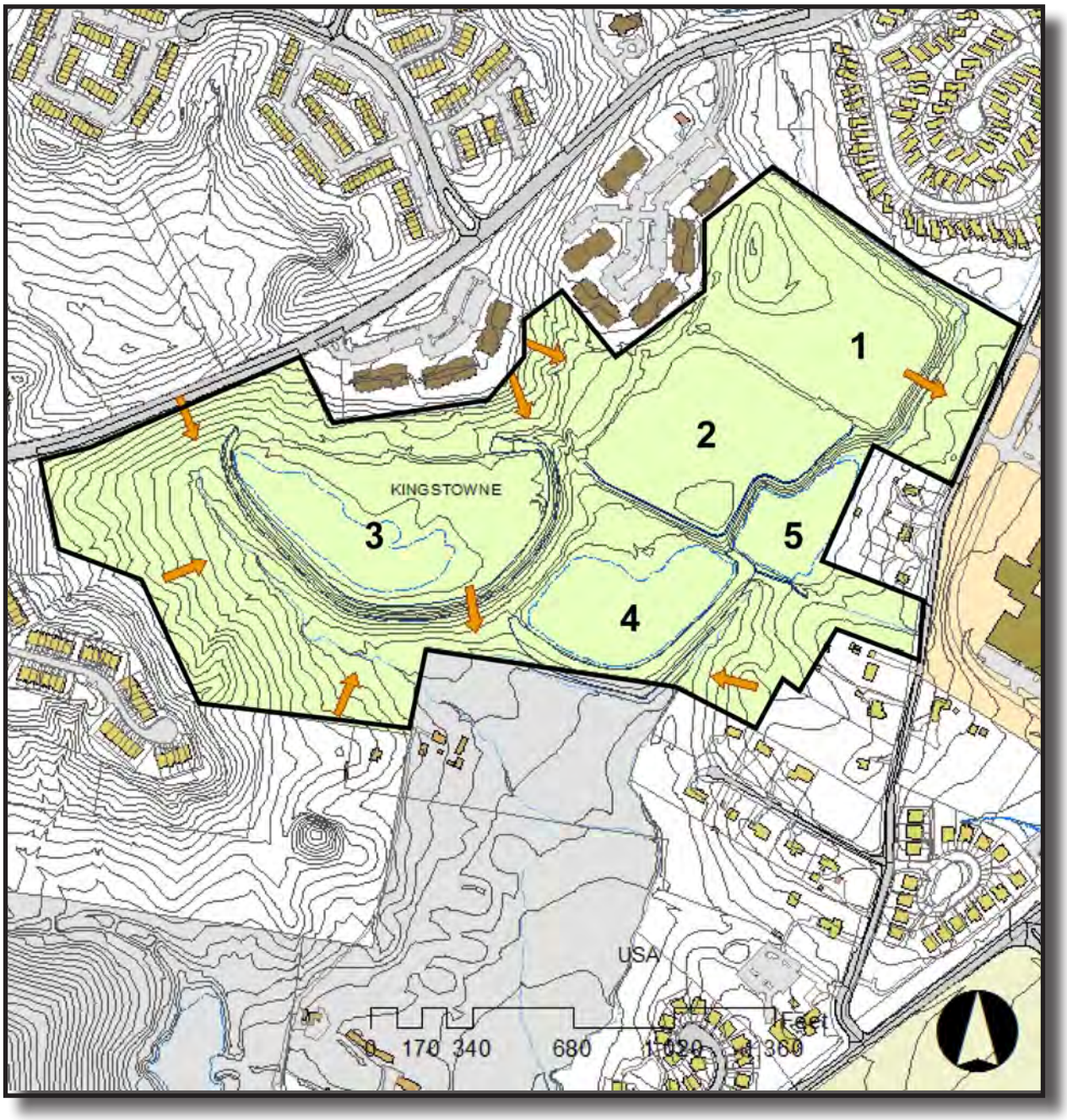

Figure 9: Kingstowne Park Topography Map

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The predominant soils type present on the Kingstowne site is Galestowne Loamy Fine Sand (83B1). This soil is unremarkable for construction problems, and is located primarily within the wetlands mitigation areas. Portions of the site also contain Marine Clay (118), which is commonly found in this area of the County. Marine Clay is a problem soil noted for shrink swell issues and a tendency towards slippage at slopes greater than 16%.

A complete listing of the site soils and characteristics can be found in Table 2.

