

Lower Neshaminy Creek Trail Feasibility Study

January 2016

Prepared for:

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Feasibility Study for the Lower Neshaminy Creek Trail

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The views expressed herein are those of the author(s) and do not necessarily reflect those of the Commonwealth Finance Authority or the Pennsylvania Department of Community and Economic Development.



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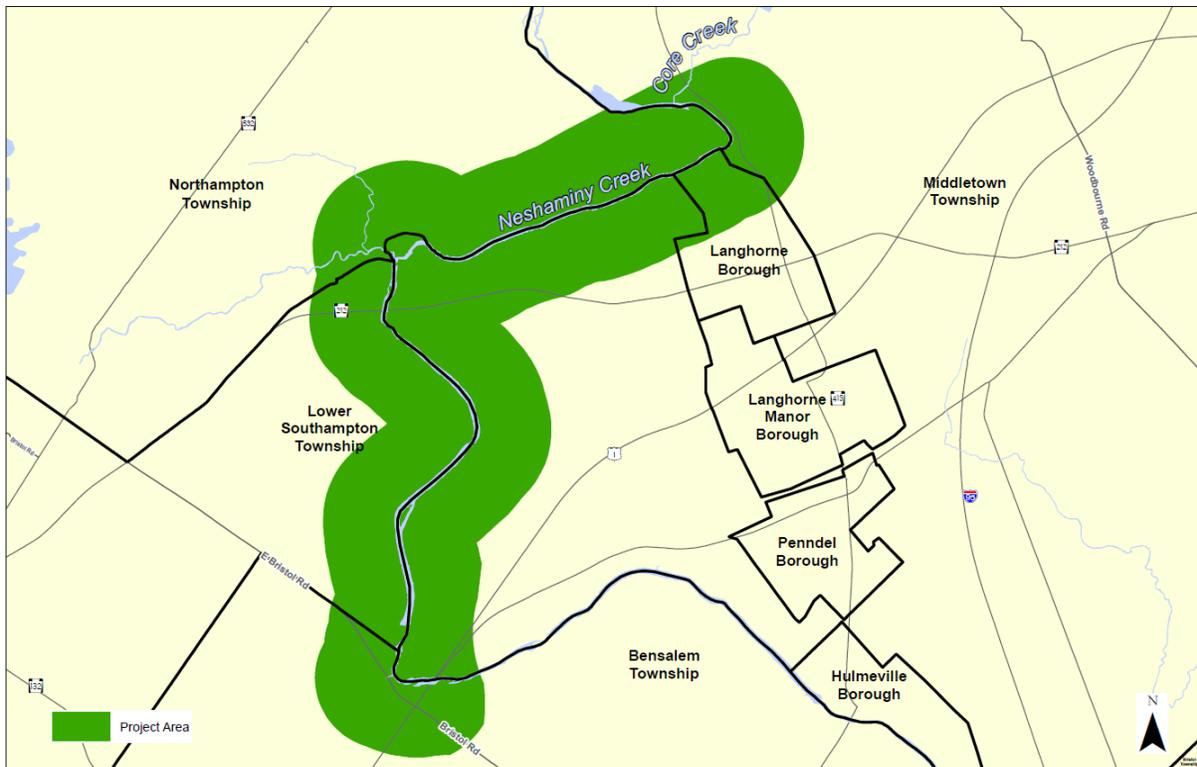
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EXECUTIVE SUMMARY

The County of Bucks is in the early phases of planning for the development of a recreational trail system in the Neshaminy Creek corridor. The portion of the Neshaminy Creek corridor evaluated by this study, also known as the Lower Neshaminy Creek, begins at the confluence of the Neshaminy Creek with Core Creek at the intersection of Bridgetown Pike and Newtown-Langhorne Road (PA 413), and ends just south of the dam at Neshaminy Falls. The corridor includes floodplain and riparian areas and is characterized by wetlands, forested areas, and toward the southern end, very steep, vegetated slopes. The corridor traverses Northampton, Middletown, Lower Southampton townships and a small portion of Bensalem Township, as well as Langhorne Borough.

Map 1 – Lower Neshaminy Creek Trail Project Area



The lands within the corridor are owned by a variety of landowners. Between Core Creek Park and Playwicki Park, the land along the north side of the creek in Northampton Township is a combination of privately-held property and county parkland, and property owned by Norfolk Southern Railroad to the south in Langhorne Borough and Middletown Township. Between Playwicki Park and Brownsville Road, lands along the east side of the creek in Middletown Township are a mixture of privately-held property and county-owned property acquired via the Natural Resources Conservation Services flood buyout program, with the Woodlyn Crossing Home Owners Association owning the property along the west side of the creek in Lower Southampton Township. From Brownsville Road to the end of the corridor, lands along the east side of the creek in Middletown Township are a mixture of municipal parkland, private property, property owned by the Neshaminy School District, and Aqua America while land to the west side of the creek in Lower Southampton Township and Bensalem Township is owned by individual private property

owners, two neighborhood associations, including Neshaminy Woods and Neshaminy Hills Camp, and county-owned parkland.

The idea for a linear park along the Neshaminy Creek goes back to 1955 when the Bucks County Parks Board recommended the creation of a linear park system along various stream valleys in the County including the Neshaminy Creek. Both the 1974 *Bucks County Park Plan* and the 1986 *Bucks County Park and Recreation Plan* encouraged the establishment of a link park extending the full length of the Neshaminy Creek. Additionally, the Neshaminy Creek greenway was identified as a proposed greenway in the Delaware Valley Regional Planning Commission's long range plans, *Destination 2030 and Connections 2040*, and in the *Bucks County Open Space and Greenways Plan* (2011). The greenway has also been identified as a proposed bicycle path in the *Bucks County Bicycle Plan* (2012) and is part of The Circuit, a proposed 750 mile system of trails throughout the greater Philadelphia region.

The *Lower Neshaminy Creek Trail Feasibility Study* was initiated to further evaluate the feasibility of the trail recommended by these previous planning studies. The project was financed in part by a grant from the Commonwealth of Pennsylvania, Commonwealth Financing Authority, administered by the Pennsylvania Department of Community and Economic Development (DCED). Funding provided by the Commonwealth Financing Authority was made possible by funds transferred to the Commonwealth Finance Authority from the Marcellus Legacy Fund.

As part of the planning process, the Lower Neshaminy Creek Trail Feasibility Steering Committee was established to help direct the production of the project and will be an important resource for moving the trail forward. The Steering Committee consisted of stakeholders and representatives representing the municipalities along the proposed trail route, as well as representatives from land conservation and recreational user groups. In addition to the insight provided by the steering committee, input was derived through a public involvement process that included meetings with stakeholders, two public workshops, and posting of the draft study for public comment on the Bucks County website.

The *Lower Neshaminy Creek Trail Feasibility Study* evaluates existing conditions, connections to nearby destinations, available public lands, existing trail sections, conservation easements, and other opportunities and constraints. The study considers a series of alternatives and possible trail alignments and presents an opinion of probable construction costs for different alignment scenarios.

Construction of a regional trail along the Lower Neshaminy Creek corridor is feasible, although there are several challenges for implementing the project that will need to be addressed. The opportunities and constraints identified and discussed in this study are as follows:

Opportunities

- Many residents along the proposed project corridor support the development of a multi-use trail to serve as a community transportation and recreation resource.
- The trail will increase access for residents of Bucks County to the natural areas along the creek corridor.
- The trail would be located adjacent to Neshaminy High School and provide outdoor educational opportunities.
- The trail would provide connections to public transportation.
- The trail would connect to other proposed trail systems including the Bensalem Township Neshaminy Creek Trail proposed in the Bensalem Township Greenways & Trails Feasibility

Study (2008) and the Middle Neshaminy Creek Trail (Study in progress). The Middle Neshaminy Creek Trail is proposed to also connect into Core Creek Park.

- The trail would provide connectivity to adjacent residential developments.

Constraints

- Presence of natural resources and wildlife habitat within the corridor will need to be protected as part of the development process.
- Construction of boardwalks will be required to minimize impacts to wetlands.
- Due to the heavily developed nature of the project area, significant wetlands in several areas, steep slopes, property ownership conflicts and other constraints, some segments of the trail will need to be on-road and/or along trails placed in the right-of-way along roads.
- Funding for both the development and ongoing maintenance of the trail will be needed.
- The section of the trail extending from Neshaminy High School to Bristol Road poses several challenges including safety concerns associated with the quarry located on the adjacent AQUA PA property, steep slopes which will require significant retaining walls, the need for a bridge to cross the creek just north of Neshaminy Falls, and the inability, at least at this time, to cross Bristol Road to make the connection to the Neshaminy Falls SEPTA station.
- There are several properties where the acquisition of trail easements or acquisition of private property will be required.

The Lower Neshaminy Creek Trail is envisioned as a non-motorized, multi-use trail serving as a key component of the County’s developing trails network. Anticipated trail use activities include walking, hiking, running, birding, and bicycling.

The Lower Neshaminy Creek Trail will generally have a smooth surface designed to accommodate pedestrians, bicyclists, wheelchair users, and strollers. Where possible, the trail will be accessible for maintenance, police, and fire and emergency vehicles. The paved surface of the multi-use trail will generally be a minimum of 10 feet wide and constructed to meet ADA guidelines for accessibility. However, as much of the trail will be on-road and traverse steep slopes, it may not be possible to achieve full ADA compliance. This would be determined in the design and engineering stage of this long-term project.

The study evaluates and assesses the trail by three segments.

Table 1 – Lower Neshaminy Creek Trail - Trail Segments

Segment	Segment Boundaries	Nature of Trail
1	Bridgetown Pike / Newtown-Langhorne Road intersection to Playwicki Park	Primarily off-road
2	Playwicki Park to Intersection of Arbutus Avenue & Rosewood Avenue	On-Road
3	Intersection of Arbutus Avenue & Rosewood Avenue to Bristol Road	Off-Road

Specific to Segment 1, three different alignment options were evaluated.

- Alignment A - The trail would closely follow the path of the Neshaminy Creek from its confluence with Core Creek westerly to Playwicki Park, crossing private property, county-owned property, and Breezy Point Day School & Camp property before crossing the Neshaminy Creek into Playwicki Park.
- Alignment B - The trail would initially be located in the right-of-way along the south side of Bridgetown Pike, turn south onto Musket Circle, connect into county-owned property, then cross the Breezy Point Day School & Camp property before crossing the Neshaminy Creek into Playwicki Park.
- Alignment C - The trail would be located in the right-of-way along the east side of Newtown-Langhorne Road, proceed onto township-owned land adjacent to the Old Mill Woods neighborhood, then connect into and proceed westerly along the former railroad corridor owned by Norfolk Southern eventually connecting into Playwicki Park.

Of these three, Alignment A is the recommended alignment versus Alignment B as it keeps the trail closer to the creek, minimizes any potential impacts to home owners and keeps the trail further away from Bridgetown Pike. Alignment A is preferred over Alignment C as it is significantly less expensive as Alignment C would require acquisition of right-of-way from Norfolk Southern.

Segment 2 of the trail would extend from Playwicki Park to the intersection of Arbutus Avenue & Rosewood Avenue, near Old Lincoln Highway. The trail would exit Playwicki Park under the West Maple Avenue Bridge, currently under construction, and proceed on-road along Bridle Drive / Oriental Drive, Mistletoe Drive and Periwinkle Avenue. This is located in the area where the Federal Emergency Management Agency buyout and home elevation program occurred to repetitive flood losses. The trail would then proceed uphill along Redwood Avenue to North Buckthorne Avenue, to Hollywood Avenue, and onto Clearview Avenue. At the end of Clearview Avenue, a connector trail would provide connections into Detective Christopher Jones Memorial Park. The primary trail would continue south along Clearview Avenue, cross Brownsville Road, eventually connecting into Arbutus Avenue.

Three different alignments were evaluated for Segment 3, all of which begin at the intersection of Arbutus Avenue and Rosewood Avenue.

- Alignments A and C - These two alignments follow the same proposed route up to Neshaminy High School. Both of these alignments propose crossing Old Lincoln Highway at Arbutus Avenue, then following a trail to be constructed in the right-of-way along Old Lincoln Highway in front of Our Lady of Grace Cemetery. Upon reaching Orchard Avenue, trail users would cross back over Old Lincoln Highway and make use of a trail and sidewalk to be built in the right-of-way along the northwest side of Old Lincoln Highway, eventually connecting to the existing trail in front of Neshaminy High School. At this point, the trail proposed under Alignment C would stop at end of the existing trail at the high school while the trail proposed under Alignment A would continue into the woods behind Neshaminy High School, cross the Neshaminy Creek just north of Neshaminy Falls, continue on county-owned land on the west bank of the creek, before ending at East Bristol Road.
- Alignment B - This alignment differs from Alignments A and C in that the trail would predominantly be an on-road trail along Rosewood Avenue, Pheasant Drive, Orchard Avenue Granite Avenue and Fairhill Avenue before connecting to the existing trail in front of Neshaminy High School. At this point, as with Alignment A, the trail would continue into the

woods behind the high school, cross a bridge to be built over the Neshaminy Creek just north of Neshaminy Falls, before continuing onto county-owned property, ending at East Bristol Road.

As mentioned previously relative to Segment 3, there are several challenges associated with completing the trail from Neshaminy High School to Bristol Road as proposed under Alignments A and B. These challenges would result in additional costs of approximately \$3.2 million and include:

- Presence of significant steep slopes on the Neshaminy High School property which would hinder the ability to make the trail ADA accessible along this segment
- Need for a large-span bridge over the creek
- Safety concerns relative to the quarry located on the AQUA PA property
- Inability at this time to connect to the Neshaminy Falls SEPTA station
- Lack of connectivity to residential and community facilities on the western side of the creek.

Because of these challenges, although it is technically feasible to extend the trail to Bristol Road as proposed under Alignments A and B, this study recommends that the trail for Segment 3 following the Alignment C option, terminating at a trailhead location which would be established at the southwestern corner of the Neshaminy High School property. Based on this recommendation, the estimated total costs for the trail would be as follows:

Table 2 – Lower Neshaminy Creek Trail - Trail Segments – Estimated Costs

Segment/Alignment	Segment Boundaries	Miles	Nature of Trail	Total Estimated Costs
1A	Bridgetown Pike Newtown-Langhorne Road intersection to Playwicki Park	2.1	Primarily off-road	\$3,070,700
2	Playwicki Park to Intersection of Arbutus Avenue & Rosewood Avenue	1.8	On-Road	\$354,743
3C	Intersection of Arbutus Avenue & Rosewood Avenue to trailhead at Neshaminy High School	1.1	Off-Road	\$929,073
Total		5.0		\$4,354,516

The study establishes specific implementation strategies relative to the recommended phasing of construction of the various segments; outlines alternative organizational structures to oversee the development, operation and maintenance of the trail; identifies specific maintenance tasks associated with the trail; discusses the need to ensure the safety of the trail from both the user and trail operator perspectives; outlines potential funding sources for financing the construction and ongoing maintenance of the trail; and provides recommendations for future actions including:

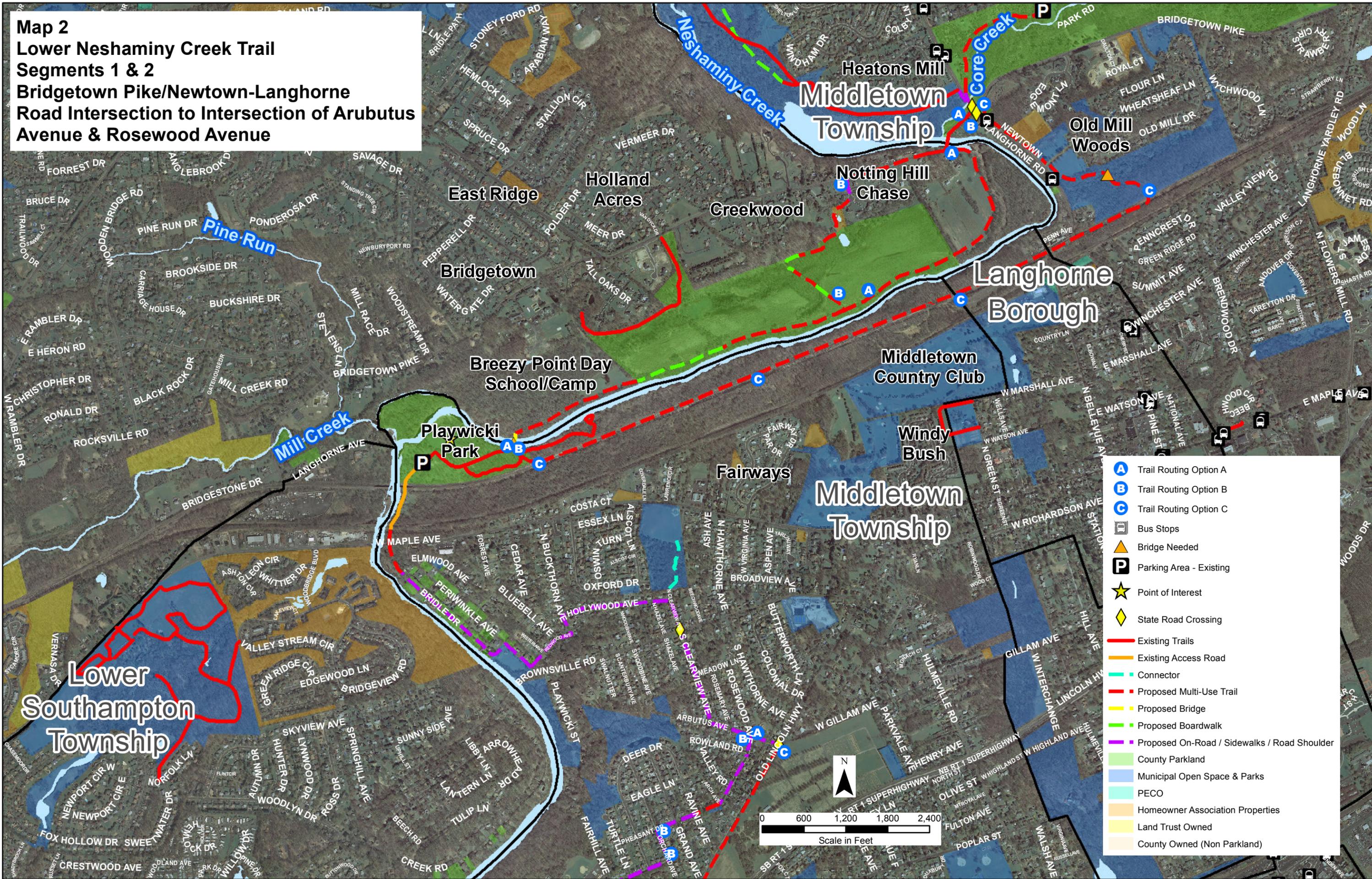
- **Coordination with municipalities** - Because the proposed trail alignment spans one borough and four townships, creating the Lower Neshaminy Creek trail will require a sustained and coordinated effort involving key stakeholders, municipal representatives, and other interested parties to advance the project and assist in accomplishing many of the recommendations and next steps outlined in this study.
- **Fundraising and grant writing** - To advance the project to the next stages, funding will be required. There are a variety of funding sources available for projects of this nature, and all available opportunities should be pursued.

- **Establishment of a maintenance endowment** - Successful trails require ongoing maintenance. Establishing a fund at the beginning of a trail project will help sustain the effort in the future.
- **Securing the Right-of-way** - A process of sharing information with municipal officials relative to those parcels for which easements and acquisitions are needed should be established so that as development plans are presented, any required easements and acquisitions can be secured as part of the development process.

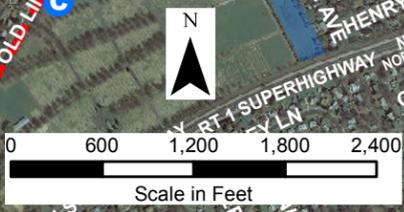
Given the complexity of the project and its associated costs, it is likely that the trail will be built over time in small pieces, where opportunity arises, not all at once. Municipalities can use the study as a way of getting pieces built when there is new development or redevelopment occurring, or road improvements are being undertaken by PennDOT.

The maps on the following pages highlight the proposed route of the Lower Neshaminy Creek Trail and its connections to the growing trail network.

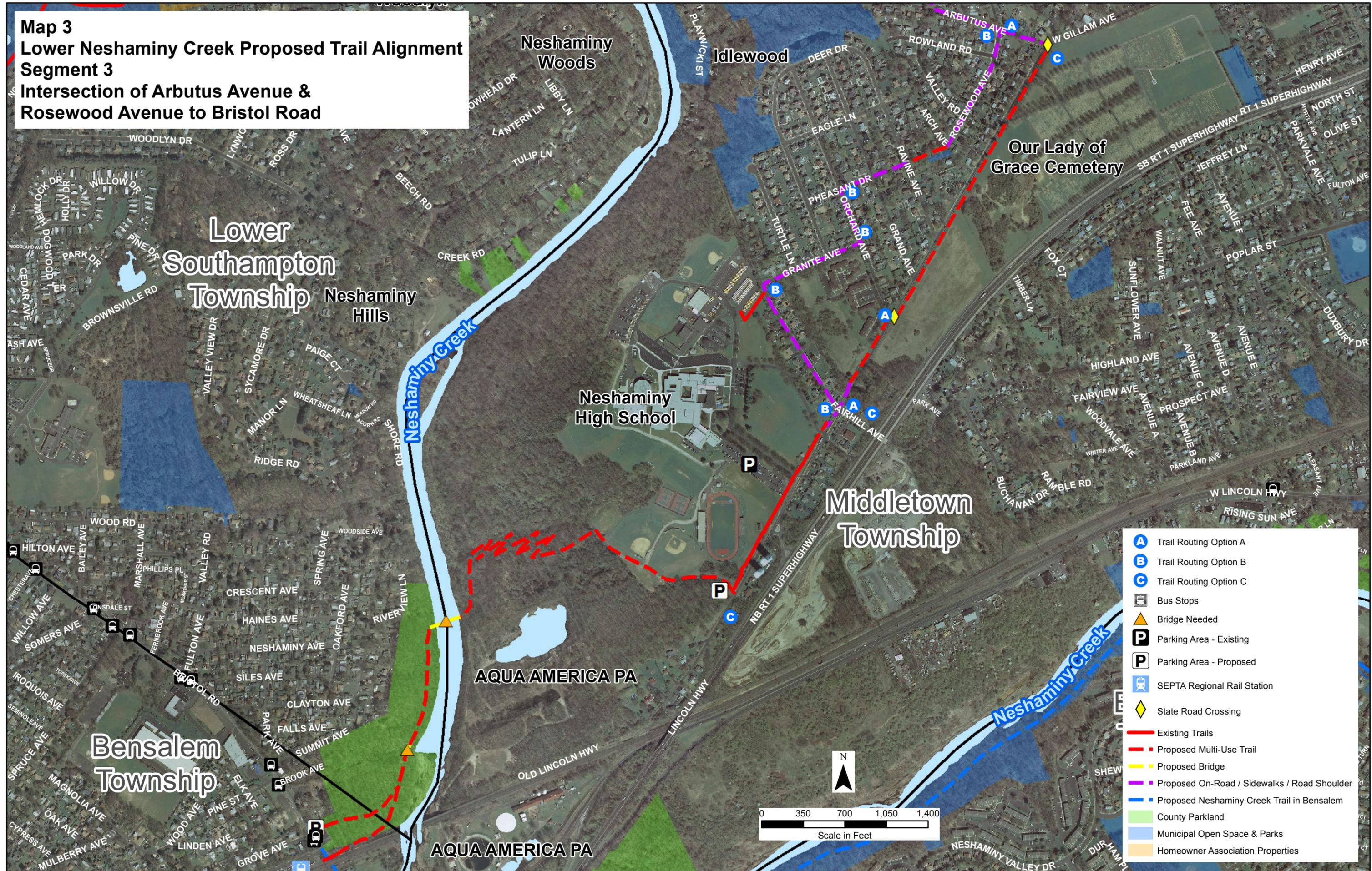
Map 2
Lower Neshaminy Creek Trail
Segments 1 & 2
Bridgetown Pike/Newtown-Langhorne
Road Intersection to Intersection of Arbutus
Avenue & Rosewood Avenue



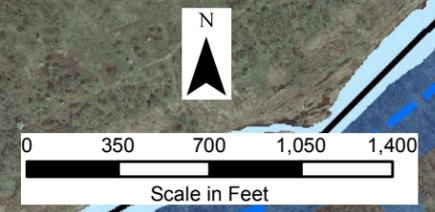
- A Trail Routing Option A
- B Trail Routing Option B
- C Trail Routing Option C
- Bus Stops
- Bridge Needed
- Parking Area - Existing
- Point of Interest
- State Road Crossing
- Existing Trails
- Existing Access Road
- Connector
- Proposed Multi-Use Trail
- Proposed Bridge
- Proposed Boardwalk
- Proposed On-Road / Sidewalks / Road Shoulder
- County Parkland
- Municipal Open Space & Parks
- PECO
- Homeowner Association Properties
- Land Trust Owned
- County Owned (Non Parkland)



Map 3
Lower Neshaminy Creek Proposed Trail Alignment
Segment 3
Intersection of Arbutus Avenue &
Rosewood Avenue to Bristol Road



- A Trail Routing Option A
- B Trail Routing Option B
- C Trail Routing Option C
- Bus Stops
- Bridge Needed
- Parking Area - Existing
- Parking Area - Proposed
- SEPTA Regional Rail Station
- State Road Crossing
- Existing Trails
- Proposed Multi-Use Trail
- Proposed Bridge
- Proposed On-Road / Sidewalks / Road Shoulder
- Proposed Neshaminy Creek Trail in Bensalem
- County Parkland
- Municipal Open Space & Parks
- Homeowner Association Properties



INTRODUCTION

PROJECT SCOPE

The Lower Neshaminy Creek Trail study is designed to assess the feasibility of a multi-use trail facility along the Lower Neshaminy Creek. This segment of the Neshaminy Creek begins at the confluence of the Neshaminy Creek and Core Creek, turns sharply to southwest toward Playwicki Park. From Playwicki Park, the creek continues south, eventually reaching the Delaware River. For this study, the project area ends just after Neshaminy Falls just after the creek enters Bensalem Township. The potential for a trail along the remaining segment of the Neshaminy Creek Greenway within Bensalem Township was completed as part of the *Bensalem Township Greenways & Trails Feasibility Study* completed in 2008.

The trail will encourage non-motorized means of travel and provide opportunities for education and recreation, as well as connections to county park facilities and public transportation. For these reasons, the Lower Neshaminy Creek Trail is a high priority for the County, meeting goals and needs stated in previous planning documents.

PREVIOUS PLANNING

The Lower Neshaminy Creek has been the subject of numerous planning studies. Planning documents incorporated into this study are summarized below:

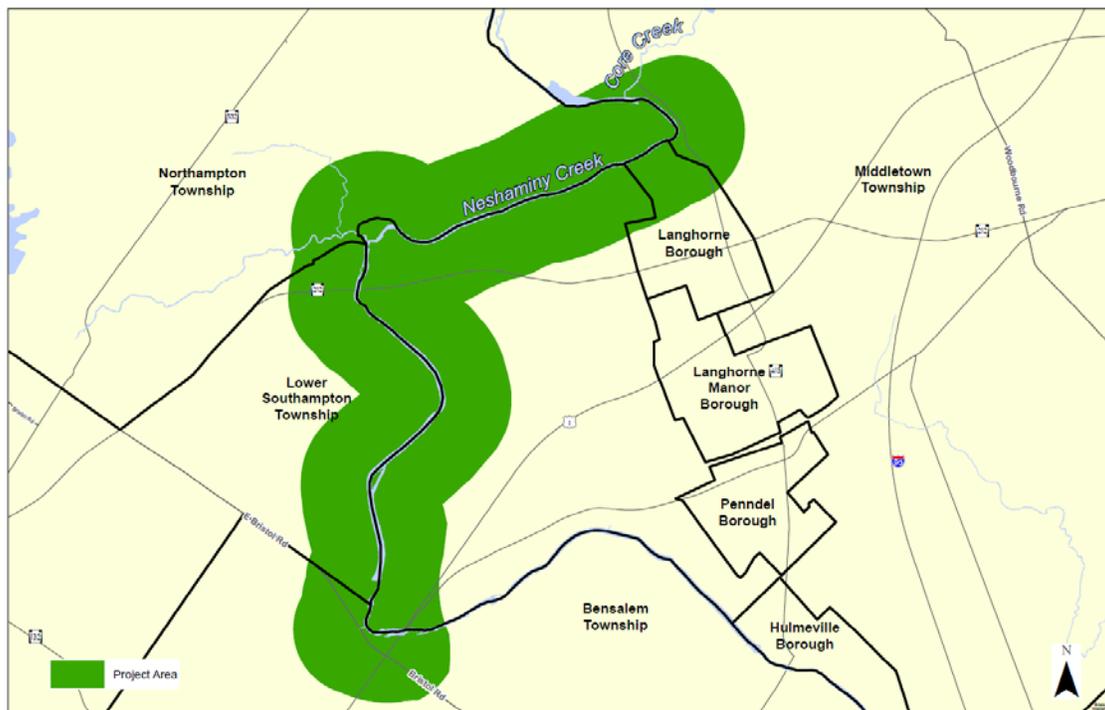
- *Northampton Township Comprehensive Parks and Recreation Plan Update (2014)* - Identified one of the goals for the future as being the establishment of safe and accessible pedestrian and bicycle routes to enhance the ability to travel throughout the Township and/or promote healthy lifestyles without the use of a motor vehicle.
- *Langhorne Borough Comprehensive Plan (2014)* - Recommended the development of linkages and connections to public open space areas to aid in the development of a continuous greenbelt in southern Bucks County.
- *Delaware Valley Regional Planning Commission - Connections 2040 Plan (2013)* - Identified 104 greenspace corridors across the Delaware Valley region, sixteen of which, including the Neshaminy Creek Greenway, are located in Bucks County. This same study also identified a Cross County Corridor Greenway which includes the segment of the Neshaminy Creek extending from Playwicki Park to Core Creek Park.
- *Bucks County Bicycle Master Plan (2012)* - Identified the Neshaminy Creek Greenway as an off-road connection and State Route 413, Newtown-Langhorne Road as a primary on-road connection of the countywide bicycle network.
- *Bucks County Open Space and Greenways Plan (2011)* and *Bucks County Comprehensive Plan (2011)* - Identified the Neshaminy Creek greenway as a multi-use greenway.
- *Lower Southampton Township Comprehensive Plan (2010)* and *Lower Southampton Township Open Space Plan (2009)* - Relative to community facilities, one of the stated goals is to provide adequate parkland and open space with trails and greenways to meet the needs of the citizens now and in the future.

- *Middletown Millennium Plan - Recreation, Parks and Open Space Plan Update (2005)* - Identified the creation of a biking and non-motorized boating trail network as a key area of focus for the future and recommended the development of the Lower Neshaminy Creek Greenway & Waters Trail.
- *GreenSpace Alliance - Regional Open Space Priorities Report (2004)* - Identified the Neshaminy Creek Greenway as a high priority recreational area.
- *Lower Neshaminy Creek Watershed Conservation Plan (2004)* - Recommended increasing recreational opportunities, linking greenways, and promoting open space acquisition within the Lower Neshaminy Creek watershed.
- *Bucks County Park & Recreation Plan (1986)* - Reaffirms commitment to linear park system.
- *Bucks County Park Plan (1974)* - Reaffirms commitment to linear park system.
- *Bucks County Parks Board (1955)* - Recommended creation of a linear park system along various stream valleys in the County including the Neshaminy Creek.

These previous planning efforts serve as the basis of support for the establishment of a trail system along the Lower Neshaminy Creek corridor. This study is designed to further the recommendations contained in these previous planning efforts.

This *Lower Neshaminy Creek Trail Feasibility Study* investigates the opportunities and constraints affecting the proposed trail alignment and provides recommendations for proceeding with the subsequent phases of implementation. Additionally, the study recommends appropriate management and maintenance entities, as well as funding sources for construction and maintenance. The construction phase is sequenced and cost estimates have been developed for each segment of the trail.

Map 4 – Lower Neshaminy Creek Trail Project Area



PROJECT PARTNERS

The Lower Neshaminy Creek Trail project has benefitted from the talent and skills of the project’s many partners. These partners have generously provided their time and technical expertise to the project through participation on the Trail Feasibility Study Steering Committee. Steering Committee members included:

- Matthew Gilbert Lower Southampton Township, Director - Parks and Recreation
- Dr. Jonathan Gold Bucks County Bicycle Advisory Task Force
 Andy Hamilton
- Kathy Horwatt Langhorne Borough Council
- Kris Kern Heritage Conservancy, Senior Land Conservationist
- Debby Lamanna Middletown Township - Parks and Recreation Director
- Nancy Opalka Northampton Township, Director of Parks and Recreation

The feedback and input received from property owners, residents, and other interested citizens who attended the public workshops, reviewed the draft document, and provided useful information and helpful observations were also invaluable in the creation of this study.

The project was financed in part by a grant from the Commonwealth of Pennsylvania, Commonwealth Financing Authority, administered by the Pennsylvania Department of Community and Economic Development (PA DCED). Funding provided by the Commonwealth Financing Authority was made possible by funds transferred to the Commonwealth Finance Authority from the Marcellus Legacy Fund.

REGIONAL CONTEXT

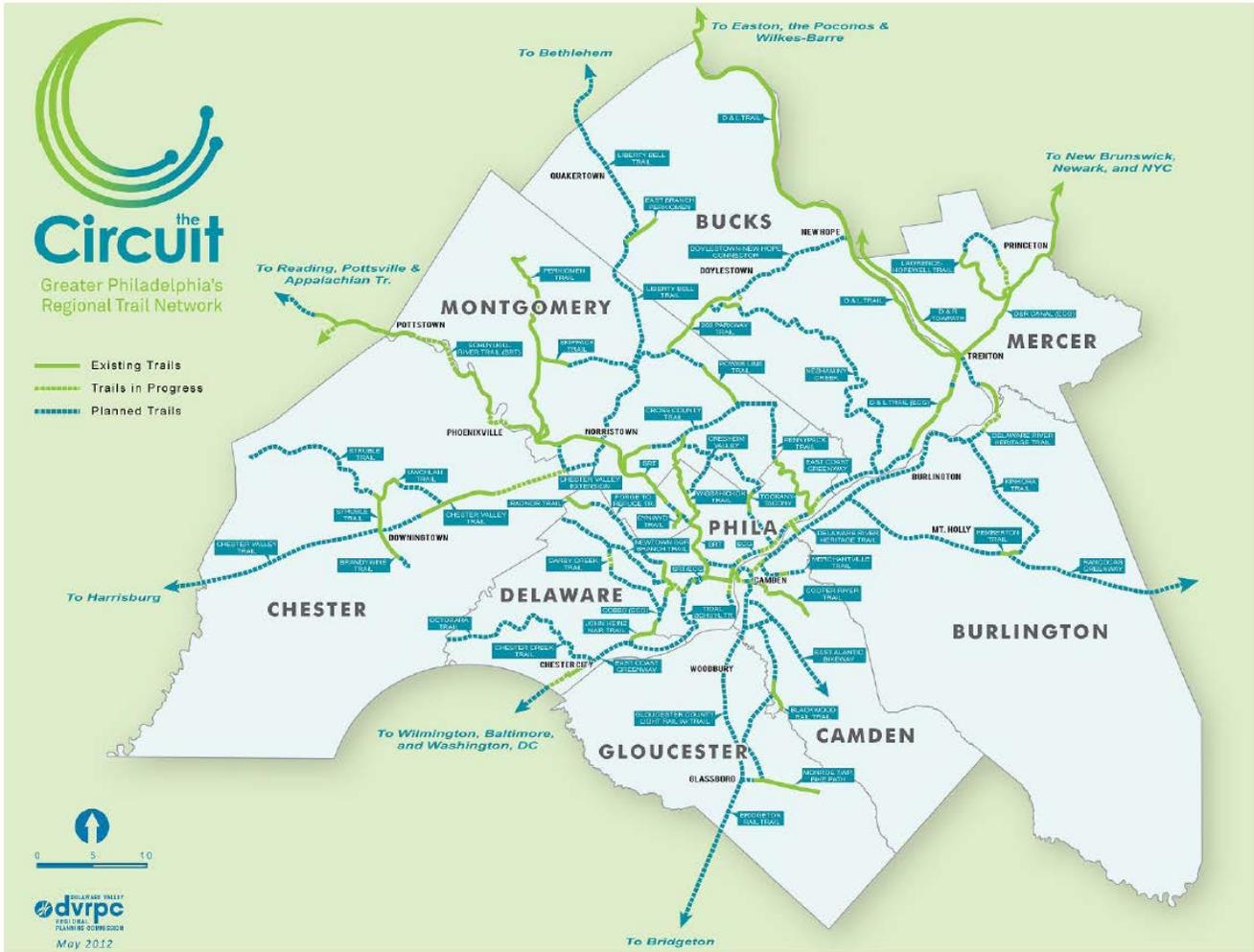
The Lower Neshaminy Creek is part of the main stem of the Neshaminy Creek which extends 33 miles from its headwaters at the confluence of the West Branch and North Branch, to its eventual confluence with the Delaware River. The watershed associated with the creek is the largest in the County. Along its length, the main stem of the creek passes through 15 municipalities, two state parks, two county parks, and eight municipal parks. Because of its central location and length, and ability to connect to much of the county’s population, the proposed trail along the Neshaminy Creek is envisioned as serving as the spine of the County’s developing trail system.