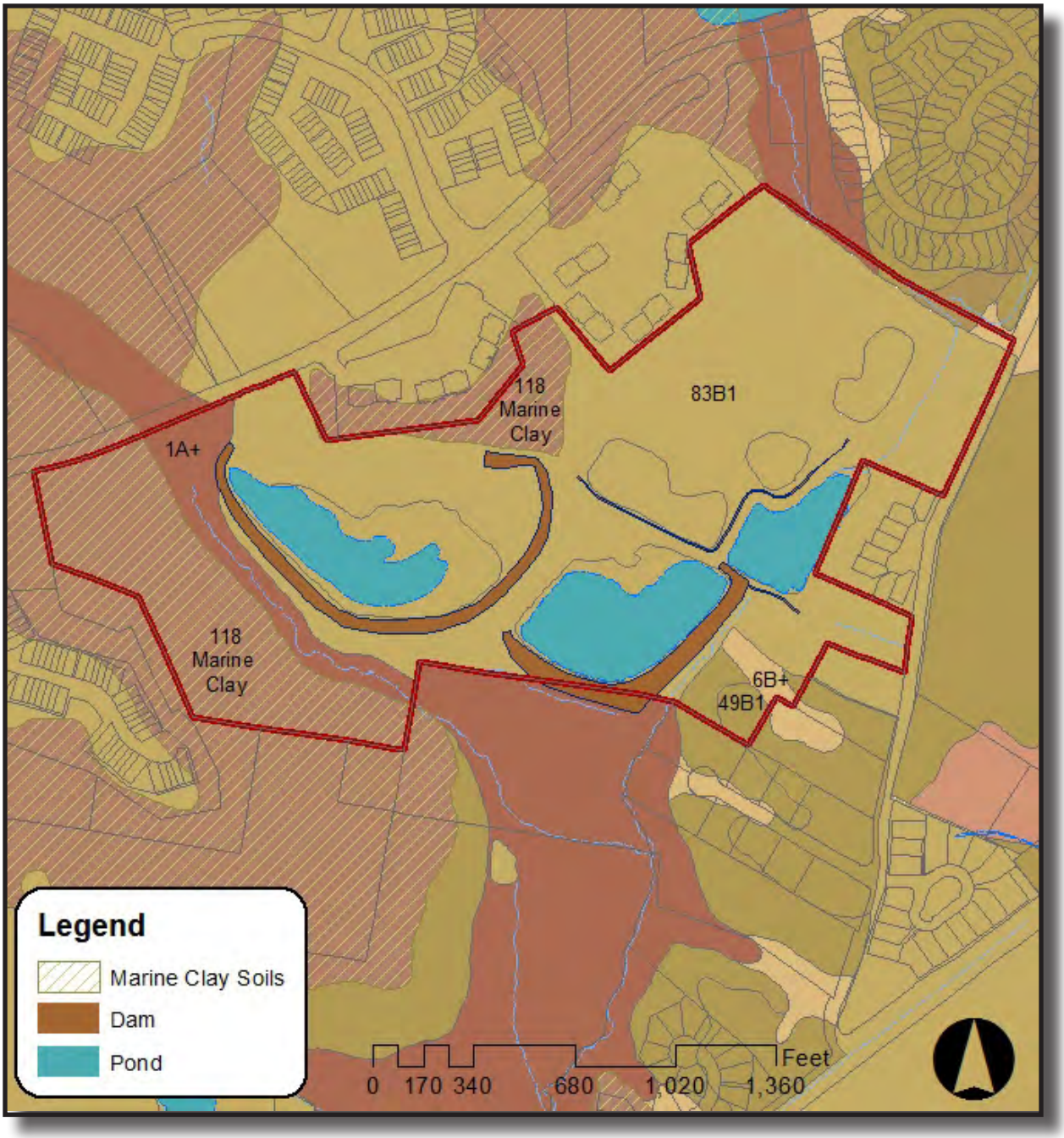

Figure 10: Kingstowne Park Soils Map

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Table 2: Soils Information

Kingstowne Park Soils	
	Name and Description
1A+	Mixed Alluvial (0-2% slopes) This soil is derived from recent soil materials which have washed from the uplands and deposited along the stream bottoms. It consists mainly of somewhat poorly and poorly drained soils and mixed soil materials including very sandy areas and gravelly bars. In some places there are thin layers of brown silt loam and fine sandy loam materials over strata of gravel. It is subject to frequent flooding and needs drainage in many places for both farm and urban uses. The soil is acid in reaction in most places.
6B+	Hyattsville Fine Sandy Loam Hyattsville fine sandy loam is a deep brown, well t somewhat poorly drained fertile soil that occurs along upper drainageways in the higher Coastal Plain areas of the county. It has a brown thick loam surface soil and yellowish brown to strong brown loam to fine sandy clay loam subsoil. It is formed from materials that have washed principally from the Lunt and Wayside soils of the Coastal Plain region of the county. It is easy to work and conserve, productive of many crops and is strongly acid. (pH 4.5-5.2)
49B1	Lunt Fine Sandy Loam This soil is a brown, moderately deep, well drained soil that is derived from sand, silt and clay materials of the high Coastal Plain terraces. It is usually bounded by the Wayside and Beltsville soils on the higher elevations, and by the Matapeake, Mattapex and Sassafras soils on the lower elevations. Its surface soils are brown to dark brown loams and fine sandy clay loams to heavy plastic clay. The texture is very variable in the subsoil. Workability is very good, productivity and conservability are good, and the fertility if fair. The soil is not extensive. It is strongly acid. (pH 5.0-5.5)
83B1	Galestown Loamy Fine Sand, Nearly Level Phase (83B1) * (0-2% slopes) This is an excessively drained, droughty, light brown, sandy soil that occurs near Gunston Cove on the lower Coastal Plain area of the county. It has a dark grayish brown, loose, loamy fine sand surface layers and strong brown to very light yellowish brown loamy fine sand subsoil layers. A few thin iron pan layers are characteristic below 45 inches but are not continuous. Workability is excellent, conservability is fair and productivity and fertility are low. This soil is very stongly to strongly acid. (pH 4.5-5.5)
118	Potomac Clay (Marine Clay) This is not a true soil in that it lacks a well defined profile with an easily distinguished surface soil and a well developed subsoil. There may be one to two inches of a light brown to dark brown silt loam surface that varies in color from brown to brown with a greenish cast. This thin layer of surface soil overlies deposits of cretaceous age Potomac group clay and silty clay. These deposits of clay are highly fractured and broken. These deposits vary in thickness from 20 feet to as much as 40 feet or more. This group of soils has been called locally “Marine Clay” for a number of years. The clay to silty clay layer that underlies the two or three inches of surface soil is plastic and sticky when wet and becomes quite hard when dry. This Potomac Clay layer contains sand lenses that may be water bearing. This is especially true where these lenses are connected to overlying porous material such as sand or sand mixed with gravel. In areas where the clay stratas have been exposed for long periods during the removal of gravel or during grading operations, the clay shrinks during long dry spells. Shrinkage results in deep cracks and fissures creating more serious deep-seated progressive clay instability. This wetting and drying with the large exposed cracks has triggered some of the landslides in Fairfax County. In most cases, land slippage has occurred on slopes that exceed 16.0 percent.

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b) Hydrology

Figures 11 and 12 show the hydrolic features and area watersheds. Kingstowne Park lies within the Dogue Creek watershed. Within the Kingstowne Park site, there are two unnamed tributaries to Piney Run. One stream located in the western portion of the site, runs generally north/south across the site. A second tributary is located along the eastern edge of the property. This stream feeds into Pond 5. Pond 5 then outfalls back to the natural channel for the tributary. Both streams join and become a single tributary off-site south of the park.