The lower stretch of the Neshaminy Creek generally runs from northeast to southwest, beginning at the confluence of the Neshaminy Creek with Core Creek at the intersection of Bridgetown Pike and Newtown-Langhorne Road (PA 413), ending just south of the dam at Neshaminy Falls. The corridor traverses four municipalities, with a combined population of 105,693 (16.9% of the County’s total population):

- Langhorne Borough
- Lower Southampton Township
- Middletown Township
- Northampton Township

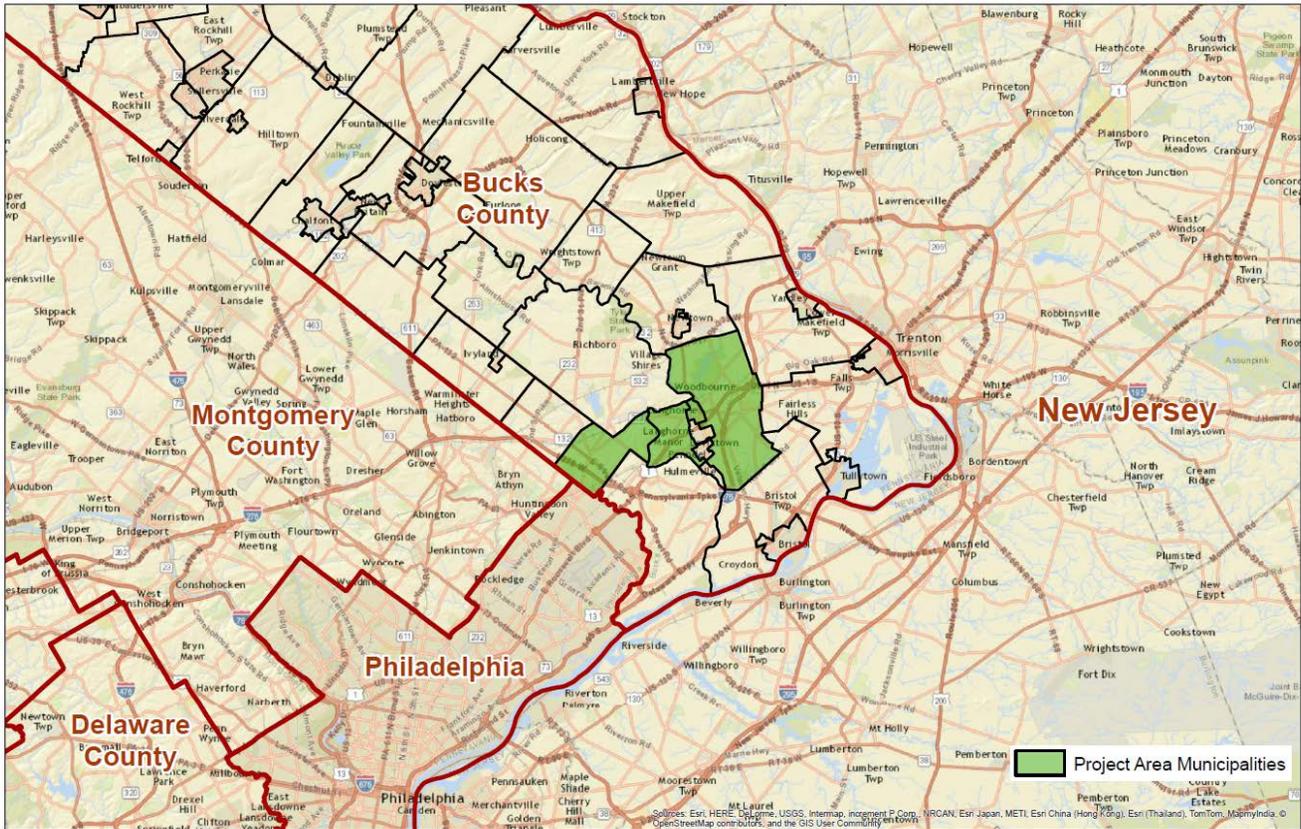
The Neshaminy Creek Trail was identified as a primary trail segment as part of The Circuit, a proposed 750-mile network of trails connecting the greater Philadelphia region (www.ConnectTheCircuit.org).

Map 5 – The Circuit



The project area is primarily an interesting mix of suburban development, open space and parkland, and a historic borough. The area is well-served by public transportation with the Neshaminy Falls station of the SEPTA West Trenton train anchoring the southern end of the project corridor. SEPTA Bus Route 130 runs along Newtown-Langhorne Road (PA 413) while SEPTA Bus Route 58 connects to the Neshaminy Falls station and runs along East Bristol Road.

Map 6– Lower Neshaminy Creek Project Area - Regional Perspective



BENEFITS OF THE TRAIL

Creation of the Lower Neshaminy Creek Trail will provide recreational, environmental, quality-of-life and economic benefits including:

Recreational Benefits

- Provides a network of on-road and off-road connections to the communities in the study area.
- Once completed, the Neshaminy Creek Trail extending from Chalfont to the Delaware River would provide connections outside of these communities via the Delaware and Lehigh Canal Towpath Trail and the East Coast Greenway Trail.
- Offers safe walking and biking routes to various schools and institutions close to the trail.
- Provides access to various historic sites including historic Langhorne Borough.
- Provides increased access to the creek for fishing and water-based recreation.
- Provides connections between two County-owned park facilities.
- Offers opportunities for nature study and bird watching.

Environmental Benefits

- Encourages removal of invasive plants.
- Provides the opportunity to improve stormwater management, re-establish and rehabilitate riparian buffers along the creek and conduct streambank restoration.
- Provides opportunities for environmental education programs at schools in the area.
- Gives citizens the choice to either walk or bike, reducing the need to drive.
- Reinforces the sense of a watershed to users of the trail.
- Provides opportunities for job training programs and youth groups that could result from ongoing maintenance and stewardship tasks.

Quality of Life Benefits

- Encourages physical activity to improve the health and welfare of users of the trail.
- Inspires local residents to participate in the ongoing maintenance of the trail and create a sense of community.
- Allows for the opportunity to use a bicycle as an alternative transportation mode to access employment centers and other community facilities, while also connecting to public transportation.

Economic Benefits

- Routing the trail close to historic boroughs and commercial centers will prove to be of benefit to both businesses and trail users. Businesses provide trail amenities to trail users in the form of restaurants and shops, thus bringing in a new source of income to help grow current businesses and create opportunity for the development of new ones.

PROJECTED USES

The Lower Neshaminy Creek Trail will appeal to a broad spectrum of users, and will initially focus primarily on recreational users including anglers, runners, bicyclists, cross-country skiers and pedestrians. Given its proximity to Neshaminy High School, the trail is also designed to provide a safe route to encourage students to bicycle and walk to school.

Trail users will vary by trail type, as well as by age and experience, when they are using the trail and with whom they may be traveling. Individuals may fall into multiple categories at different times of day or different times in their lives. These diverse users share common interests in the following areas:

- **Safety** - The trail system should be safe for all users, and to the extent possible, provide alternatives to traveling along and across roadways.
- **Easy to Use** - The trail system should be user-friendly, with signage, maps and wayfinding information.
- **Well Maintained** - The trail system should be maintained with surfaces that are smooth and free of debris and litter.

In addition to these common interests, individual trail user groups also have specific concerns, including:

- **Pedestrians** - Prefer a smooth walking surface, benches and shades for resting, and connections to nearby residential areas for easy access and frequent use over short distances.
- **Runners** - Often prefer soft shoulders as an alternative to running on asphalt or concrete.
- **Bicyclists** - Include users with a variety of skill levels, from children and seniors who ride more slowly, to highly skilled cyclists capable of sustaining higher speeds, to mountain bicyclists who may use the trail for access to more rugged single track trails. All require smooth, firm surfaces and slightly greater height clearances as compared to pedestrians.
- **Disabled** - People with mobility impairments require smooth, firm, ADA-compliant pathways, with rest areas on steep grades, maximum 2 percent cross slopes, barrier-free facilities, and accessibility information at trailheads.
- **Cross-Country Skiers** - Includes both skating and track skiers and snowshoe users, all of whom require different groomed surfaces.
- **Water Trail Users** - Canoeists, kayakers and tubers are all potential users of the trail and will require places to enter and exit the creek safely and safety information regarding seasonal flood conditions. In addition, potential conflicts with anglers can also arise.
- **Birdwatchers** - Areas for stepping off the main trail should be provided to minimize potential conflicts with higher-speed users such as bicyclists.

STUDY GOALS AND OBJECTIVES

The purpose of this study is to assess the feasibility of developing a multi-use trail system along the Lower Neshaminy Creek Greenway to link residential, commercial, institutional and recreational destinations. As the study progressed, meetings were held with the Steering Committee and workshops were held to engage the public in sharing information and ideas. Through these meetings and workshops the following objectives for the study were established:

- Assess the potential for connecting to existing trails, parks, recreational areas and neighborhoods along the project corridor.
- Evaluate various alternative trail routes, trailhead locations, and the potential for establishing loop trails along the project corridor.
- Develop a conceptual trail plan that takes advantage of the natural, scenic, and historical and cultural features in the area.
- Provide recommendations for trail safety, maintenance, operations and accessibility.
- Identify priorities for trail segment development.
- Provide an overview of right-of-way acquisition methods.
- Identify resources needed to move the study to the implementation phase.

STUDY ORGANIZATION

The *Lower Neshaminy Creek Trail Feasibility Study* contains the following sections:

- **Introduction** - Background information for the study, previous planning studies, a discussion of community support and partners, and a discussion of public input to the planning process.
- **Existing Conditions** - An inventory and analysis section that contains an overview of conditions and key features in the trail corridor including:
 - Location of key natural features including steep slopes, water features, woodlands, and natural areas;
 - Discussion of land use and land ownership along the trail corridor;
 - Location of existing trails, park and recreational facilities, and transportation connections;
 - Identification of existing utilities, easements and rights-of-way; and
 - Identification of historic resources that would serve as points of interest along the trail.
- **Proposed Trail Plan** - An overview of trail design standards, trail signage, surfaces, and widths; examples of similar trail systems; the proposed trail alignment; identification of easements needed; and an opinion of probable costs for developing the Lower Neshaminy Creek Trail.
- **Implementation Strategies** - Strategies related to the development and implementation of the trail including recommended construction phasing; trail operation, management and maintenance; security and risk management measures; an overview of potential funding sources; and recommendations for future action.

STUDY METHODOLOGY

The study is based upon the previous studies identified earlier, synthesized with an assessment of current conditions based on field surveys and aerial photography, and input received from the public participation workshops.

Assessment of Existing Conditions

Existing conditions were identified through the use of high-resolution aerial photographs. This information was supplemented and updated by field observation work conducted from August through October 2014. Information on rights-of-way was obtained from municipal engineering records and the Pennsylvania Department of Transportation. Property ownership records were obtained from the Bucks County Board of Assessment.

Public Participation

The public participation component of the study was critical to the success of the *Lower Neshaminy Creek Trail Feasibility Study*. The objectives of the public participation process included:

- Encouraging an exchange of ideas amongst stakeholders;
- Building consensus to help minimize future conflict and project delays;

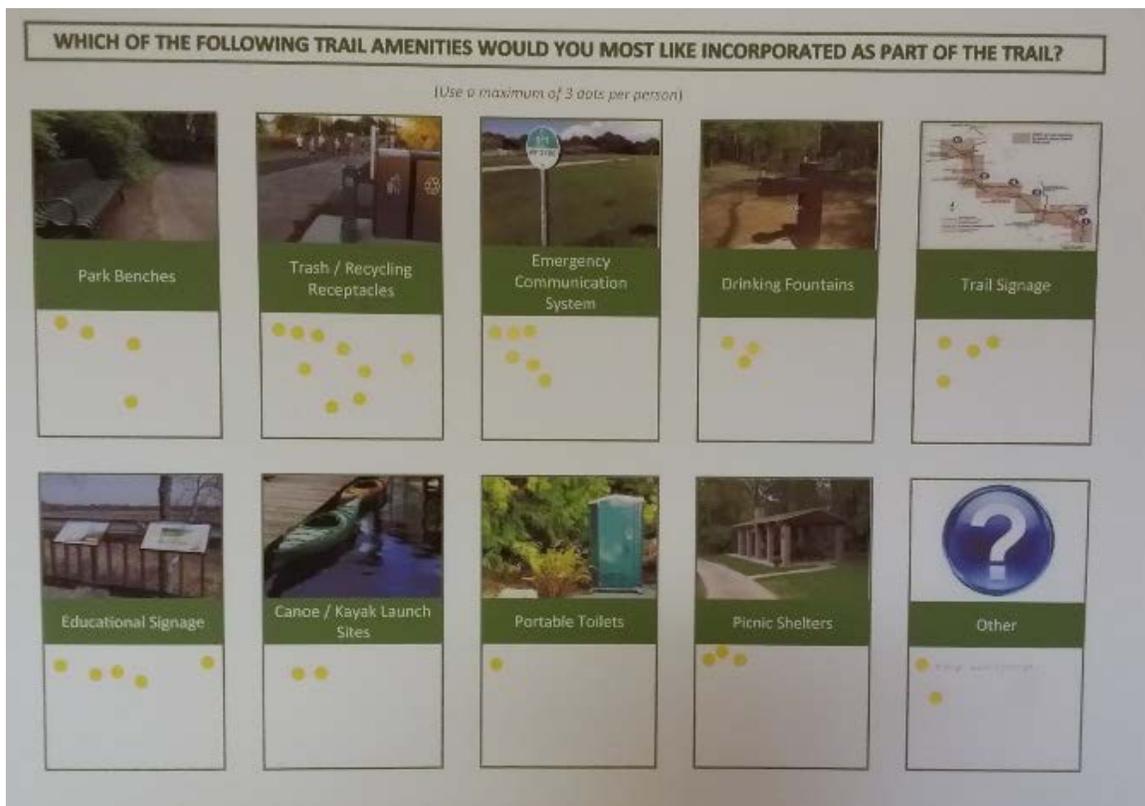
- Promoting early involvement by stakeholders and other community members to help develop support for the proposed trail; and
- Identification of a trail system that can be implemented based on the identification of issues and opportunities and weighing of trade-offs.

Key components of the public participation process included:

- Establishment of a Study Steering Committee;
- Public planning workshops;
- Interviews with municipal officials; and
- Meetings and outreach to key stakeholders and property owners including the Neshaminy School District, Norfolk Southern Railway and AQUA PA.

The steering committee was comprised of major stakeholders in the trail project area including municipal representatives and representatives from various recreational user groups. The committee met twice during the study process: July 8, 2014 and December 5, 2014.

In addition to the steering committee meetings, two public workshops were held during the process on August 5, 2014 and December 16, 2014.



August 5, 2014 Public Workshop 1



December 16, 2014 Public Workshop 1

Further direct outreach with key individuals and organizations resulted in meetings and communications with the following:

- Paul Minnoti Director, Facilities and Operations - Neshaminy School District
- Dr. Rob McGee Principal, Neshaminy High School
- Kelle Williams Senior Property Agent, Norfolk Southern Real Estate
- Rudy Husband Resident Vice President--Pennsylvania & New England, Norfolk Southern Corporation
- Craig Marleton Environmental Specialist, AQUA PA
- Anthony Fernandes Manager, Water Resources Engineering, AQUA PA

Following the public workshop on December 16, 2014, the presentation from the workshop was posted on the Bucks County website at <http://www.buckscounty.org/government/CommunityServices/PlanningCommission>.

Finally, press releases were sent out announcing the availability of the draft version of the study for public comment on the Bucks County Planning Commission website.

Details about the public participation process and notifications about opportunities for public input are found in Appendices A1 and A2.

EXISTING CONDITIONS

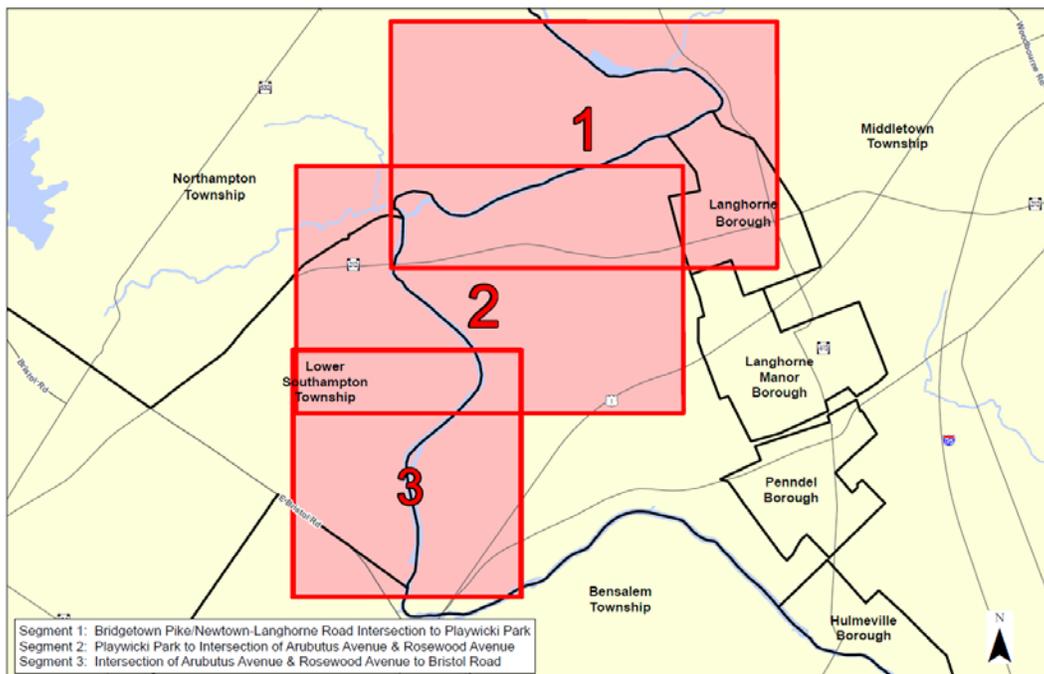
The *Lower Neshaminy Creek Trail Feasibility Study* begins with an examination of current conditions within the proposed trail corridor including:

- Natural Features
- Land Use and Ownership
- Historic Sites
- Parks, Trails and Transportation
- Rights-of-Way

The study area is situated in the southern portion of Bucks County and includes the floodplain and riparian areas adjacent to the Neshaminy Creek. Although there are numerous tributaries to the Neshaminy Creek, the four primary tributaries in the Lower Neshaminy Creek include Mill Creek, Ironworks Creek, Pine Run and Core Creek. The Neshaminy Creek watershed encompasses approximately 235 square miles and is part of the larger Delaware River watershed. The Neshaminy Creek watershed has served as a source of both ground and surface water supply, as well as the recipient of wastewater effluent from wastewater treatment plants serving many thousands of residents in Bucks and Montgomery Counties. Because of the highly developed suburban landscape, runoff from impervious surfaces is high and ground water recharge is restricted. This has resulted in reduced base flow in summer and the dominance of sewage treatment plant effluent in the creek.