The Belle Haven, Dogue Creek and Four Mile Run Watershed Management Plan notes that while Piney Run was not ranked among high priority areas for stream problems, there were a few localized areas where potential projects were identified. No projects were located within the park.

There is a general recommendation in the watershed plan to monitor beaver dams as potential obstructions and to remove them if they are found to be contributing to erosion or flooding.

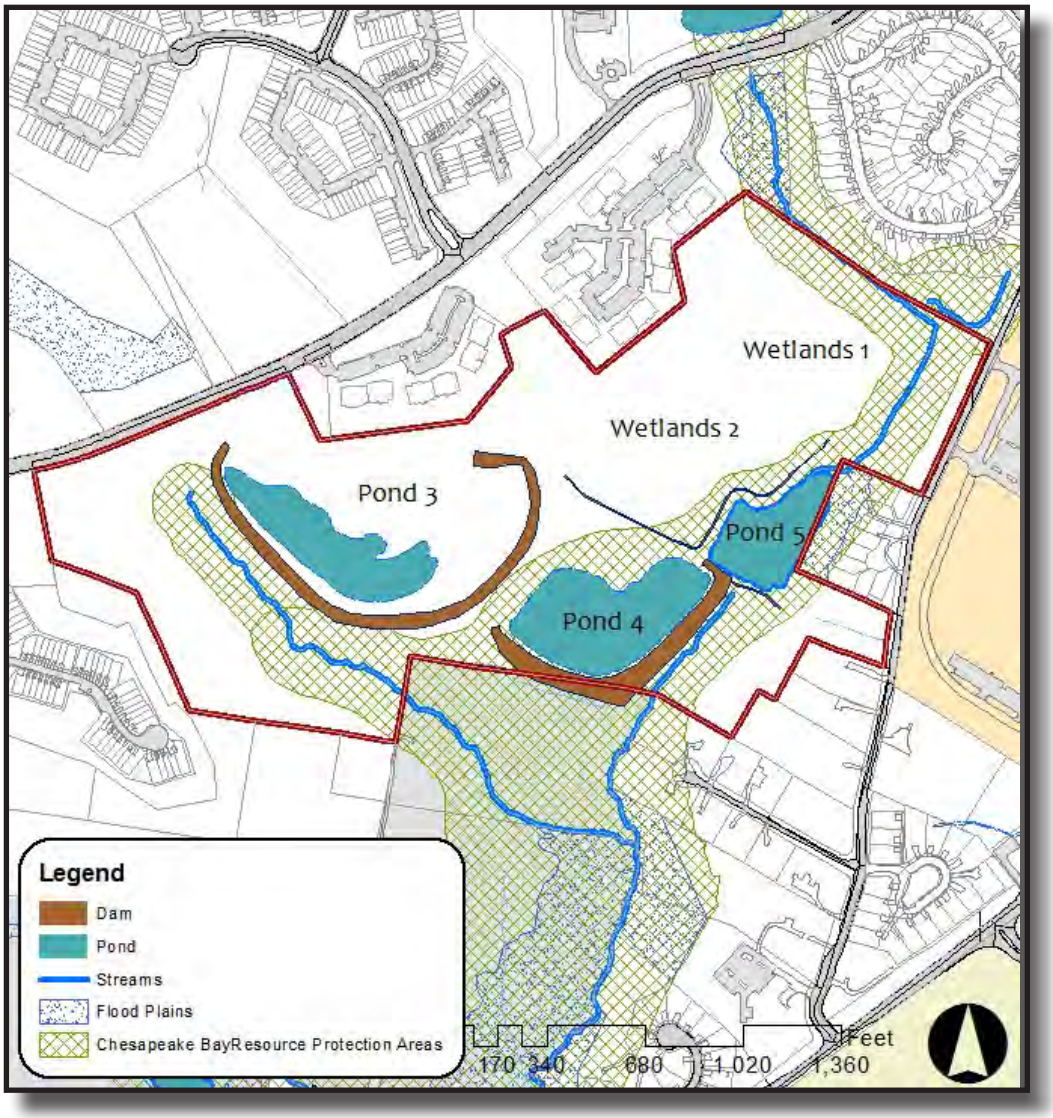

Figure 11: Kingstowne Park Hydrology Map

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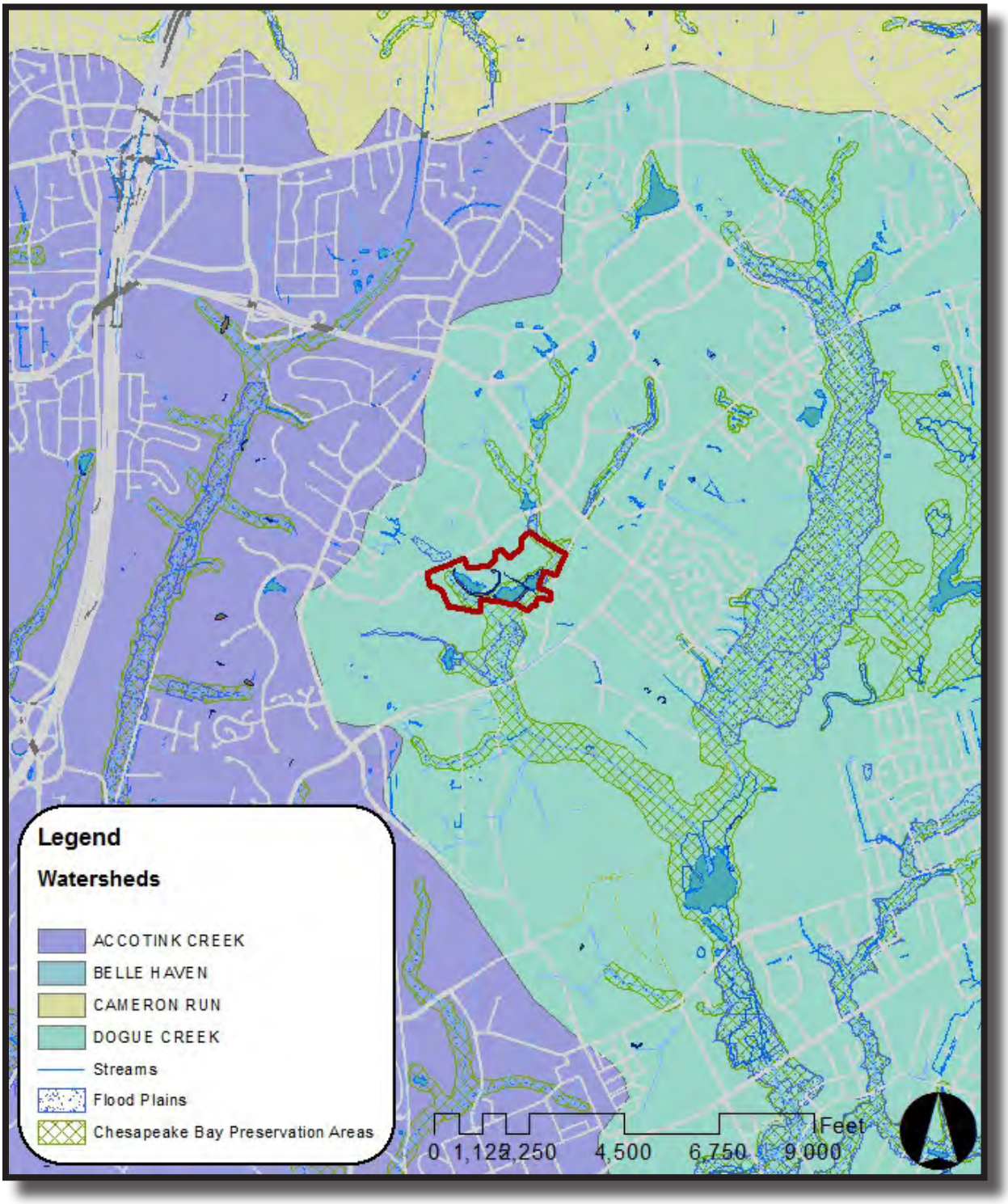