For analysis purposes, the *Lower Neshaminy Creek Trail Feasibility Study* divides the project area into three segments.

Map 7 – Lower Neshaminy Creek Trail Segments



NATURAL FEATURES

The project study area is part of the Neshaminy Creek Conservation Landscape identified in the *Bucks County, Pennsylvania Natural Areas Inventory* (2011) and possesses a wealth of natural features. The area includes floodplain and riparian areas and is characterized by wetlands, forested areas, and steep slopes in certain segments. Although in a highly-suburbanized area, the Neshaminy Creek corridor provides refuge for many species of birds, mammals, fish, reptiles, amphibians and invertebrates.



Steep slopes along east bank of Neshaminy Creek behind Neshaminy High School as viewed from Creek Road in Neshaminy Woods.

Physiography and Topography

The Lower Neshaminy Creek generally flows in a southwesterly direction through gently sloping topography, with the exception of its east bank as it approaches Neshaminy Falls. The creek takes an almost ninety-degree turn westward near the intersection of Bridgetown Pike and Newtown-Langhorne Road, marking the boundary between the Gettysburg-Newark Lowlands and Piedmont Upland sections of the Piedmont Physiographic Province¹. The Gettysburg-Newark Lowland section consists mainly of rolling low hills and valleys developed on red sedimentary rock with the Piedmont Upland section consists of broad, gently rolling hills and valleys

and is developed mainly on metamorphic rocks called schists. The stream corridor is further characterized by floodplain forests of sycamore, river birch, silver maple, pin oak and box-elder. Ash and red maple are also abundant.

The creek takes another ninety-degree turn eastward when it reaches the Fall Line at the Bensalem Township border. The Fall Line marks the boundary between the Piedmont and Atlantic Coastal Plain physiographic provinces.

The topography of the study area varies greatly along its length and from one bank of the creek to the other and includes both low-lying floodplain areas, as well as steeply sloped areas. The geological history and variability is often revealed in the attractive, even dramatic rock outcroppings which are exposed in the Neshaminy Creek's stream valley. Specific topographic features of each segment are outlined below:

Segment 1: Leaving the intersection of Bridgetown Pike and Newtown-Langhorne Road, elevations along both sides of the creek are relatively flat. In contrast, as the creek turns sharply to the west as it approaches Penn Avenue, conditions begin to change.

Along the north side of the creek, the areas immediately adjacent to the creek are fairly low-lying at approximately 50 feet, with only slight elevation changes. However, approximately 850 - 1,000 feet from the creek bank, elevations increase rapidly to 150 feet or more behind the homes located along Drew Drive, Quartermaster Road

¹ A physiographic province is the expression of bedrock at the surface of the land.

and Tall Oaks Drive. These wooded slopes follow the northern boundary of a layer of Baltimore gneiss.

Along the south side of the creek, the elevation change is even greater with elevations increasing 50 feet to 100 feet in height, across a horizontal distance of 150 - 250 feet, up to the railroad corridor.

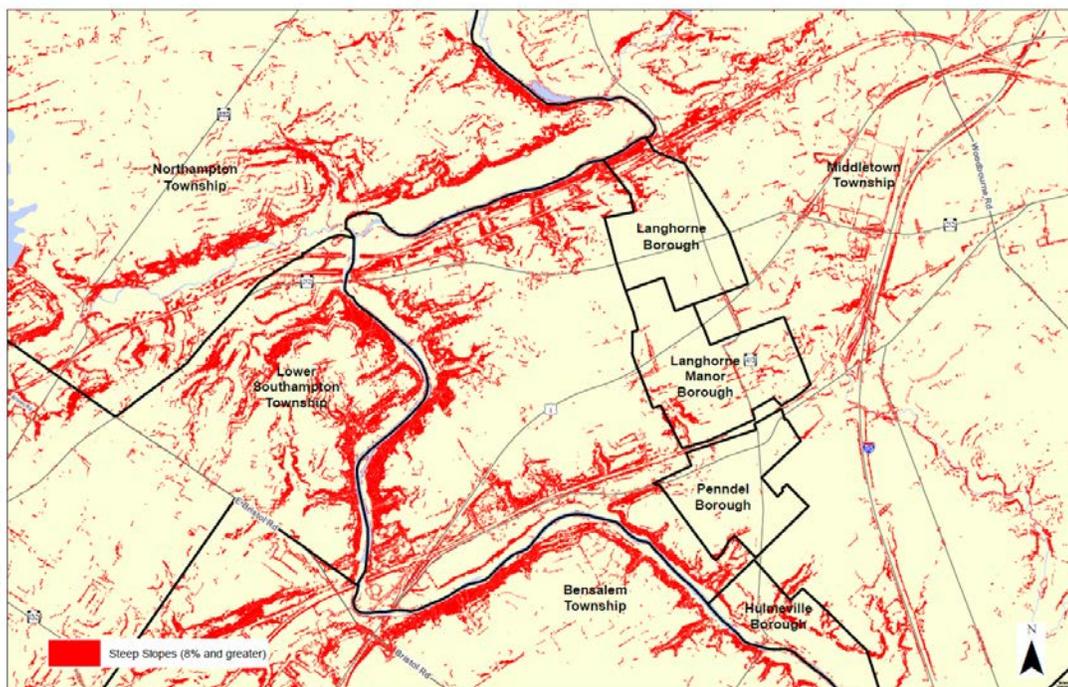
Along both sides of the creek, the elevations flatten out as the creek approaches Playwicki Park.

Segment 2: Leaving Playwicki Park, the west bank of the creek in Lower Southampton Township extending from West Maple Avenue to the Neshaminy Woods community past Brownsville Road is characterized by very steep slopes. In stark contrast, the east bank of the creek along Bridle/Oriental Drive and Periwinkle Avenue in Middletown Township, between West Maple Avenue and Brownsville Road, is very low-lying and has been subject to severe flooding over the years.

Segment 3: The final segment of the proposed trail area, extending from the bend in the creek just south of Brownsville Road near Neshaminy Woods, to just south of Neshaminy Falls contains steep slopes along both sides of the creek. Along the west bank of the creek, the area immediately adjacent to the creek levels out between the Neshaminy Woods and Neshaminy Hills communities, although the steep slopes remain just to the west. Along the east bank of the creek behind Neshaminy High School, slopes are very steep and wooded.

The placement of trail facilities in areas with steep slopes requires careful planning and consideration of these slopes. If placement of the trail can be accomplished in another area, then steep slopes should be avoided if possible.

Map 8 – Steep Slopes



Surface Water

The Neshaminy is the largest watershed in Bucks County. Pennsylvania has implemented a program to protect high-quality waters since 1968. This program consists of three tiers of protection: Existing Uses, such as warm or cold water fisheries; High Quality Waters, those that have found to have water quality better than necessary to protect existing uses; and Exceptional Value Waters, waters having the best or unique water quality as compared to other streams in Pennsylvania. The main stem of the Neshaminy Creek, including the section located in the project area, is classified as Existing Uses - trout stocked fishery, migratory fishes (TSF-MF) under Pennsylvania Department of Environmental Protection Chapter 93 Water Quality Standards. Based on this classification, surface water quality must be preserved such that the streams maintain this designated use.



Neshaminy Creek

The Neshaminy Creek and its tributaries are major conduits for water treatment plant effluent. There are 15 municipal wastewater discharges upstream of the study area, and these discharges are indicated as a source of impairment for the main stem of the Neshaminy Creek in this stretch of the stream. In addition, there are numerous industrial and stormwater discharge points in the greater watershed. Flow in many reaches of the Neshaminy Creek can be more than 90 percent effluent during periods when base flow is low. Because of the effluent overload, the Environmental Protection Agency (EPA) has found the main stem of the Neshaminy Creek to be “impaired” under Section 303(d) of the Clean Water Act.

Floodplains

Floodplains are delineated by the Federal Emergency Management Agency (FEMA) and consist of areas that are subject to periodic flooding from storms. FEMA defines the 100-year flood as a storm event that has a 1 percent chance of happening in any year over a 100-year span. Floodplains serve primarily to protect the creek and provide critical stormwater management and flood control functions by accommodating floodwater during periods of heavy precipitation. Floodplains intercept and reduce unmanaged sheet flow runoff from uplands and temporarily store out-of-bank flows as stormwater runoff volume increases. Floodplains also recharge aquifers, serve as wildlife habitats, and provide opportunities for recreation, including trails. In most municipalities, recreational uses, including trails, are one of the few uses typically permitted within the floodplain.

Map 9 – FEMA 100-Year Floodplain



The Lower Neshaminy Creek portion of the watershed suffers from serious periodic flooding, streambank erosion, degraded water quality and loss of wildlife habitat, in part stemming from suburban development and the way stormwater runoff has historically been managed throughout the watershed. The flooding has caused millions of dollars of property damage associated with homes that were built in the floodplain. Over the past ten years, via money provided by the Natural Resources Conservation Service, hundreds of homes have been razed and converted to open space, or elevated.

Floodplains are an important consideration in the design of bike paths and trails. Much of the proposed Lower Neshaminy Creek Trail is near floodplains and stream corridors which present both negative and positive influences to trail design. A floodplain curtails the use of a trail when it is inundated by water and can increase trail maintenance with mud, debris or washout during a flood occurrence. Conversely, trails are well suited to stream corridors as flood damage to a trail is minor compared to above ground

structures. Floodplains are usually left in a natural vegetative state, which provides an enhanced environment for trail users, and a large variety of plants and animals congregate along stream corridors because of the availability of water, food and habitat.

The width of the FEMA 100-year floodplain along the Lower Neshaminy Creek ranges from approximately 400 feet wide in the area behind the Neshaminy High School, owing in part to the very steep slopes in that area, to more than 1,500 feet wide at the bend in the creek at Playwicki Park. Some areas with the widest floodplain by trail segment include:

- Segment 1: Sharp bend in the Neshaminy Creek just south its confluence with Core Creek
 An area extending approximately 1,300 feet along the north bank of the creek in Northampton Township
- Segment 2: Sharp bend in the Neshaminy Creek at Playwicki Park
- Segment 3: Bend in the creek near the Idlewood community south of Brownsville Road
 Areas behind Neshaminy High School
 Area located south of Neshaminy Falls

Wetlands

A wetland can be defined as an area that 1) is saturated for most of the year, 2) contains plants typical of saturated soils, and 3) experiences surface ponding, flooding and flow. Significant wetland areas are found along the Lower Neshaminy Creek. Wetlands are extremely important to the health of rivers and streams because they:

- Improve water quality by acting as filter, removing metals, nutrients, toxins and other pollutants;
- Provide fish and wildlife habitat;
- Assist in flood control by storing flood waters and decreasing the amount and velocity of flow;
- Facilitate groundwater discharge and recharge;
- Decrease the rate of streambank erosion because wetland plants anchor the soil with their roots; and
- Provide recreational and aesthetic value.

The National Wetlands Inventory (NWI) Maps indicate the estimated locations of protected wetlands and are produced by the U.S. Fish & Wildlife Service using aerial flyovers. NWI maps do not show all wetlands, but attempt to show most photointerpretable wetlands given considerations of map/photoscale and wetland delineation practices. It is important to note that maps produced through photointerpretation are not as accurate as one prepared from on-the-ground surveys, so NWI boundaries are generalized. A formal delineation will be necessary to identify all wetlands prior to any proposed disturbances.



Wetlands along North bank of Neshaminy Creek between Playwicki Park and Core Creek Park.

Generally, wetlands should be avoided in trail development. If wetlands cannot be completely avoided, boardwalk-type walkways and pedestrian footbridges should be utilized to protect the wetlands from human disturbance.

The predominant wetland areas for the Lower Neshaminy Creek are located on county-owned property along the north side of the creek in Northampton Township.

Map 10 – Wetlands



Vegetation

The Lower Neshaminy Creek project corridor is characterized by forests of red oak, sycamore, river birch, box elder and mixed hardwood forests. Protecting vegetated areas is important from a natural resource perspective as woodlands and plant communities provide diversity to the landscape and provide visual interest and beauty. Woodlands also stabilize slopes, provide habitat for shelter, nesting and food for wildlife, and provide critical habitat for many interior forest birds. Specific woodland areas of interest in the project corridor include:

- Segment 1: Wooded slopes extending for approximately 1.75 miles along the northern bank of the creek in Northampton Township. On the south side of the creek in the area between the creek bank and the inactive rail line is a mature upland forest. Higher on the slope, from the inactive rail line to the active track are additional forested areas interspersed with successional old fields



Fungi

Segment 2: Wooded slopes along the west bank of the creek between West Maple Avenue and Brownsville Road behind the Woodlyn Crossing community

Segment 3: Wooded slopes along the east bank of the creek behind Neshaminy High School

In addition to woodlands, aquatic plants can also be found in back waters and slow-moving stretches of the creek including spatterdock, water star-grass, water weed, ribbon pondweed, floating pondweed, water-starwort, brook pimpernel and lizard's tail.

Reptiles and Amphibians

As indicated in the *Bucks County, Pennsylvania, Natural Areas Inventory Update* (2011), the Neshaminy Creek Conservation Landscape has a greater diversity of reptiles and amphibians than any other area in the county including eight species of salamanders, frogs and toads, and turtles plus one lizard and six kinds of snakes. Slow-moving sections of the creek provide excellent turtle habitat.

The Pennsylvania Natural Diversity Inventory (PNDI) is a cooperative project between the DCNR Bureau of Forestry, the Western Pennsylvania Conservancy and the Nature Conservancy. The purpose of the PNDI is to “identify and describe the Commonwealth’s rarest and most significant ecological features. These features include plant and animal species of special concern, rare and exemplary natural communities, and outstanding geologic features”(PA DCNR). **Table 3** lists the PNDI species and communities found within the Neshaminy Creek Watershed.



River Birch forest along north bank of Neshaminy Creek.



Toad

Table 3 - PNDI Species and Habitats Found in the Neshaminy Creek Watershed

Scientific Name	Common Name	State Rank	State Status
<i>Alasmidonta varicosa</i>	Brook floater	S2	
<i>Amaranthus cannabinus</i>	Waterhemp ragweed	S3	PR
<i>Amelanchier canadensis</i>	Serviceberry	S?	N
<i>Andropogon gyrans</i>	Elliott's beardgrass	S3	N
<i>Baccharis halimifolia</i>	Eastern baccharis	S3	PR
<i>Bartonia paniculata</i>	Screw-stem	S3	N
<i>Bidens bidentoides</i>	Swamp beggar-ticks	S1	PT
<i>Bidens laevis</i>	Beggar-ticks	S3	N
Coastal plain forest	Coastal plain forest	S1	
<i>Cuscuta campestris</i>	Dodder	S2	N
<i>Cuscuta pentagona</i>	Field dodder	S3	N
<i>Echinochloa walteri</i>	Walter's barnyard-grass	S1	PE
<i>Eupatorium rotundifolium</i>	A eupatorium	S3	TU
<i>Falco peregrinus</i>	Peregrine falcon	S1B,S1N	PE
Freshwater intertidal marsh	Freshwater intertidal marsh	S1	
Freshwater intertidal mudflat	Freshwater intertidal mudflat	S1	
<i>Gasterosteus aculeatus</i>	Threespine stickleback	SA?	PE
<i>Glyceria obtusa</i>	Blunt manna-grass	S1	PE
<i>Heteranthera multiflora</i>	Multiflowered mud-plantain	S1	PE
<i>Ilex glabra</i>	Ink-berry	SX	PX
<i>Juncus filiformis</i>	Thread rush	S3	PR
<i>Leucothoe racemosa</i>	Swamp dog-hobble	S2S3	TU
<i>Lycopus rubellus</i>	Bugleweed	S1	PE
<i>Magnolia virginiana</i>	Sweet bay magnolia	S2	PE
<i>Pandion haliaetus</i>	Osprey	S2B	PT
<i>Panicum lucidum</i>	Shining panic-grass	S1	PE
<i>Panicum scoparium</i>	Velvety panic-grass	S1	PE
<i>Polygala cruciata</i>	Cross-leaved milkwort	S1	PE
<i>Pseudemys rubriventris</i>	Redbelly turtle	S2	CA
<i>Quercus falcata</i>	Southern red oak	S1	PE
<i>Quercus phellos</i>	Willow oak	S2	PE
<i>Sagittaria subulata</i>	Subulate arrowhead	S3	PR
<i>Schoenoplectus fluviatilis</i>	River bulrush	S3	PR
<i>Triplasis purpurea</i>	Purple sandgrass	S1	PE
<i>Vernonia glauca</i>	Tawny ironweed	S1	PE
<i>Woodwardia areolata</i>	Netted chainfern	S2	PT
<i>Zizania aquatica</i>	Indian wild rice	S3	PR

Source: *Pennsylvania DCNR*

Table 4 identifies the key to the PA DCNR state ranking system for PNDI species and ecosystems.

Table 4 - Key to Pennsylvania Department of Conservation and Natural Resources PNDI Ranking System

State Elem	Implication	State Status	Implication
S1	Critically Imperiled in the State (<5 Occurrences)	PE	PA Endangered
S2	Imperiled In The State (6-20 Occurrences)	PR	PA Rare
S3	Rare Or Uncommon in the State (21-100 Occurrences)	PT	PA Threatened
S4	Apparently Secure in the State	PX	PA Extirpated
S5	Demonstrably Secure in the State	CA	Candidate at Risk
A	Accidental in the State	N	No Current LegalStatus
B	Breeding Population in the State		
N	Non-Breeding Population		
X	Believed to be extinct in the State		
?	Uncertain Status		

Source: Pennsylvania DCNR

Prior to development of the trail, further site specific review would be conducted to identify any potential impacts.