Figure 12: Watershed Map surrounding Kingstowne Park

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c) Vegetation

Previous to the park dedication, the site was used as a commercial quarry and as such a majority of the site was denuded of vegetation. In the years since the cessation of the quarry operations, vegetation growth has occurred. The vegetation in the park is typical of that which would be established in a highly disturbed area. It has valuble natural resource functions and provides wildlife habitat. No known or suspected sensitive resources are present and the site contains many non-native invasive species.

The stabilized wetland mitigation areas are disturbed but provide important wildlife habitat and public education opportunities. There are areas of early succession forest, wet and dry meadows, temporary emergent and forested wetlands and permanent open water habitat used by many aquatic or aquatic associated organisms including invertebrates, fish, reptiles and birds.

There are two portions of the site which contain fair to very good quality natural resources. Resource Area 1 is a small forest stand just west of the picnic area along the northern edge of the park that contains mature tree cover. Resource Area 2 is a 10-acre forest block on the west side of the park that contains very good quality upland forest with intact soils. (Figure 13)

Resource Area 1

The first natural resource area is located In the central portion of the park just northwest of the picnic area and across the trail is a stand of mature trees. This stand has dominant tree species including White Oak (Quercus alba),

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Tulip Tree (Liriodendron tulipifera), Red Maple (Acer rubrum) and American Holly (Ilex opaca). This composition is of a mid-succession forest and seems to reflect the type of forest that was likely present before significant disturbance in the mid-20th century. This site has significant coverage by non-native invasive species, but could be recovered over time as resources allow to improve the forest stand health. The stand provides positive natural resource benefits as is, as well as educational, recreational and aesthetic benefits for park users.

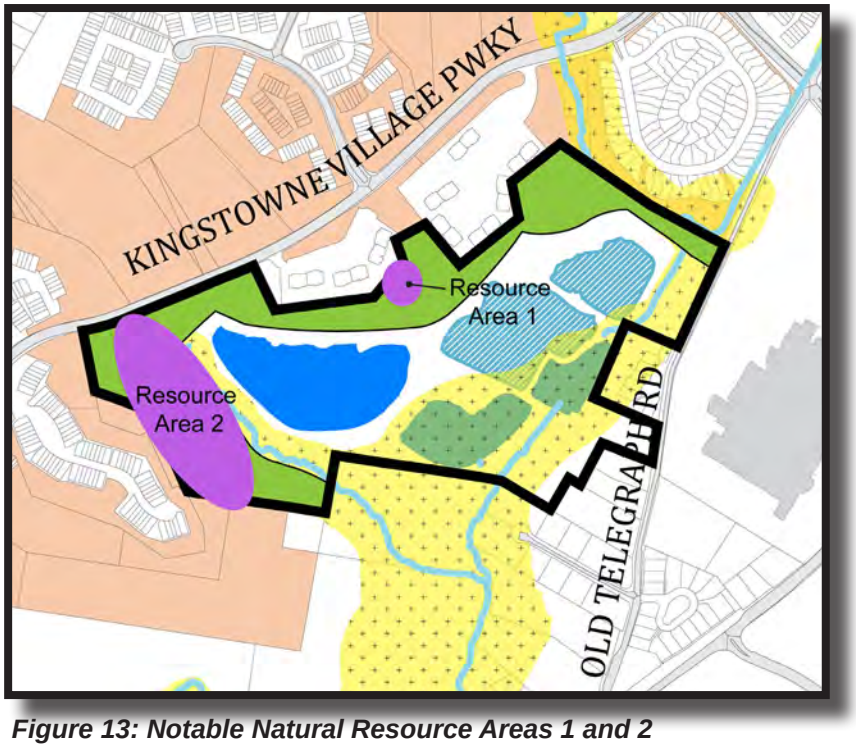

Figure 13: Notable Natural Resource Areas 1 and 2

Resource Area 2
A second natural resource area is located along the western boundary of the park. This forest block is about ten acres in size and contains both side slope forest and riparian forest communities.

About 60% of this forest stand represents one of the best remaining examples of native coastal plain forest remaining in eastern Fairfax County. The overstory is composed of White Oak, Chestnut Oak (Quercus prinus), Tulip Tree, Sweetgum (Liquidambar styraciflua), Mockernut Hickory (Carya tomentosa), Virginia Pine (Pinus virginicus) and American Holly (Ilex opaca). The understory contains a dense concentration of Maple-leaved Viburnum (Viburnum acerifolium), both Low-bush and High-bush Blueberry species (Vaccinium sp.), Strawberry Bush (Euonymous americana), Flowering Dogwood (Cornus florida), Sassafras (Sassafras albidum), New York Fern (Thelypteris noveboracensis) Christmas Fern (Polystichum acrostichoides), Partridge Berry (Mitchella repens), and numerous tree seedlings and fungi. While the presence of Virginia Pine and Oaks indicate that the forest is in mid-succession, the numerous multi-stemmed mature hardwoods indicate that the area was logged likely at least 30 to 40 years ago, and that a deciduous forest was present when it was logged. As a result, the soils on

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site have likely not been much disturbed for well over 100 years, and the floral and fugal diversity is very high. The deer browse is currently moderate, offering diversity and abundance of native species in the shrub layer. The number and abundance of non-native invasive species (NNIs) in this side-slope forest block was also low, and there was little evidence of scour from run-off from the adjacent up-slope housing. Immediate and long-term forest health will rely on limiting human activity, controlling white-tailed deer, and controlling NNIs.

A second portion of this forest block further to the south and along the small stream running from Kingstowne Village Parkway is in a more degraded condition with almost complete overstory dominance by Tulip Tree and a much higher presence of NNIs. This indicates a different disturbance pattern than the more mature, intact forest block. It is likely that the soils in this area were disturbed as part of the prior land use, removing root and seed stock of many species and making it more susceptible to the spread of NNI plant species. There is also scour along the floodplain forest due to flooding from the small stream within the Resource Protection Area (RPA). The site did contain two Sweetbay Magnolias (Magnolia virginiana). The presence of this species in the floodplain at the toe of a large slope in soils derived from coastal gravel and sand bends underlain by marine clay (all visible in numerous cut channels along the stream) indicates that before this stream was down-cut from historic land uses, the site likely contained seep forest communities similar to the one found on the northern edge of Old Colchester Park located on Mason Neck.

d) Wildlife

A wildlife survey has not been conducted for this park, but observations by Park Authority staff indicates various bird species and squirrels within the park. These species are all typical of the region and would be expected to tolerate park use by visitors. Area residents have also noted the presence of deer, fox and rabbits throughout the site.

e) Rare Species

Although a formal survey has not been undertaken, there are no documented records of rare, threatened or endangered species on the site according to data from the Department of Natural Heritage. Park Authority staff noted no such species during site visits throughout the Master Plan process.

f) Resource Management

Resource Protection Area (RPA) is designated through the southern portion of the park, as defined and mandated by the Chesapeake Bay Preservation Ordinance. Limited disturbance is permitted within the RPA for features such as trails; however, new, non-critical facilities are discouraged.

The floodplain and Resource Protection Area associated with Kingstowne Park are identified in the Hydrology map (Figure 11).

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2. CULTURAL RESOURCES AND SITE HISTORY

Much of the cultural history of the Kingstowne Park is derived from historical accounts of the area. Disturbance of the site related to the industrial quarry use of the property has effectively eliminated the likelihood of uncovering any artifacts that would identify specific archaeological references to the site's past. It could be assumed, however, that Native Americans would have inhabited the area through much of the site's past. The presence of a tributary stream would likely have been attractive to small hunter-gatherer groups that inhabited the region as far back as 11,000 years ago. Within the general area, artifacts have been found that indicate the continued development of larger, more complex communities over time. Warming climate trends and greater diversity of floral and faunal species continued to foster a less nomadic lifestyle among native populations in the region as indicated by finds of pottery and structural remains dating to 3,000 to 5,000 years ago.

In 1694, a Northern Neck Grant in the area was granted to William Williams and was later sold to George Mason in 1723. By 1860 the land had been so divided that the park was on land owned by three different people: James Potter, Charles Potter and Richard Windsor.

As late as the mid 1930's the site was undeveloped and contained mature forest canopy and several small perennial streams. Development pressures are evidenced in the surrounding properties as the aerial shows. Extensive clearing for farming is apparent east of the site.

Figure 14: 1937 Aerial photo (Fairfax County)

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By the mid-1960s the site was the location of a quarry and slurry operation (Virginia Concrete Co. and Lehigh Portland Cement Co.) which effectively denuded the site of natural and cultural resources. Only the far western edge of the site remained uncleared.

Figure 15: 1963 Aerial photo (Fairfax County)

By the 1980s the quarry operations were winding down. The land was consolidated and rezoned for the Kingstowne Community development. The aerial photograph shows the construction of Kingstowne Village Parkway along with some of the earliest housing complexes in the community. This planned community contained 964 townhouse lots, apartment units and single family homes. The land that had previously been the quarry was proffered and dedicated to the Fairfax County Park Authority and Board of Supervisors.

Figure 16: 1988 Aerial photo (Fairfax County)

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Figure 17: 2009 Aerial photo (Fairfax County)

In the decades since the proffered park dedication and transfer, Kingstowne Park has been left relatively undisturbed. The forest has grown back and the park has become a habitat for local wildlife. This entire site has not returned to a fully undisturbed state as there are now two permanent wet ponds and three permanent wetlands basins located on the site.

3. EXISTING INFRASTRUCTURE

a) Utilities

There is a 120' wide Dominion Power easement running north/south in the eastern portion of the park. This easement is the location of power distribution towers and not available for electric service.

The surrounding neighborhoods and properties are fully served by electric, water and sewer. No park facilities are being proposed that would require utility service.

b) Access and Circulation

i. Vehicular Access and Parking

There is no vehicle access or on-site parking. Currently park visitors walk or bike to the site. Those who drive, park along Old Telegraph Road where permitted or in the Hayfield Secondary School parking lot on the southeast side

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of the park.

The existing Park Authority maintained trail also serves as park maintenance access for park operations. A separate maintenance road for dam access and service is located on the south east boundary. Dominion Power accesses its easement from Kingstowne Village Parkway to the north.

ii. Pedestrian Access and Trails

A single maintained stone dust trail is currently located within the park. This trail has three access points to the surrounding community, one along Old Telegraph Road, another on Kingstowne Village Parkway and a third that connects to a trail on KROC-owned land on the northern portion of the site.