LAND USE AND OWNERSHIP

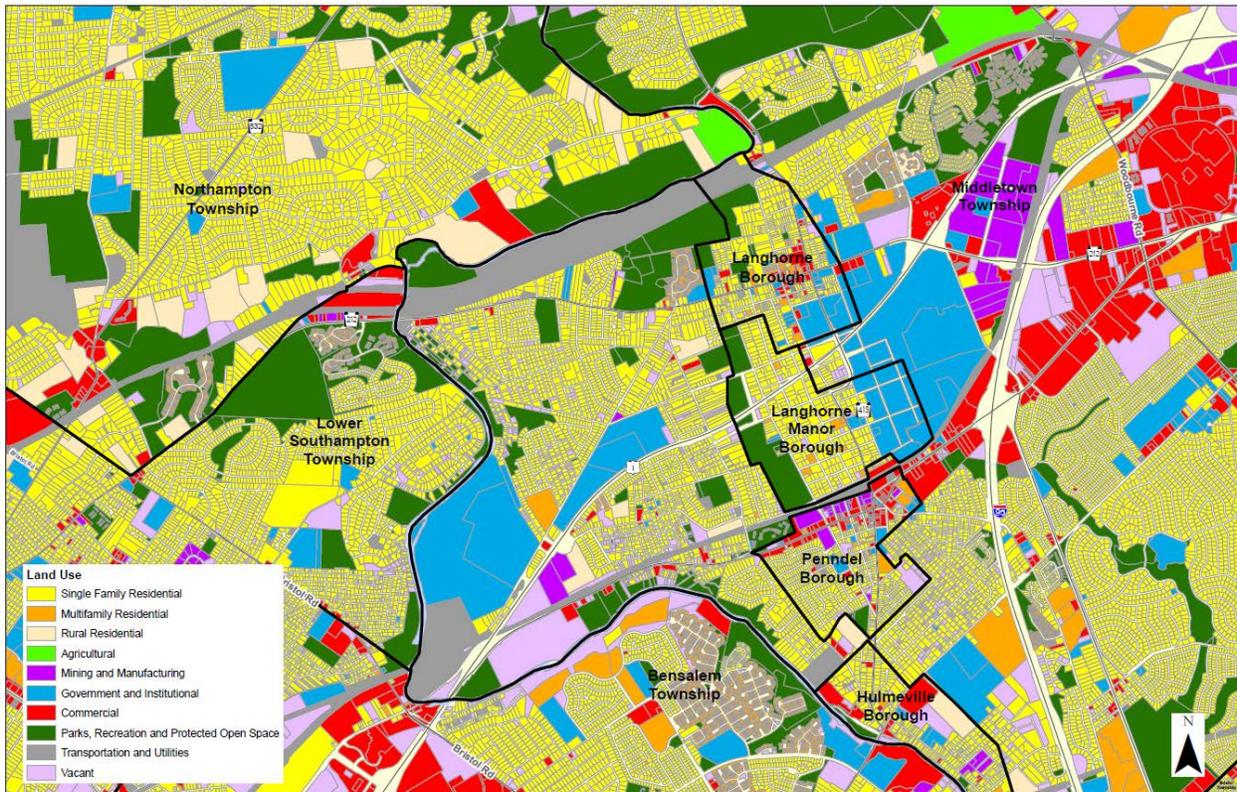
Land Use

Land use is the function of land, or what the land is being used for. In rural areas, land use may primarily consist of open space or agriculture while land use in urban areas may primarily be in the form of housing or commercial uses. A land use map was developed using data from the Bucks County Board of Assessment office showing the general coverage of land uses . The ten land use categories shown on the existing land use maps include:

- Single-Family Residential
- Multifamily Residential
- Rural Residential²
- Agricultural
- Mining and Manufacturing
- Government and Institutional
- Commercial
- Parks, Recreation, and Protected Open Space
- Transportation and Utilities
- Undeveloped

² The same as single-family residential except dwellings are on lots that are 5 acres or more (but do not qualify as agricultural).

Map 11 – Lower Neshaminy Creek Trail Project Area, Land Use (2012)



The Lower Neshaminy Creek Trail project area has a diversity of land uses along the corridor as represented on Map 11.

- Segment 1: The land located along the northern side of the creek is characterized by a mix of open space, agricultural, residential and commercial uses while the land along the southern side of the creek is almost exclusively in the form of transportation associated with the Norfolk Southern Railroad.
- Segment 2: Land use along this segment is primarily characterized by single-family residential, parkland and commercial uses.
- Segment 3: Land use in this segment is slightly more diverse versus Segments 1 and 2 and includes a mix of single-family residential, multifamily residential (Orchard Square Apartments), open space and parkland, and government and institutional land uses (Neshaminy High School and Our Lady of Grace Cemetery) and utilities (AQUA PA).

Land Ownership

The issue of land ownership is critical in determining the feasibility of a proposed trails system. The size of parcels, number of owners to be considered, and the costs to acquire easements are often among the most important considerations in trail development. A trail will be more easily developed if the number of easements to be acquired is minimized. Trail maintenance is also a challenge when trails traverse private property.

In the Lower Neshaminy Creek project area, much of the land within the proposed trail corridor itself is currently owned by either the county, local municipalities, school districts, or transportation and utility companies such as Bucks County, Middletown Township, Neshaminy School District and Norfolk Southern Railroad. Although private residential property owners own much of the land surrounding the proposed trail corridor, the trail will be designed to avoid private residential properties to the greatest extent possible. Primary landowners within the proposed trail corridor include:

Table 5 – Primary Landowners by Segment

	Government	Transportation & Utilities	Educational	Homeowners Associations	Other
Segment 1	<ul style="list-style-type: none"> Bucks County 	<ul style="list-style-type: none"> Norfolk Southern Railroad 		<ul style="list-style-type: none"> Notting Hill Chase 	<ul style="list-style-type: none"> Private Property Owners
Segment 2	<ul style="list-style-type: none"> Bucks County Middletown Township 			<ul style="list-style-type: none"> Woodlyn Crossing Neshaminy Woods 	<ul style="list-style-type: none"> Private Property Owners
Segment 3	<ul style="list-style-type: none"> Bucks County 	<ul style="list-style-type: none"> AQUA PA 	<ul style="list-style-type: none"> Neshaminy School District 	<ul style="list-style-type: none"> Neshaminy Woods Neshaminy Hills 	

HISTORIC SITES

Historic features and sites are often destination points in a trail system. Prior to European settlement in the early 1600s by the Swedes Dutch, English, French Huguenots and other European settlers, southern Bucks County was inhabited by the Lenni Lenape Indian tribe, also known as the Delaware Indians.

The first contact between the Lenape and Europeans occurred in the early 1600s when the early settlers engaged in some trade with the natives. In 1664, the Dutch surrendered to the English the land that is now Lower Bucks County. In 1681, King Charles II of England granted William Penn 40,000 acres of land in the Delaware Valley as repayment for debt owed to Penn’s father. William Penn felt that the native Indian tribes should be justly compensated for these lands, and on June 23, 1683, purchased all of the lands in the project area from the Lenape Indians. William Penn and his surveyor, General Thomas Holme, then proceeded to lay out the City of Philadelphia.

In 1692, Bucks County was divided in five townships: Middletown, Makefield (now Upper and Lower Makefield); Buckingham (now Bristol Borough and Bristol Township), Falls, and Salem (now Bensalem). Because Middletown was in the middle of the five townships, Middletown became its name. Additional inland townships were created in 1703, including Southampton and Warminster. Northampton Township officially became a township in 1722. Until the late 1800s, Middletown included the boroughs of Penndel, Hulmeville, Langhorne, and Langhorne Manor, when these entities split from the Township.

Most of the area consisted of farming communities with just a few settlements near crossroads or mills. Langhorne Borough emerged as an important commercial site as its location at the crossroads of Bellevue Avenue and Maple Ave was a hub of coach transportation along the Bristol-Easton and Philadelphia-Trenton Roads. The borough was an important service center to the farming communities in the area until the 1870s when a reliable rail system, the Philadelphia and Bound Brook Railroad, allowed businessmen to commute between Philadelphia and the rural farmlands.

In 1928, Southampton divided into Upper and Lower Southampton. This coincided with the establishment of improved access to Philadelphia via automobiles as the automobile ownership increased dramatically

due to increased efficiencies associated with assembly-line production which made automobiles affordable to the general population.

During the 1900s the area continued to grow with the largest growth explosion occurring in the late 1950s when William Levitt built Levittown.

Since that time, the area has continued to grow in terms of both residential housing and commercial development. Even though the landscape looks very different than in the past, there are still many historically significant sites throughout the project area. The following table lists the important historical resources in the project area that are 1) already listed on, or 2) are eligible for listing on the National Register of Historic Places, which was created by Congress in 1966 and is administered by the National Park Service, and serves as the nation’s official list of cultural resources worthy of protection.

Table 6 – Historic Sites

	Listed on National Register of Historic Places	National Register Eligible
Langhorne Borough	<ul style="list-style-type: none"> • Langhorne Library • Joseph Richardson House • Tomlinson-Huddleston House • Langhorne Historic District 	<ul style="list-style-type: none"> • Hollywood Building of the Wood School • Pennsylvania Railroad: Morrisville Line
Lower Southampton Township		<ul style="list-style-type: none"> • Pennsylvania Railroad: Morrisville Line • Pennsylvania Turnpike: Delaware River Extension • Pennsylvania & Reading Railroad: New York Division (Jenkintown to Neshaminy Falls) • Pennsylvania & Reading Railroad: New York Division (Philadelphia to Yardley) • Vanartsdale-Snodgrass Farm Complex (Playwicki Farm)
Middletown Township	<ul style="list-style-type: none"> • Edgemont, The Jenks Homestead • Woods School, Harewood & Beechwood 	<ul style="list-style-type: none"> • Pennsylvania Railroad: Morrisville Line • Middletown Crossroads Hotel, Hotel Hellings • Sharon • Jenks Hall • Harveson House • Boone Farm • Village Farm • Bridgetown Historic District • Trainer/White Farm • Hammock Villa, Wildman House • Philadelphia & Reading Railroad: New York Division (Jenkintown to Neshaminy Falls) • Maple Point School • Daniel Larue, Jr. House • Levittown Historic District • Pennsylvania & Reading Railroad: New York Division (Philadelphia to Yardley) • Philadelphia Suburban Water Company
Northampton Township	<ul style="list-style-type: none"> • Churchville Historic District • Twin Trees Farm • Hampton Hill • John Thompson House • Willow Mill Complex 	<ul style="list-style-type: none"> • Solly Farm • Van Artsdalen Farm • Recklitis Farm • Spring Garden Mills • White Bear/Spread Eagle Inn • James Cornell Farm • Pennsylvania Railroad: Morrisville Line • Northampton High School • Dungan Farm

Source: Pennsylvania Historical and Museum Commission, Cultural Resources Geographic Information System
<https://www.dot7.state.pa.us/ce/main.htm>



Playwicki Farm

PARKS, TRAILS AND TRANSPORTATION

Providing connections to parks, recreational areas, commercial centers, as well as existing trails within the project area, is one of the primary goals and objectives of the Lower Neshaminy Creek Trail. These open space areas offer recreational, scenic, and education opportunities that enhance a trail user’s outdoor experience. Additionally, recognizing that the trail will also serve as part of a larger transportation network, providing connections to public transportation, was also considered important. These various connections by trail segments are outlined below.



Playwicki Park

Table 7 – Parks, Trails, Open Space and Public Transportation

	Public Parks	School Recreational Sites	Commercial Centers	Trails	Public Transportation
Segment 1	<ul style="list-style-type: none"> Core Creek Park Playwicki Park 		<ul style="list-style-type: none"> Langhorne Borough 		<ul style="list-style-type: none"> SEPTA Bus Route 130
Segment 2	<ul style="list-style-type: none"> Bucks County Open Space along the east bank of the Neshaminy Creek Detective Christopher Jones Memorial Park 		<ul style="list-style-type: none"> CVS Pharmacy Plaza 	<ul style="list-style-type: none"> Detective Christopher Jones Memorial Park 	
Segment 3		<ul style="list-style-type: none"> Neshaminy High School 			<ul style="list-style-type: none"> SEPTA Bus Routes 58 SEPTA Neshaminy Falls Train Station

RIGHTS-OF-WAY

Much of the land within the Lower Neshaminy Creek Trail project area is publicly held land which minimizes the need for easements; however, in some cases easements and/or land acquisition will be required to secure the right-of-way for the trail. For instance, if the Norfolk Southern and/or AQUA PA properties are to be used for trails, easements or acquisitions will need to be obtained from them. Additionally, if the proposed trail alignment crosses school district property, easements will need to be negotiated with the respective school district. In recognition of this, as part of the planning process, discussions were held with representatives from these various entities to understand concerns they might have regarding placement of the trail on their property.

AQUA PA

The primary utility in the Lower Neshaminy Creek Trail project area consists of the AQUA PA property located at the terminating point of the project area at Neshaminy Falls at the end of Old Lincoln Highway. Discussions with AQUA PA resulted in several concerns regarding the placement of the trail on AQUA PA property. These concerns primarily centered the security for the continued protection of their facilities and the effect that any compromise at the facility could have on the public health of the region. Additionally, AQUA PA also expressed concerns about placement of the trail on Neshaminy School District property given the potential placement of the trail in close proximity to the quarry located on the AQUA PA site. AQUA PA instead expressed an interest in having the trail placed as far as possible from their property. To the extent possible, these concerns were taken into account in developing the proposed trail alignment for Segment 3 of the trail as will be discussed in the Lower Neshaminy Creek Trail Plan segment of this study.

Norfolk Southern Railroad

The Norfolk Southern Railroad corridor bisects the project area and runs parallel to the creek on its southern side between Playwicki Park and PA 413/Newtown-Langhorne Road. Norfolk Southern is supportive of the use of the former railbed between the creek and the active rail line for use of the trail provided that the land is acquired from them and that a barrier be provided between the inactive rail bed and the active rail line to ensure the safety of trail users. Again, these stipulations were taken into account in the planning of the proposed trail alignment for Segment 1.



Norfolk Southern Railroad Corridor

Neshaminy School District

Discussions with the principal of Neshaminy High School and the facilities manager for the Neshaminy School District revealed that they tentatively are in support of the trail with certain restrictions and stipulations. These include 1) keeping trail users such as bicyclists far away from the actual school buildings to avoiding mixing outsiders with the student population; 2) prohibiting the use of the existing faculty and student parking lots by trail users given the already existing shortage of parking on campus; 3)

ensuring that the trail is designed to be as safe as possible by incorporating fencing and other safety measures where needed; and 4) working collaboratively with the Neshaminy School District and AQUA PA relative to restricting access to the quarry on the adjacent AQUA PA property given the safety risks it poses.



Neshaminy High School

LOWER NESHAMINY CREEK TRAIL PLAN

TRAIL DESIGN STANDARDS

The Lower Neshaminy Creek Trail is being planned and designed to comply with various standards and guidelines for the design of trails and bicycle facilities including:

- American Association of State Highway and Transportation Officials (AASHTO) Guide for the Planning, Design, and Operation of Bicycle Facilities
- ADA Accessibility Guidelines for Buildings and Facilities (ADAAG)
- ADA Standards for Accessible Design
- Federal Access Board Accessibility Guidelines for Outdoor Developed Areas (AGODA)
- Public Right of Way Accessibility Guidelines (PROWAG)
- Manual on Uniform Traffic Control Devices (MUTCD)
- Pennsylvania Trail Design & Development Principles

Bucks County has developed Trail Design Standards that will apply to all future trails, pedestrian and bicycle facilities developed by the County including the following types of trails:

Table 8 – Types of Trails

Trail Type	Description of Trail Type
Hiking Trails	Trails designed to provide hikers, joggers and walkers the opportunity to experience and interact with nature with minimal disturbance from other trail users. As these trails are not designed to accommodate wheeled traffic, these are most often natural surface trails.
Pedestrian Facilities in the Public Right-of-Way	<p>These facilities include:</p> <ul style="list-style-type: none"> ▪ Trails in the public right-of-way where the right-of-way is not wide enough to accommodate a multi-use trail ▪ Sidewalks that are widened or retrofitted to accommodate more than one pedestrian user group at a time <p>In both cases, the intent is to provide a safe, two-way shared use area for pedestrians where a multi-use path cannot be accommodated. Although these would typically exclude wheeled traffic in most cases, there may be instances in which it is necessary to allow for wheeled traffic as well.</p>
Multi-use / Shared-Use Trails	A trail that permits more than one user group including joggers, walkers, hikers, bicyclists, to occupy the trail at the same time. As the trail is designed to accommodate multiple users including wheeled traffic, these trails would most often be constructed of a hard paved or compacted cinder surface.
On-Road Bicycle Facilities	<p>This type of trail consists of the creation or designation of the following:</p> <ul style="list-style-type: none"> ▪ Bicycle Lane - A dedicated portion of the roadway that has been designated by striping, signage, and pavement markings for the exclusive use of bicyclists. ▪ On-road Bicycle Route - A shared right-of-way on roadways designated with appropriate information signs to help encourage use and warn motorists that bicycles may be present in the roadway.

The differentiation between these trail types, and the accompanying trail design standards, are designed to:

- Promote consistency of standards and guidelines across the County trail network.

- Increase user safety, comfort and convenience.
- Promote universal access, where possible, to users with a broad range of skill levels and abilities, including children, older adults and people with disabilities.
- Minimize impact to sensitive natural resources.
- Increase the ease of long-term trail and facility maintenance by recommending the use of materials and construction practices appropriate for the trail being developed.

The standards for trails in Bucks County outlined in Table 9 were derived from multiple sources and are intended as a planning tool to allow for flexibility in design, appropriate to the location, site-specific environmental conditions, and expected users. However, the guidelines are not intended to be engineering specifications or replace existing mandatory or advisory state and federal standards, nor the exercise of engineering judgment by licensed professionals.