The park site and lake areas have been used by park visitors for decades. Over time a network of social trails, not maintained by any public entity, has been established around the site.

Anecdotal information also indicates use of the site by motorized vehicles. This use is prohibited and the site is posted and enforced by the County Police.

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IV. PARK MANAGEMENT

A. PARK PURPOSE

Park purpose statements provide a framework for planning and decision-making. If a proposed use conflicts with any one of the purposes listed, it is considered an incompatible use. By establishing a park purpose, future plans remain flexible as legislative requirements and visitor preferences change. The purpose of the Kingstowne Park is three-fold:

- To provide opportunities for outdoor enjoyment and casual recreation;
- To preserve and enhance natural resources within the park;
- To preserve the wetlands mitigation areas and to offer the opportunity to upgrade the existing ponds to provide stormwater management.

B. PARK SIGNIFICANCE & RECREATION NEEDS

The population in the Rose Hill Planning District has increased significantly in the last 20 years. Much of the population increase is due to the development of Kingstowne and Manchester Lakes communities which added 6,590 residential units in the district during the 1990's. The district was built out during that period and now the population growth has leveled off.

From an environmental standpoint, the Rose Hill Planning District includes significant headwater areas for Dogue Creek and Cameron Run. Those headwaters are largely developed and there are few stormwater controls. The result is often severe degradation within many streams, and the streams arriving in our larger parks generally are subject to high storm flows and carry a heavy sediment load. The need to minimize and reduce the impact of these sediment loads, increases the value and importance of retaining and improving the existing stormwater management areas in the park.

Kingstowne Park provides one of the largest undeveloped areas in the Kingstowne community. While the majority of the park is undevelopable, it offers opportunites for outdoor enjoyment, casual recreation, resource protection and the potential to address some County stormwater needs.

C. DESIRED VISITOR EXPERIENCE

Kingstowne Park is envisioned as a local park that will draw users from the adjacent neighborhoods and the larger community within the service area, roughly defined as a three-mile radius. The intention is to provide a balance between active stormwater management facilities, passive recreation opportunities, wildlife habitat and natural resource preservation.

User visits typically last from thirty minutes to two hours. As such, the park is unstaffed and includes primarily trails with multiple points of access. An orientation area/information kiosk could be sited at one of the park's main entrances to provide general information about park features at the site as well as other nearby park sites. Visitor amenities may include benches, trash cans, and picnic tables and would primarily be located at or near the picnic area.

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D. MANAGEMENT OBJECTIVES

In order to achieve the park's purpose, the following objectives have been developed to guide specific actions and strategies for dealing with management issues. Kingstowne Park should:

- Provide opportunities for enjoyable outdoor experiences in designated areas of the park;
- Reserve the wetlands function of the park and provide an opportunity to upgrade the existing ponds to serve a stormwater managment function ;
- Minimize development and disturbance of the natural areas in both the park areas and the stormwater areas.

E. RESOURCE & SITE MANAGEMENT

1. Natural Resource Management

Natural resources should be managed for good health. This includes invasive species removal and utilization of good forestry management procedures in the resource areas shown on Figure 13.

Resource Area 1
Natural and paved surface trails are appropriate uses in this area. Facilities and amenities to support natural resource management and interpretation such as trailheads, directional and interpretative signage, benches etc. are appropriate in this area. Care should be taken to avoid soil and vegetation disturbance when locating any trails and amenities in this area.

Resource Area 2
Due to the presence of the high-quality intact side-slope forest and the floodplain forest community within an RPA, access to the area would best occur as a single trail along the interface where the floodplain meets the side slope but not extending into the side-slope forest. It is further recommended that there be no development of any park facilities, or the disturbance of vegetation and soils other than for resource management activities (e.g., removal of non-native invasive plant species, implementation of a forest management plan, etc.).

2. Cultural Resource Management

There are no identified cultural resources in this park that require management. Interpretation of the site history or local history may be appropriate.

3. Site Considerations

The Park Authority's area maintenance crew will provide periodic maintenance and repairs to the designated park areas only. This includes mowing as needed, trail maintenance, trimming underbrush if encroaching on park use areas, emptying trash at the picnic area and other similar tasks. Other maintenance tasks include inspection of facilities and equipment; cleanup; limbing-up of trees for safety purposes; tree removal for safety and access purposes only; and repairing trail sections as needed. The maintenance crew also responds to any park issues brought to their attention by citizens or staff.

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The areas designated as Stormwater Management Areas will be placed in an easement under the control of the County. As easement holder, the County's responsibility will include maintenance of the ponds and dams, maintenance and upkeep of the wetlands mitigation areas as required by the consent decree and any site work that may be needed for dam safety and repairs.

Photo 5: Footpath by Pond

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V. GENERAL MANAGEMENT PLAN/ CONCEPTUAL DEVELOPMENT PLAN

A. INTRODUCTION

A General Management Plan (GMP) provides a general delineation of park areas and uses. The GMP is used to establish appropriate use zones and operations management criteria for the site.

A Conceptual Development Plan (CDP) provides recommendations for general locations of future park elements and facilities within the Park Zone only. 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 park elements. A combined GMP/CDP plan graphic has been developed for Kingstowne Park. (Figure 18)

Development of the Kingstowne Park GMP/CDP is based on community preferences in relation to the existing site conditions and functions as previously described. The plan is conceptual in nature and new facility locations will be determined through more detailed site analysis, design and engineering that will be conducted as funding becomes available for further park improvements. Final site design will be influenced by site conditions such as topography, natural resources, tree preservation efforts, and stormwater and drainage concerns as well as adherence to all pertinent County codes and permitting requirements.

B. GENERAL MANAGEMENT PLAN (GMP)

General Management Zones are intended to categorize park areas based on potential use and operational needs. Zone types determine maintenance schedules, areas of responsibility and generally represent the character of the park section. Kingstowne Park has two general management zones.