Table 9 – Bucks County Trail Standards

	Trail Width (Min)	Shoulder Width each side (Min)	Trail Surface		Trail Running Slope		Trail Cross Slope		Vertical Clearance (Min)	Other
			Desired	Acceptable	Min	Max	Min	Max		
Hiking Trail										
Hiking Trail	6 feet *	-	Compacted Gravel	Compacted Earth / Natural Surface	0%	12.5%	2%	5%	8 feet	Trailhead Signage
Pedestrian Facilities in Right-of-Way										
Sidewalk	5 feet	2 feet	Concrete	Asphalt	1%	2%	1%	2%	8 feet ***	Wayfinding Signage
Trail	8 feet	2 feet	Asphalt	Asphalt	1%	2%	1%	2%	8 feet ***	Wayfinding Signage
Multi-Use										
Multi-Use Trail	10 feet	2 feet	Asphalt	Cinder	1%	5%**	1%	2%	8 feet ***	Trailhead and Wayfinding Signage
Boardwalk	10 feet	-	Concrete	Wood / Synthetic	1%	5%	1%	2%	8 feet ***	3" edge protection for boardwalks 30" or less above grade / 42" handrails for 30"+ above grade
On-Road Bike Facilities										
Bicycle Lane	5 - 6 feet	6 - 8 feet	Asphalt	Asphalt	-	-	-	-	10 feet	MUTCD**** Pavement Markings and R3-17 Bike Lane sign
On-Road	-	-	Asphalt	Asphalt	-	-	-	-	10 feet	MUTCD: Shared Lane Markings and W6-101 Share the Lane sign
Road Pedestrian Facilities (To be minimized where possible)										
On-Road	-	-	Asphalt	Asphalt	-	-	-	-	-	MUTCD: R9-1 Walk on Left Facing Traffic sign

* Anything less than 5 feet requires a passing space at intervals no less than 1,000 feet

** Following variances are allowable: 8.3% maximum for distances up to 200 feet / 10% maximum for distances up to 30 feet / 12.5% maximum for up to 10 feet

*** Minimum clearance overpasses: 10 feet

**** Manual on Uniform Traffic Control Devices - U.S. Department of Transportation - Federal Highway Administration

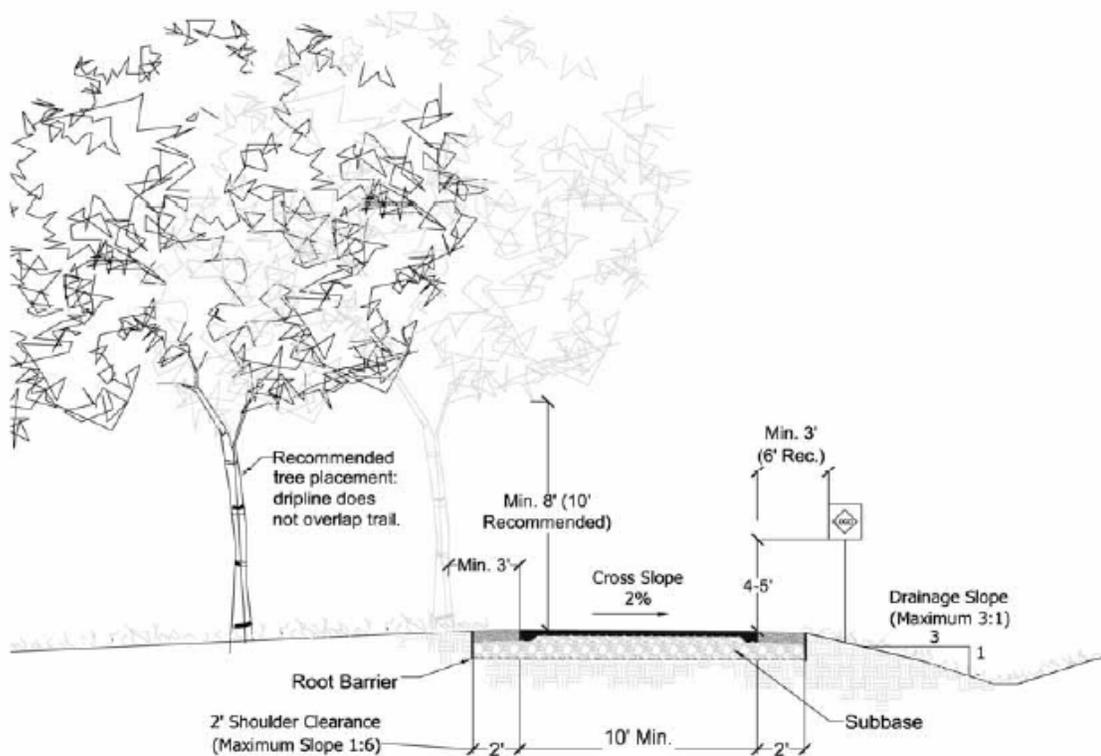
TRAIL DESIGN ELEMENTS

Trail Surface, Width, Slope and Vertical Clearance

The Lower Neshaminy Creek Trail is designed to be a 10-foot wide, paved, multi-use recreational trail where possible. Standards for a two-way shared use path are 10 feet in width with a 2-foot wide graded shoulder [with maximum slope of 1:6], on either side of the trail. Therefore, the trail surface area alone should be 14 feet in width, plus a 3 to 6-foot buffer or grading area on either side of the trail. Bridges and any required boardwalk sections would also have a travel width of 10 feet.

Specific to the Lower Neshaminy Creek Trail, one of the questions received at the public workshops was whether pervious pavement could be utilized. The use of pervious pavement is not practical for wooded or flood-prone areas due to sediment and leaf-litter filling the porous voids of the pavement. In addition, much of the underlying soil types in the proposed trail corridor are not well draining which would limit the effectiveness of any pervious pavement.

The recommended typical design cross-section is shown below. This design would be modified to fit various environmental conditions that are encountered. Additionally, off-road sections of the trail will be designed with adequate clearance and load-bearing capacity to support emergency vehicles.



TRAIL SAFETY SIGNAGE

Although the trail system is designed to minimize the extent to which users will be on-road, there may be sections where the trail will need to utilize existing streets or roadways which carry low volumes of motor vehicle traffic. In these situations, the *Manual on Uniform Traffic Control Devices* recommends a combination of signage and on-road pavement markings to help improve pedestrian safety.

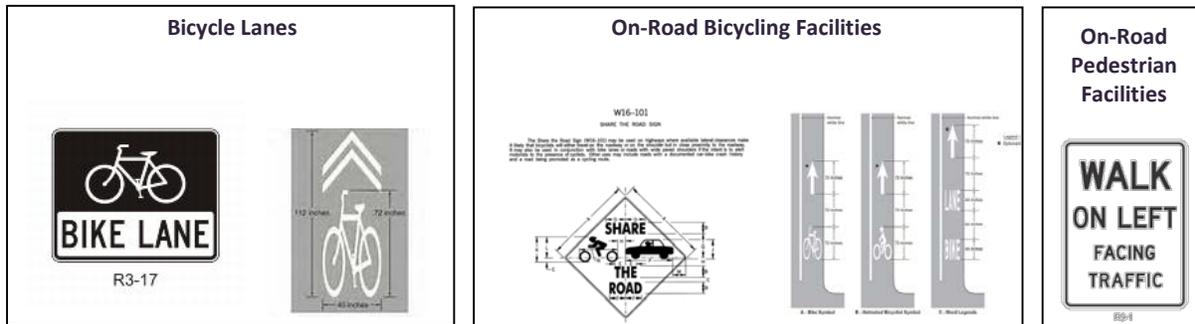
Pedestrians in Roadway: Section 2B.50 of the *Manual on Uniform Traffic Control Devices* recommends signage to help improve pedestrian safety on roadways with no adjacent sidewalks or shoulders.

Bicyclists in Roadway: The regulations and signage requirement vary dependent upon the speed limit of the road:

- **Roads with a speed limit of greater than 35 miles per hour:** Section 9B.18 of the *Manual on Uniform Traffic Control Devices* specifies that Share the Road signs should be used on roadways with a speed limit above 35 mph where there is a need to warn motorists to watch for bicyclists traveling along the roadway.
- **Roads with a speed limit 35 miles per hour or less:** Section 9C.07 Shared Lane Marking specifies the parameters for the use of Shared Lane Markings, also known as Bike Sharrows. Specifically, Shared Lane Markings may be used to:
 - Assist bicyclists with lateral positioning in lanes that are too narrow for a motor vehicle and a bicycle to travel side by side within the same traffic lane;
 - Alert road users of the lateral location bicyclists are likely to occupy within the traveled way;
 - Encourage safe passing of bicyclists by motorists; and
 - Reduce the incidence of wrong-way bicycling.

Examples of the recommended pavement markings and signage are shown below.

Manual on Uniform Traffic Control Devices – Pavement Markings and Signage



In addition to signage and pavement markings being used to alert motorists of the existence of trail users within or adjacent to the roadway, Rectangular Rapid Flashing Beacons and clearly marked crosswalks will be used anytime the trail crosses a roadway where the crosswalk approach is not controlled by a yield sign, stop sign, or traffic-control signal; or at a crosswalk at a roundabout.



Trail Informational Signage

The trail system will also be designed to incorporate additional signage such as wayfinding and trailhead signage. To comply with Americans with Disabilities Act accessibility requirements, trailhead signage will incorporate the following information:

- Length of the trail or trail segment
- Surface type

- Typical and minimum trail width
- Typical and maximum trail grade / running slope
- Typical and maximum cross slope



Emergency Signage

To improve emergency response to trail incidents, it is recommended that the Lower Neshaminy Creek trail incorporate an Emergency Locator System. This system would place signage markers with unique location identifiers at every eighth of a mile. These assigned geographic coordinates would allow emergency crews, such as the Bucks County Department of Emergency Communications, to easily determine the best route for reaching the emergency.

Parking Areas / Trailheads

Trailhead parking areas will provide points of access for trail users. These access points will not only accommodate people from the immediate area, but those who have traveled farther to use the trail. Although a number of residents will likely walk or bike to the trail from their homes, it can be anticipated that many people will also choose to drive. Each of the parking options discussed below in the Trail Alignment section will need to be further explored as part of the Design Phase when more detailed survey information is available in order to further assess lot size, feasibility, practicality, permeability, and safety issues.

Boardwalks and Bridges

Site characteristics, property ownership and other constraints within the Lower Neshaminy Creek Trail project area may require that the trail cross the creek or be constructed within wetland areas. Where the trail alignment crosses through the floodplain, much of the trail will be elevated and will occasionally cross the creek channel. The selection of construction methods will need to consider how the water surface elevations vary along the various creeks. Construction of bridge and boardwalk facilities within the floodway may impact surface water levels if these structures impede flow within the trail corridor. The proposed design should minimize blockage of flows within the floodplain and should recognize the potential for debris to accumulate on the upstream face of bridge sections. It is recommended that bridges be placed above the flood elevation.

Bridges and boardwalks can be surfaced with a variety of materials including timber or timber-plastic composites, concrete or steel. The main factors driving the frequent use of timber are its low initial cost, the perception that it is more suitable to natural environments, and the comparative simplicity of timber construction in sensitive environments, given its light weight and ease of fabrication. The disadvantage of timber is that it is susceptible to deterioration from exposure to the environment, even when pressure treated, and that timbers may be slippery in wet or merely damp conditions.

Physical Barriers

In certain areas, physical barriers such as wood rail fencing, dense shrubbery, or other type of physical barrier may need to be installed along the trail to prevent users from traversing the side slopes. Typically this barrier should be installed along the top of slope to protect trail users. In general, the greater the height of the drop-off, the greater the need for protection. According to AASHTO guidelines, the fence should be set at a height of 3.5 feet (42 inches). Rub-rails are recommended at a height of approximately 3-feet from grade to prevent snagging of handlebars. All fences should be smooth and free of protruding objects such as bolts.

Trail Furnishings

Trail furnishings will enhance the comfort and enjoyment of trail users. These amenities could include benches; picnic tables and shelters; trash receptacles; bike racks; information kiosks; educational signage; and canoe/kayak launch facilities. Primary considerations for recommending amenities and other trailside items should include:

- Appropriateness
- Maintenance requirements
- Functionality and durability
- Cost
- Attractiveness of design

EXAMPLES OF SIMILAR TRAIL SYSTEMS

The Wissahickon Creek Trail, also known as the Green Ribbon Trail, is a similar trail system to what is proposed for the Lower Neshaminy Creek Trail. This trail is 20 miles in length and features a combination of both paved asphalt trail at its lower end, with natural surface or hard cinder surfaces at its northern end due to environmental concerns.



Wissahickon Green Ribbon Trail

The Pennypack Trail is a 10-mile paved asphalt trail running along the banks of the Pennypack Creek within the City of Philadelphia. The trail also continues into Montgomery County where the trail surface is crushed stone.



Pennypack Trail

Additional trails that are similar in nature, with the exception of different trail surfaces and other trail components, include the Perkiomen Trail (21 miles) and the Delaware Canal Towpath Trail.

TRAIL ALIGNMENT

The proposed trail alignment was submitted to the Steering Committee for their review and comment and was also presented to the public as part of the public participation process. The proposed alignment was also reviewed with AQUA PA, the Neshaminy School District, and Norfolk Southern. The proposed alignment incorporates feedback received from these various groups.

Key factors considered in developing the proposed alignment included:

- Provide connectivity to adjacent neighborhoods, commercial areas, park and recreational sites, schools, and existing trail networks.
- To the extent possible, limit the impact to natural resource features.
- Ensure the safety of all trail users.
- Design the trail to minimize future maintenance requirements.
- Comply with ADA guidelines to the fullest extent possible.

Following is a segment-by-segment analysis that provides a detailed discussion of each trail segment.

SEGMENT 1: BRIDGETOWN PIKE / NEWTOWN-LANGHORNE ROAD INTERSECTION TO PLAYWICKI PARK - 2.1 MILES

Three different alignments were evaluated for the initial segment of the trail, all of which begin at the intersection of Bridgetown Pike and Newtown-Langhorne Road. The three alignments evaluated, and identified as Alignments A, B and C on Map XX, included the following:



Intersection of Bridgetown Pike and Newtown-Langhorne Road.

Alignment A - 2.1 miles (Recommended alignment)

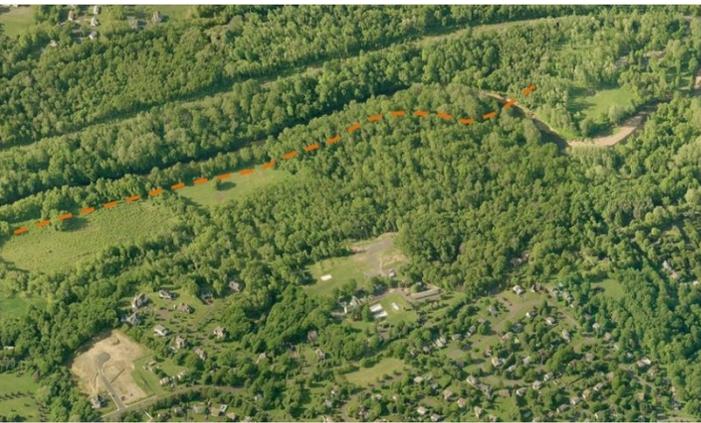
From the intersection of Bridgetown Pike and Newtown-Langhorne Road, the trail would head west making use of the existing trail along the southern side of Bridgetown Pike running adjacent to the Bridgetown Mill House and continuing across the existing bridge over the Neshaminy Creek near its confluence with Core Creek. Once across the old bridge, the trail would turn south onto private property and follow the bend in the creek. To minimize tree disturbance and minimize the use of boardwalks which might be required if the trail were placed closer to the creek, it is envisioned that the trail would follow the tree line between the existing fields and the heavily wooded riparian buffer. The placement of the trail on private property would require securing two easements from property owners who would be consulted as to the actual final placement of the trail on their property.



Existing trail along south side of Bridgetown Pike in front of Mill House – Alignment A & B.



Existing bridge over Neshaminy Creek near confluence with Core Creek – Alignments A & B.



Aerial view showing potential trail alignment on private property at bend in the Neshaminy Creek – Alignment A.

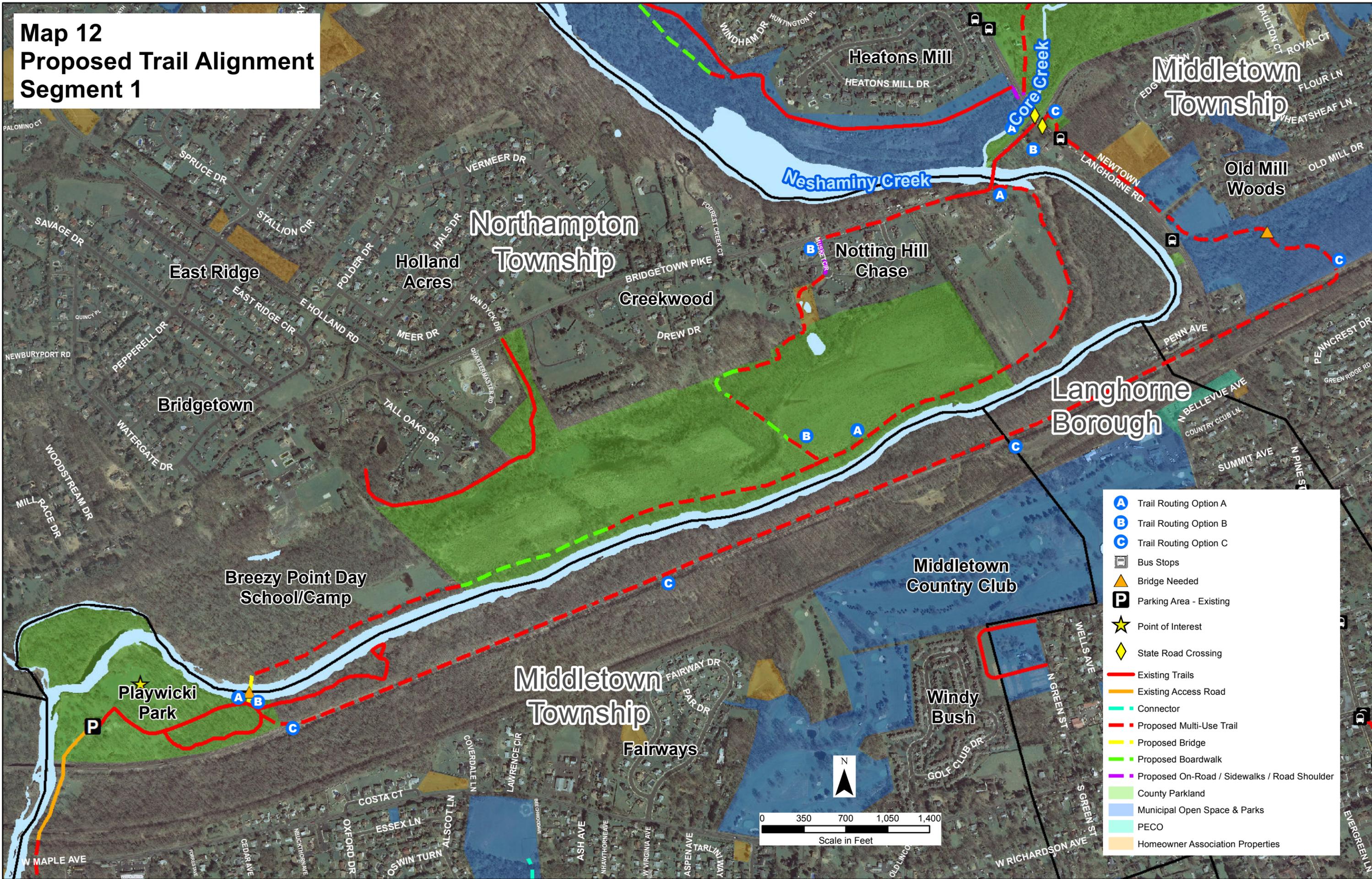


Northampton Township Municipal Authority sewer line easement area on Bucks County property – Alignments A & B.