1. Stormwater Management Zones
Two Stormwater Management (SWM) Zones comprise the ponds and wetlands generally located in the southern portion of the site. These zones will be used primarily for maintenance of the existing ponds and wetlands mitigation areas and placed in a stormwater management easement with the County who will be responsible for maintaining this portion of the site. Management decisions for site maintenance and public use will be at the sole discretion of the County to ensure the proper function and safety of the wetlands, ponds or any other stormwater facility that may be constructed.

2. Park Zone
The Park Zone is the remainder of the park surrounding the stormwater managment zones and contains the most suitable areas for park facility location and visitor use. The Park Zone will be maintained by the Park Authority in accordance with the standard schedule for trail and picnic area uses.

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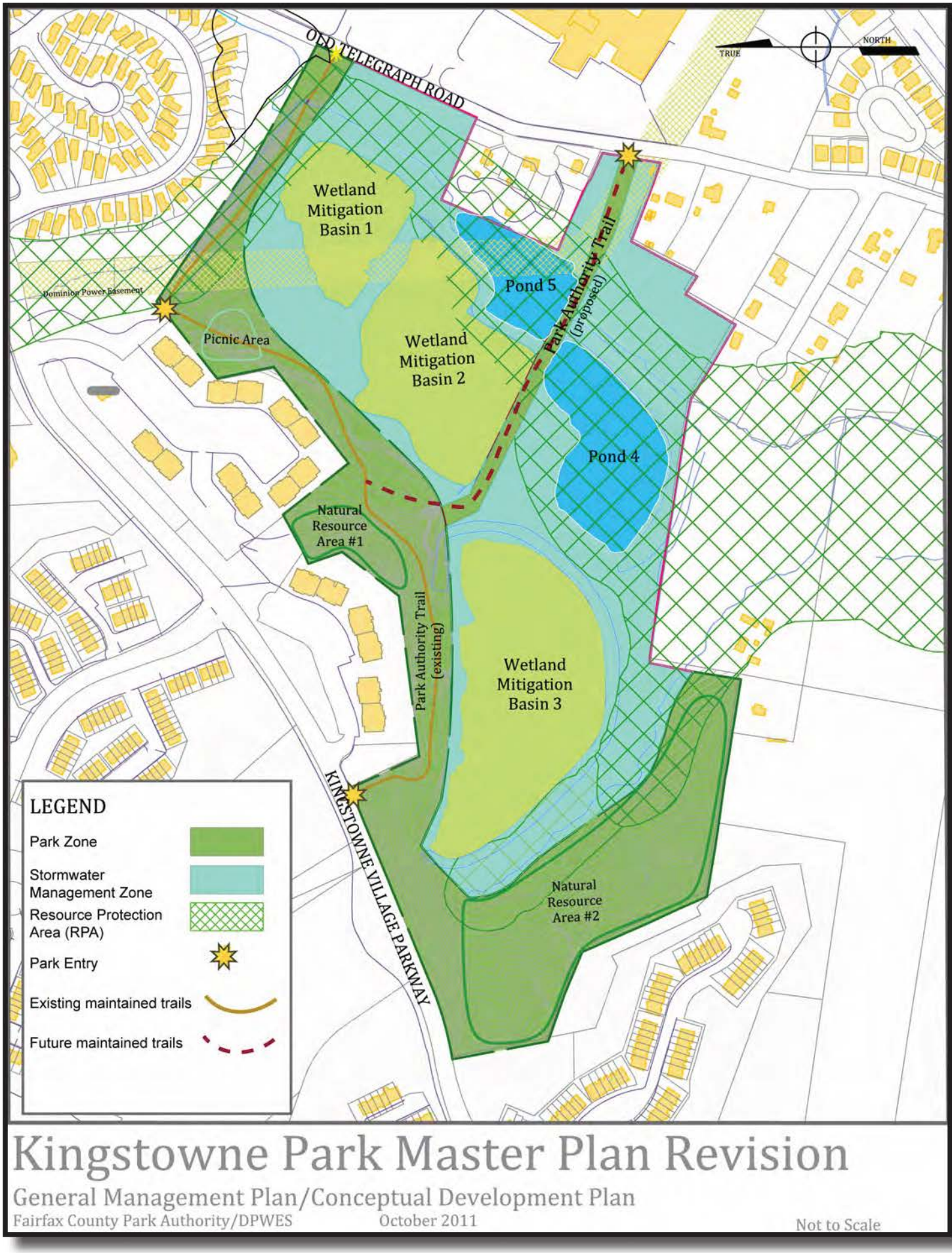
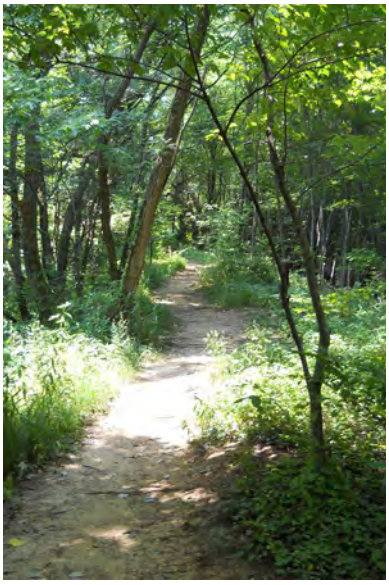


Figure 18: Kingstowne Park Master Plan GMP/CDP

C. CONCEPTUAL DEVELOPMENT PLAN (CDP)

The CDP provides general locations and recommendations for park facilities within the Park Zone only. The exact location of any additional park facilities will be determined by the site conditions at the time of design and construction.



1. Park Trails

The master plan includes two Park Authority sanctioned trails on the site, one existing and one proposed. The existing trail runs generally east to west with connections to Old Telegraph Road and Kingstowne Village Parkway. It should remain in this location. A trailhead and information kiosk could be located at the Old Telegraph Road entrance to provide trail or park information to park users.

A new trail is recommended to be located generally north/south as shown on the CDP, and would also connect to Old Telegraph Road just south of Hayfield Secondary School. A trail section at this location will require the installation of a bridge across the dam at Pond 5. This bridge shall be of sufficient width and load bearing capacity to allow for periodic use by Park Authority maintenance staff. The bridge or dam crossing shall be the responsibility of the County due to its integral nature as part of the dam structure. These trails will meet Park Authority standards for surface materials, width and maintenance.

An extensive network of social trails exists in the site, primarily in the SWM Zones. The trails will remain as is without official Park Authority or County maintenance. There may be an opportunity for a local community group to adopt and provide maintenance of a social trail nextwork with County approval.

Many of the trails are located along dam edges and other areas that may be unsafe and/or disturbed for dam repairs or upgrades. These trails will not be restored in instances where they need to be removed for safety or maintenance purposes.

2. Picnic Area

The northeast corner of the park contains a picnic area with picnic tables. Trails provide access to the site as no parking is planned on the site.

3. Signage

Park signage and an information kiosk is recommended to be located at the park trailhead on

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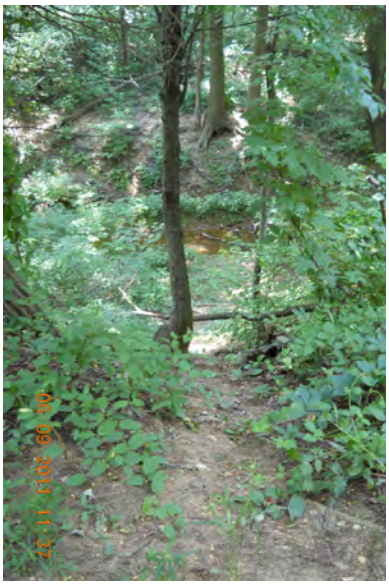
Old Telegraph Road across from Hayfield Secondary School. Interpretive signage should be located throughout the site where appropriate. Additional signage is recommended in the SWM areas to explain the purpose and to warn of potential danger of the areas.

4. Natural Resource Areas

Natural areas are prevalent throughout the Park Zone. There are two areas within the Park Zone which contain more notable quality natural resources.

- Natural Resource Area 1 is a small forest stand just west of the picnic area along the northern edge of the park that contains mature tree cover.

- Natural Resource Area 2 is a 10-acre forest block on the west side of the park that contains very good quality upland forest with intact soils.

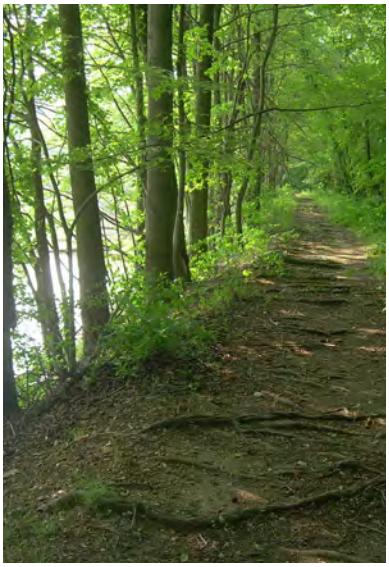


These areas should remain preserved in their natural state and managed for invasives and overall forest health. Social trails may develop, but will not be maintained due to the difficulty of providing park maintenance services in this portion of the site.

Future adjacent development may propose to provide trails and desire to connect to the park. In order to best protect the forest stand, official trails in this area of the park should be limited to a single Park Authority maintained trail, either natural surface or asphalt, located with the guidance of park resource management and trails specialists.

D. DESIGN CONCERNS

As master plan elements are implemented, the following design concerns provide guidance for future development activies.



1. Public access to ponds and other areas in the Stormwater Management Zones

Public input during the planning process expressed a preference to preserve or upgrade the existing social trail network on-site and in particular in the stormwater management areas and around the tops of the dams. Given the potential safety issues, the age of the dams and the potential for extensive repairs and reconstruction of the dams, neither the Park Authority nor the County is able to sanction use of these trails. Trail adoption by a local group who provides trail maintenance is an option for preserving any social trails in this zone.

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2. Parking and vehicle access

The park will continue to be accessible by foot or bike only. Off-site parking is available at Hayfield Secondary School, along Old Telegraph Road where permitted and at the KROC offices located across Kingstowne Village Parkway.

3. Community connections

The proposed trail network on the GMP/CDP provides several trail connections to the surrounding community. Extension of these trails into adjacent KROC and other lands is encouraged to expand the trail network throughout the Kingstowne community.

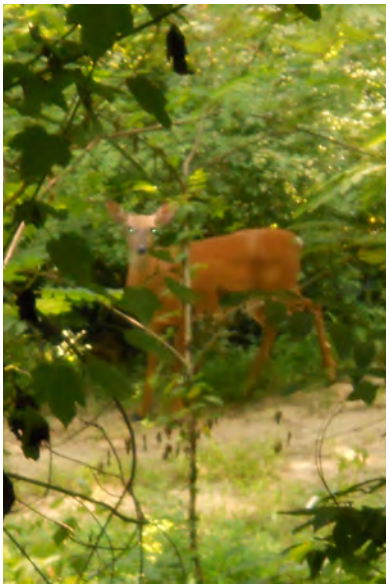
4. Pond safety issues

While public input during the Master Plan process expressed an interest in greater pond access for recreation uses such as fishing and boating, the pond areas are considered dangerous and not suitable for public recreation. Dam failures not withstanding, years of inadequate upstream stormwater controls have resulted in heavy siltation of the ponds. This silt has created dangerous quicksand like conditions in low water areas of the ponds. No facilities are recommended that would encourage recreational use of the ponds.

5. Natural areas and other wildlife habitats

Since the cessation of the quarry activities at the site in the mid 1980's, the site has been left virtually untouched. As time has passed, the site has become a forested natural area providing extensive wildlife habitats. The ponds provide safe haven for a variety of animal life including water fowl, beavers and turtles. The power distribution towers have become nesting areas for birds of prey as nature has claimed the site for its own. There is strong public interest in maintaining this natural habitat.

Most of the dam embankments are covered with mature canopy trees. Trees are generally prohibited from dam embankments due to the root systems weakening the dams and causing potential for failure. While current maintenance operations do not recommend removing the trees from the entire embankment, this option may be unavoidable in the future in order to repair or replace the dam embankments.



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