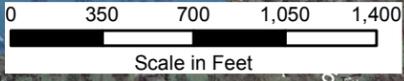
The trail would then continue west onto property owned by Bucks County. Although the property is owned by the county, final placement of the trail would need to consider existing easement provisions with Northampton Township Municipal Authority which has sewer line easements on this property. Additionally, a final wetlands delineation study would be required as much of the property appears to contain wet soil conditions at various times. The trail on county-owned property would extend for approximately 4,900 feet before entering the Breezy Point Day School property.

The trail would continue westerly approximately 1,900 feet along the Breezy Point property, before turning south to cross the creek via a large span bridge into Playwicki Park owned by Bucks County. As with other private property, the right-of-way for placement of the trail on the Breezy Point Day School property would need to be secured either via an easement or via acquisition with final placement of the trail being subject to consultation with the property owner and an assessment of physical conditions on the property.

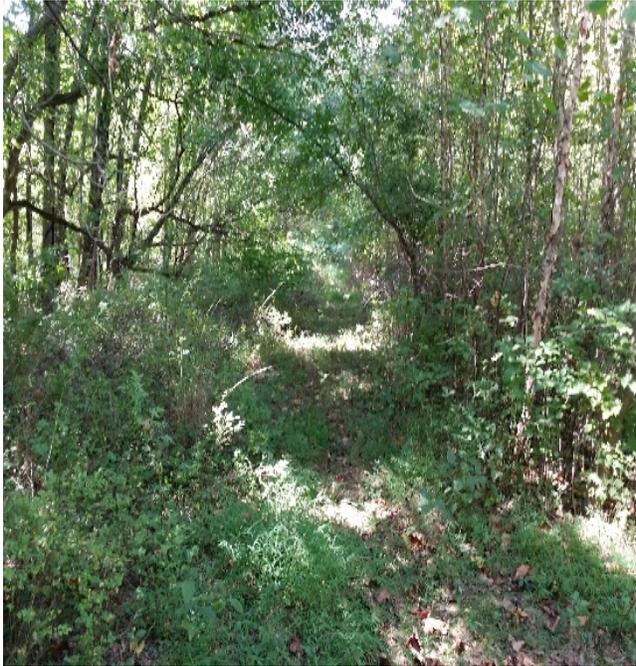
**Map 12
Proposed Trail Alignment
Segment 1**



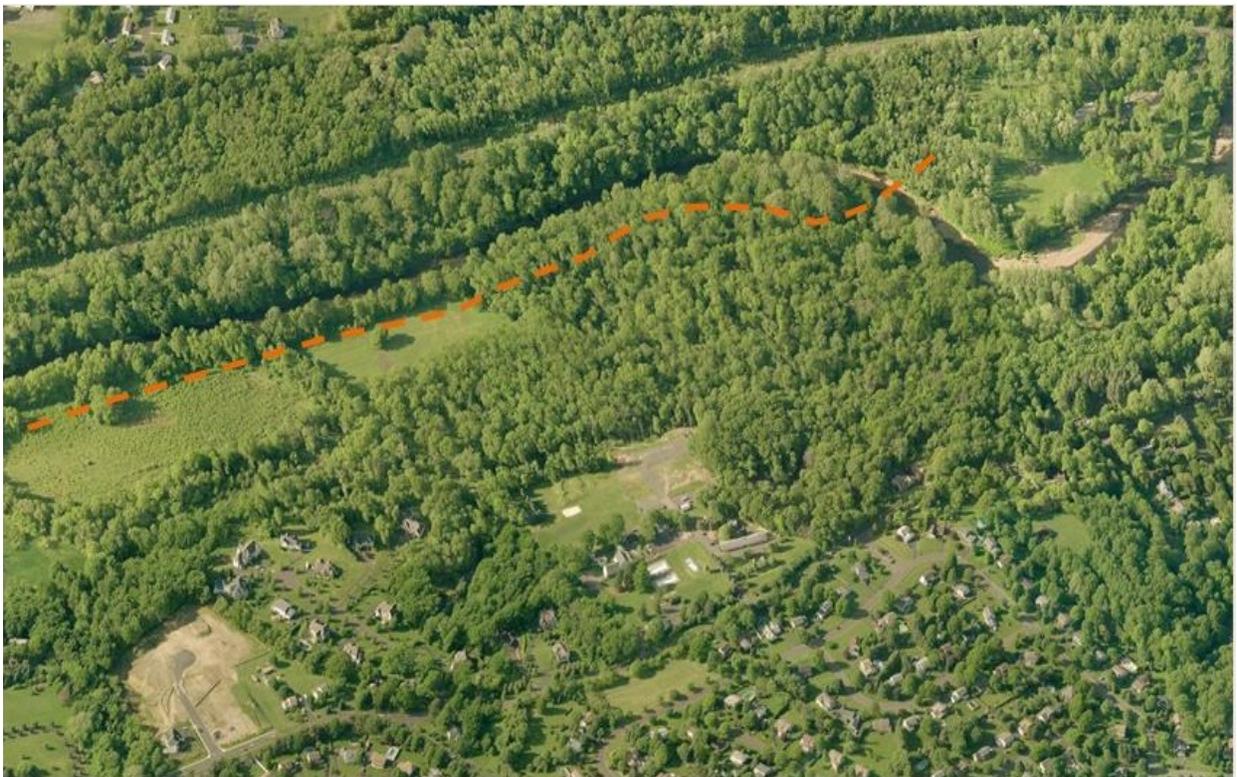
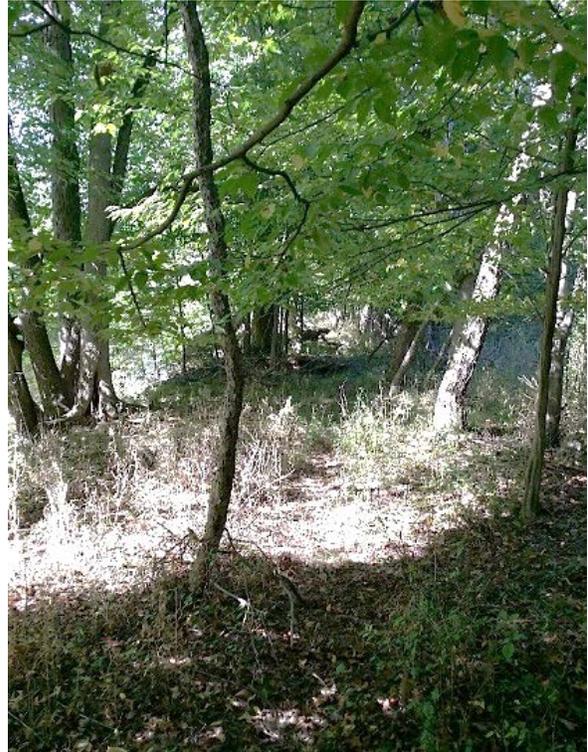
- A** Trail Routing Option A
- B** Trail Routing Option B
- C** Trail Routing Option C
- Bus Stops
- Bridge Needed
- P** Parking Area - Existing
- Point of Interest
- State Road Crossing
- Existing Trails
- Existing Access Road
- Connector
- Proposed Multi-Use Trail
- Proposed Bridge
- Proposed Boardwalk
- Proposed On-Road / Sidewalks / Road Shoulder
- County Parkland
- Municipal Open Space & Parks
- PECO
- Homeowner Association Properties



Once within Playwicki Park, the trail would make use of the existing trails within the park, continuing for approximately 1,200 feet to the parking lot which would serve as a trailhead location for the trail and the terminating point for this segment of the trail.



Existing footpath adjacent to Neshaminy Creek on Bucks County properties.



Aerial view showing potential trail alignment across Breezy Point Day School property – Alignments A & B.

Alignment B - 2.2 miles

Alignment B would follow the same initial path as Alignment A, making use of the existing trail along the southern side of Bridgetown Pike running adjacent to the Bridgetown Mill House and continue across the old bridge over the Neshaminy Creek near its confluence with Core Creek. However, instead of turning south and onto private property, the trail would continue west for approximately 270 feet along the old road alignment for Bridgetown Pike up to its intersection with the new road alignment.



Old road alignment for Bridgetown Pike.



Existing right-of-way along south side of Bridgeton Pike.



Existing sidewalk in Bridgetown Pike right-of-way between Powderhorn Court and Musket Circle.



Existing right-of-way along south side of Bridgeton Pike approaching Powderhorn Court.

Upon reaching Bridgetown Pike, the trail would continue in the right-of-way along the southern side of Bridgetown Pike for approximately 1,200 feet until reaching Musket Circle. There is an existing sidewalk in the right-of-way between Powderhorn Court and Musket Circle that would be widened to an 8-foot wide trail. Upon reaching Musket Circle, the trail, becoming an on-road segment at this point, would head south for approximately 325 feet until reaching a curb cut that leads onto a parcel owned by the Notting Hill Chase Community Association, containing a stormwater basin for the community. The trail would continue on this property along the top edge of the stormwater basin for approximately 575 feet. As this is community-owned property, an easement would need to be obtained for placement of the trail on this property.

Upon exiting the community-owned stormwater basin, the trail would then continue onto property owned by Bucks County, with the same need to consider existing lease agreements with Northampton Township Municipal Authority, as outlined in Alignment A. The trail would then follow the same route as Alignment A, that being exiting the county property onto the Breezy Point Day School property, before turning south to cross the creek into Playwicki Park and the trailhead located there.



Musket Circle



Curb cut on Musket Circle leading to stormwater basin owned by the Notting Hill Chase Community Association



View from Notting Hill Chase stormwater basin looking up toward Musket Circle.



View across Neshaminy Creek from Playwicki Park to Breezy Point Day School – Alignments A & B.

Alignment C – 2.7 miles

Although starting at the intersection of Bridgetown Pike and Newtown-Langhorne Road, Alignment C differs from Alignments A & B as the trail would initially head east for approximately 70 feet on county-owned property at the southeast corner of that intersection. The trail would then wrap around the old stone house located on that property and continue in the right-of-way along the eastern side of Newtown-Langhorne Road for approximately 850 feet before entering onto property owned by Middletown Township located at the intersection of Newtown-Langhorne Road and Old Mill Drive. The trail would continue for approximately 2,050 feet across township property, crossing Old Mill Drive, and continuing into the woods located between the Old Mill Woods community and the Norfolk Southern corridor. Once in the woods, the trail would cross a small stream and proceed uphill to the Norfolk Southern corridor.

Once within the Norfolk Southern corridor, the trail would proceed approximately 9,600 feet along the inactive rail corridor before approaching Playwicki Park. As the trail approaches the park, it would make a gradual descent into the park given the slope conditions extending down from the rail corridor into the park. Once within Playwicki Park, the trail would make use of the existing trail to access the trailhead parking located within the park. The inactive rail corridor is the northern most corridor running parallel to the creek.

During the planning discussions with Norfolk Southern, they indicated that although supportive of trails, they do not offer easements on or lease their lands for rail projects, instead preferring to sell the land to those interested in developing the trail. They then detailed the process to be followed in terms of both they and the interested party



Old stone house on Bucks County property at southeast corner of intersection of Newtown Langhorne Road and Bridgetown Pike.



Right-of-way along Newtown-Langhorne Road looking north toward Bridgetown Pike from Old Mill Road.



Middletown Township open space between Old Mill Drive and Norfolk Southern corridor.

securing appraisals for the land, and their internal review process. They also indicated that as part of the subdividing off of the active from the inactive rail corridor, the subdivision line would fall evenly between the two corridors. Additionally, specific to this potential project, they indicated that a barrier would need to be provided given that the rail line to the south is still active.

No formal application was submitted for acquiring the land, specific property boundaries discussed, or appraisals obtained for the land. Based on GIS mapping tools, a conservative estimate indicates that a minimum of approximately 134 acres would need to be acquired.

Although no appraisals were secured for the property, it is most likely that the cost to acquire the land would be somewhere between \$6,700,000 (based on \$50,000 per acre) and \$10,720,000 (based on \$80,000 per acre). These costs don't include the costs associated with providing the secure barrier needed between the two corridors. Because of these acquisition costs, Alignment C was eliminated from consideration as being a viable alignment.



Exit from township-owned woods into Norfolk Southern corridor.



Existing hiking trail in township-owned woods adjacent to Norfolk Southern corridor.



Typical view of inactive Norfolk Southern railroad corridor with tracks removed.



View south from bridge with inactive rail towards bridge with active Norfolk Southern rail line over Newtown-Langhorne Road.



Existing hiking trail in woods owned by Norfolk Southern adjacent to Neshaminy Creek.



Existing footpath leading down from Norfolk Southern corridor into woods between rail corridor and creek.

Recommended Alignment for Segment 1

Alignment A is the preferred alignment as compared to Alignment B as it keeps the trail closer to the creek, minimizes any potential disturbance to home owners along Musket Circle, and keeps the trail further away from busy Bridgetown Pike.

Alignment A is preferred over Alignment C due to the cost of acquiring the right-of-way from Norfolk Southern and providing a barrier between the inactive rail corridor and the active corridor.

SEGMENT 2: PLAYWICKI PARK TO INTERSECTION OF ARBUTUS AVENUE & ROSEWOOD AVENUE - 1.8 MILES

Segment 2 of the trail would begin at the parking lot within Playwicki Park and would make use of the existing entrance drive into the park. After passing under the second more southerly railroad bridge, the trail would become an off-road trail and would proceed under the new West Maple Avenue Bridge currently under construction which is being built with room for a trail along the eastern creek bank.



Entrance drive into Playwicki Park.



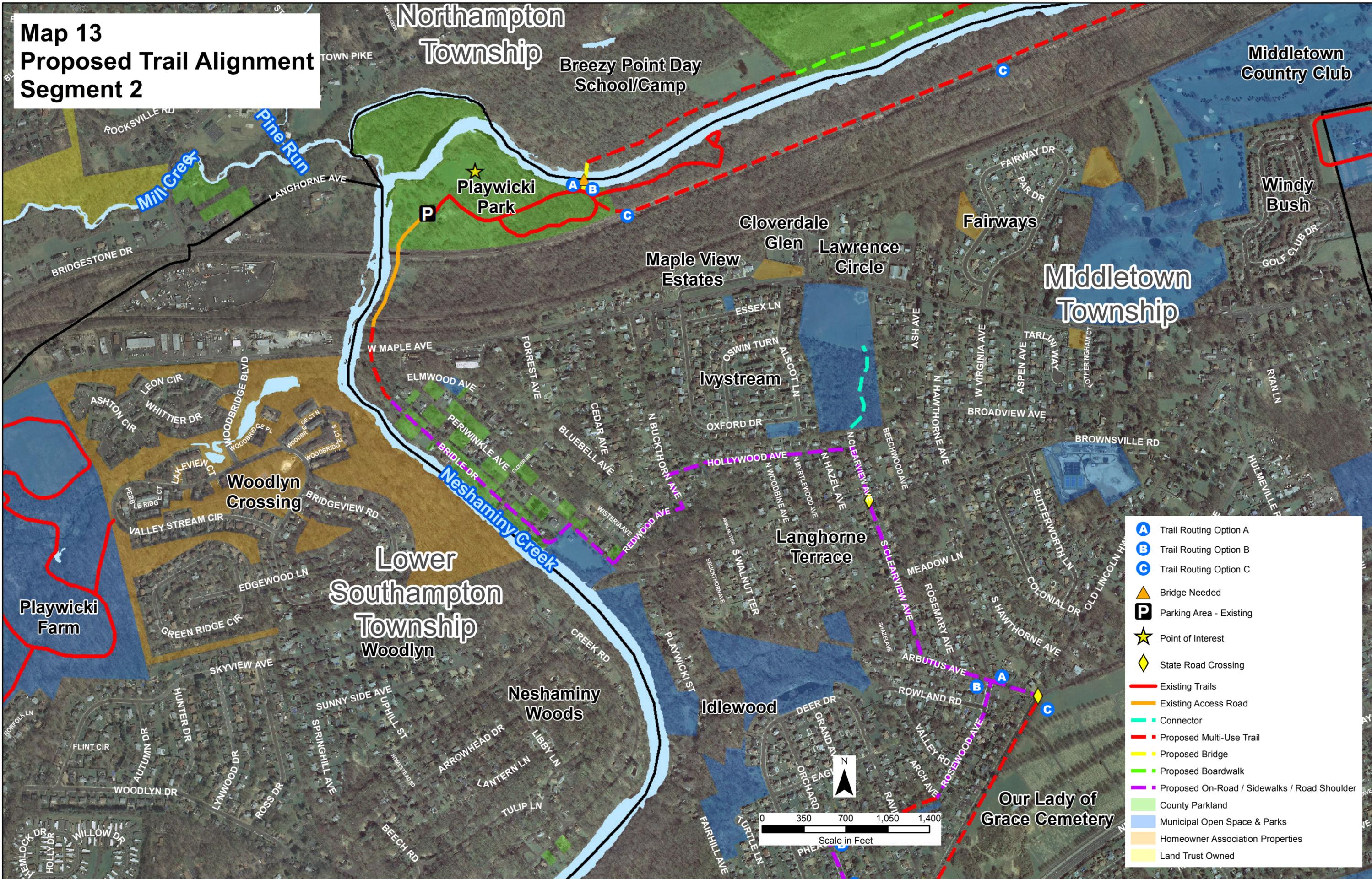
Playwicki Park parking lot.

Once under the West Maple Avenue Bridge, the trail would continue off-road on undeveloped private property for approximately 400 feet before reaching Bridle Drive / Oriental Drive. As with other private property that the trail is proposed to cross, easements on the properties impacted or acquisition of the properties would be required.

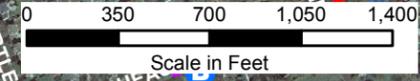


Old West Maple Avenue – Route 213 Bridge – Trail would pass under the new bridge along the east bank of the creek shown to the left.

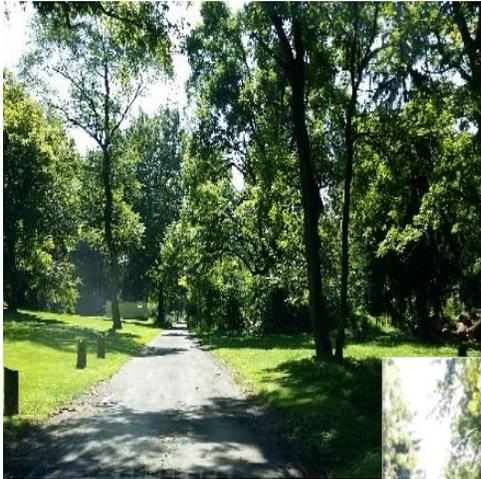
**Map 13
Proposed Trail Alignment
Segment 2**



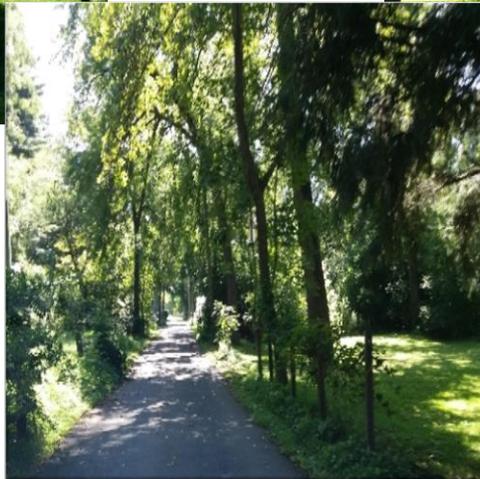
- A Trail Routing Option A
- B Trail Routing Option B
- C Trail Routing Option C
- ▲ Bridge Needed
- P Parking Area - Existing
- ★ Point of Interest
- ◆ State Road Crossing
- Existing Trails
- Existing Access Road
- Connector
- - - Proposed Multi-Use Trail
- Proposed Bridge
- Proposed Boardwalk
- Proposed On-Road / Sidewalks / Road Shoulder
- County Parkland
- Municipal Open Space & Parks
- Homeowner Association Properties
- Land Trust Owned



Upon reaching Bridle Drive / Oriental Drive, the trail becomes an on-road trail for the remainder of Segment 2. Initially the trail would continue on-road on Bridle Drive / Oriental Drive for approximately 1,800 feet to Mistletoe Drive, and then turn left onto Mistletoe Drive for approximately 225 feet to the intersection with Periwinkle Avenue. Bridle Drive / Oriental Drive sees very low traffic volumes as it is located in the area where the FEMA buyout and home elevation program occurred due to repetitive flood losses in the area. There are less than a half-dozen homes remaining along this road so traffic volumes are very low. With ongoing maintenance, it is anticipated that the road can serve as the trail for this segment.



Oriental Drive/Bridle Drive



Mistletoe Drive looking towards intersection with Periwinkle Avenue.

Upon reaching Periwinkle Avenue, the on-road trail would proceed approximately 500 feet to the intersection of Periwinkle Avenue and Redwood Avenue. At Redwood Avenue, the trail would proceed to the northeast for approximately 775 feet to its intersection with North Buckthorne Avenue. The trail would then head north on-road along North Buckthorne Avenue to its intersection with Hollywood Avenue where the trail would then turn east and proceed approximately 1,575 feet to its intersection with North Clearview Avenue.



Redwood Avenue



Hollywood Avenue



North Clearview Avenue



Brownsville Road looking east toward intersection with North Clearview Avenue (left) and South Clearview Avenue (right).

Detective Christopher Jones Memorial Park Connector Trail - 0.2 miles

In recognition that one of the stated goals and objectives of this study was to identify connections to neighborhoods and residential areas, a connector trail is proposed which would connect into Detective Christopher Jones Memorial Park. The connector trail would branch off the primary trail at the northern end of North Clearview Avenue and proceed north approximately 700 feet through the woods to connect into the existing trail within the park.



Detective Christopher Jones Memorial Park

At the intersection of Hollywood Avenue and North Clearview Avenue, the trail would turn south along North Clearview Avenue for approximately 465 feet to its intersection with Brownsville Road. At this intersection, a rectangular rapid flashing beacon will be used to alert motorists on Brownsville Road to the presence of the trail crossing. After crossing Brownsville Road, the trail would continue on-road along South Clearview Avenue for approximately 1,400 feet to its intersection with Arbutus Avenue where the on-road trail would turn east for approximately 600 feet to the intersection of Arbutus and Rosewood Avenue, the end point for Segment 2 of the trail.



South Clearview



Arbutus Avenue



Arbutus Avenue looking west at intersection with Rosewood Avenue.

Alternative routes evaluated

An alternative route for Segment 2 was explored which would have placed the trail along the west bank of the creek from West Maple Avenue down to Brownsville Road. However, this alignment was rejected due to the lack of pedestrian facilities such as sidewalks on both the under construction West Maple Avenue Bridge and the Brownsville Road bridge. Additionally, the property on the west bank of the creek on the Woodlyn Crossing property is very steep which would have made trail placement difficult.

The potential for continuing the trail along the west bank of the creek south of Brownsville Road to Bristol Road was evaluated but rejected due to the lack of clearance under the Brownsville Road bridge and safety concerns associated with a potential crossing of Brownsville Road at Creek Road. Additionally, once south of Brownsville Road, there was neighborhood opposition to the placement of the trail either on-road, or on property along the creek owned by the Neshaminy Woods Community Association and Neshaminy Hills Camp Association. Additionally, once south of the Neshaminy Hills Camp Association property, no viable route was identified due to the significant number of private properties along the west bank of the creek. Because of these concerns and challenges, this potential alignment was rejected.

Finally, one additional route for continuing the trail along the east bank of the creek on property owned by Middletown Township, or through the Idlewood neighborhood via Playwicki Street was evaluated. This alignment was rejected due to steep slope conditions and the need for several easements across private property.



Narrow Brownsville Road Bridge.



Dangerous curve at intersection of Periwinkle Avenue and Brownsville Road.



Brownsville Road Bridge showing low clearance and lack of land along banks under the bridge.

SEGMENT 3: INTERSECTION OF ARBUTUS AVENUE & ROSEWOOD AVENUE TO BRISTOL ROAD

The final segment of the trail would begin at the intersection of Arbutus Avenue and Rosewood Avenue and end at Bristol Road. The description of this segment of the trail is broken into several sections as noted below. It should be noted initially Alignments A and B represent different possible routes with the same beginning point, intersection of Arbutus Avenue and Rosewood Avenue, and the same ending point, the intersection of Old Lincoln Highway and Fairhill Avenue.

Alignment A: Arbutus Avenue & Rosewood Avenue to the intersection of Old Lincoln Highway and Fairhill Avenue via Old Lincoln Highway - 0.8 miles

Alignment B: Arbutus Avenue & Rosewood Avenue to the intersection of Old Lincoln Highway and Fairhill Avenue via streets in the Idlewood neighborhood - 0.9 miles

It should also be noted that Alignment C for this initial section follows the same route as Alignment A from the intersection of Arbutus Avenue & Rosewood Avenue to the intersection of Old Lincoln Highway and Fairhill Avenue.

Alignment C: Follows the same route as Alignment A

For the next section of the trail, from the intersection of Old Lincoln Highway and Fairhill Avenue, to the existing service drive near the southern end of the Neshaminy High School football stadium, all three trail alignments follow the same route.

Alignments A, B and C: Intersection of Old Lincoln Highway and Fairhill Avenue to Neshaminy High School service drive primarily via the existing trail - 0.3 miles

At this point, Alignment C stops and does not continue on to Bristol Road while Alignments A and B continue to follow the exact same route, continuing on to Bristol Road.

Alignments A and B: Neshaminy High School service drive to Bristol Road - 1.4 miles

Each of these segments is described in greater detail below.

Alignments A & C: Arbutus Avenue & Rosewood Avenue to the intersection of Old Lincoln Highway and Fairhill Avenue via Old Lincoln Highway - 0.8 miles

This section of the trail would continue on-road along Arbutus Road approximately 450 feet to the intersection of Arbutus Avenue and Old Lincoln Highway. After crossing Old Lincoln Highway, the trail would continue in the right-of-way in front of Our Lady of Grace Cemetery along the southeast side of Old Lincoln Highway for approximately 2,600 feet to the intersection of Old Lincoln Highway and Orchard Avenue. The trail would then cross back to the other side of Old Lincoln Highway, and continue along the northwest side of Old Lincoln Highway in the grassy area in front of Orchard Square Apartments for approximately 650 feet. As the trail approaches the intersection of Old Lincoln Highway and Fairhill Avenue, bicyclists would make use of the shoulder of Old Lincoln Highway while a new sidewalk in front of the house located at the intersection would be provided for pedestrians.



Intersection of Old Lincoln Highway, Arbutus Avenue (right) and West Gillam Avenue (left) Alignments A & C.



Right-of-way along Old Lincoln Highway in front of our Lady of Grace Cemetery – Alignments A & C.



Right-of-way along Old Lincoln Highway southwest of Our Lady of Grace Cemetery – Alignments A & C.



Intersection of Old Lincoln Highway and Orchard Avenue (left) – Alignments A & C.



Right-of-way along northwest side of Old Lincoln Highway in front of Orchard Square Apartments – Alignment A & C.



Right-of-way along Old Lincoln Highway approaching intersection of Fairhill Avenue – Alignments A & C.



Intersection of Old Lincoln Highway and Fairhill Avenue – Alignments A & C.

Map 14 Proposed Trail Alignment Segment 3

Lower
Southampton
Township

Neshaminy
Hills

Neshaminy
High School

Middletown
Township

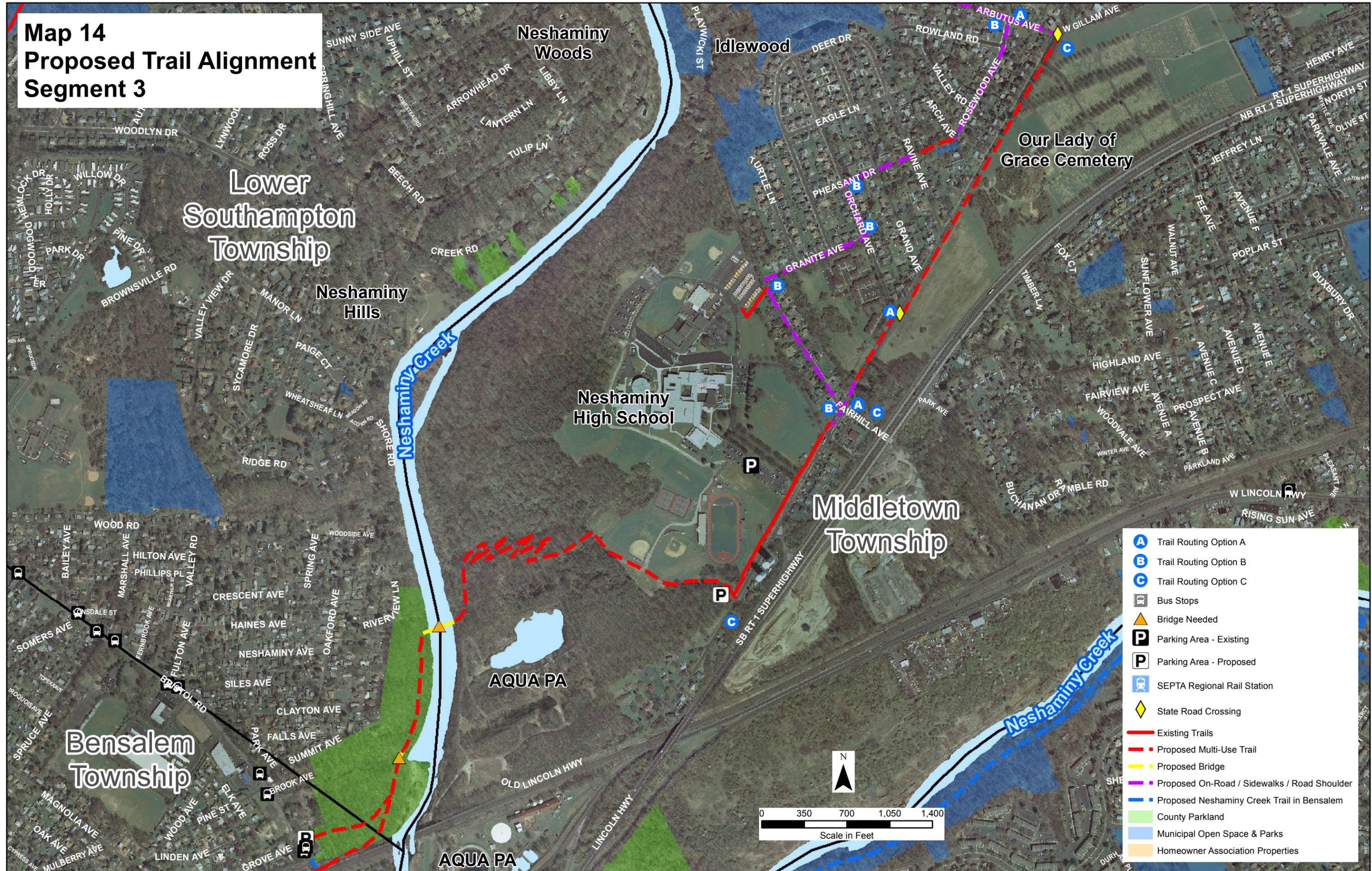
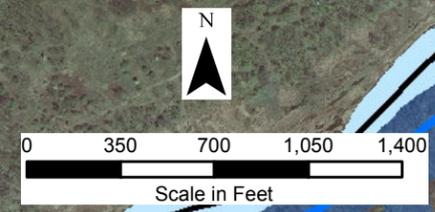
Bensalem
Township

AQUA PA

AQUA PA

Our Lady of
Grace Cemetery

- A Trail Routing Option A
- B Trail Routing Option B
- C Trail Routing Option C
- Bus Stops
- Bridge Needed
- Parking Area - Existing
- Parking Area - Proposed
- SEPTA Regional Rail Station
- State Road Crossing
- Existing Trails
- Proposed Multi-Use Trail
- Proposed Bridge
- Proposed On-Road / Sidewalks / Road Shoulder
- Proposed Neshaminy Creek Trail in Bensalem
- County Parkland
- Municipal Open Space & Parks
- Homeowner Association Properties



Alignment B - Arbutus Avenue & Rosewood Avenue to the intersection of Old Lincoln Highway and Fairhill Avenue via streets in the Idlewood neighborhood - 0.9 miles

As indicated above, Alignment B takes a different route, as compared to Alignment A, to reach the intersection of Old Lincoln Highway and Fairhill Avenue. From the intersection of Arbutus Avenue and Rosehill Avenue, bicyclists would continue on-road, with other trail users making use of the sidewalks, southwesterly along Rosewood Avenue for approximately 1,100 feet until it ends at Arch Avenue. The trail would then access what is called a paper street which runs approximately 350 feet between Rosewood Avenue and Ravine Street.



Rosewood Avenue

A paper street is a road or alley which exists only on paper, hence the name “paper street.” Paper streets typically occur when a road or street shown on a developer’s plan of homes was never laid out or built. In this particular instance, this paper street between Rosewood Avenue and Ravine Street might have been proposed as a connection between the two neighborhoods but was never built.



Aerial view of paper street located between Rosewood Avenue and Ravine Street.



Entrance to existing footpath along paper street (right of large tree) at the end of Rosewood Avenue.

Unless there is formal acceptance or use by the municipality, the abutting property owners typically “own” the “paper street.” In fact, “paper streets” are only a municipal concern when public utilities are located on such land. Even then, the municipality bears no responsibility for the upkeep or the maintenance of the “paper street” because, by the very definition of “paper street,” the municipality never adopted or used the “paper street” as a roadway. Specific to this situation, it appears that the abutting property owners would own the “paper street” therefore making it necessary to obtain an easement for use of the “paper street” for the trail.



Paper street between Rosewood Avenue and Ravine Street as viewed from Ravine Street.

The trail would then cross Ravine Street and continue westerly on-road on Pheasant Drive for approximately 600 feet to its intersection with Orchard Avenue. At Orchard Avenue, the trail would continue on-road in a southerly direction for approximately 500 feet to the intersection of Granite Avenue. The trail would then continue westerly along Granite Avenue for approximately 900 feet until its end at Fairhill Avenue. At Fairhill Avenue, the trail would once again turn to the south and continue on-road along Fairhill Avenue for approximately 1,250 feet to its intersection with Old Lincoln Highway.



Pheasant Drive at Grand Avenue.



Granite Avenue looking toward intersection with Fairhill Avenue.



Intersection of Granite Avenue and Fairhill Avenue.



Fairhill Avenue



Fairhill Avenue at Old Lincoln Highway.

Alignments A, B and C: Intersection of Old Lincoln Highway and Fairhill Avenue to Neshaminy High School service drive - 0.3 miles

At the intersection of Old Lincoln Highway and Fairhill Avenue, all the alignments merge to follow the same route. From the intersection, the trail would continue for approximately 160 feet along the northwest side of Old Lincoln Highway in front of the house located at the intersection. Dependent upon the specific right-of-way of Old Lincoln Highway, this might require securing an easement from this private property owner.

Upon reaching the Neshaminy High School property, the trail would make use of the existing trail which runs for approximately 1,600 feet along the northwest side of Old Lincoln Highway in front of Neshaminy High School. This trail ends approximately 300 feet past the water towers located along Old Lincoln Highway. At this point, Alignment C would end at a new small parking lot to be created to serve as trailhead parking. This parking lot would be accessed via the existing service road leading onto the Neshaminy High School property off of Old Lincoln Highway.



Area for sidewalk in front of home located at the northwest corner of Fairhill Avenue and Old Lincoln Highway.



Existing trail in front of Neshaminy High School.

Utilizing the existing trail in front of the school will address the concerns of the Neshaminy School District relative to keeping trail users away from the school buildings themselves. Similarly, adding a new parking lot off of Old Lincoln Highway specifically for trailhead parking, will also address concerns about trail users making use of the limited faculty and student parking on the high school property.

Proposed location of trail head parking at end of existing trail on Neshaminy High School Property (End of Alignment C)



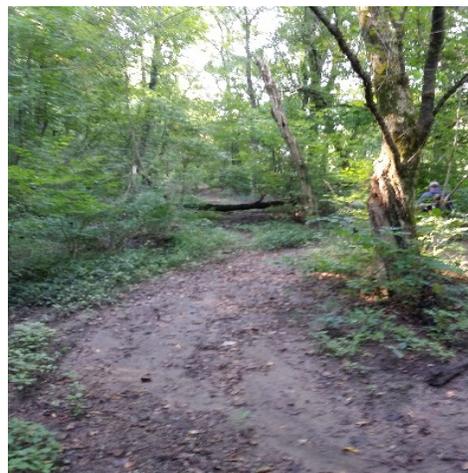
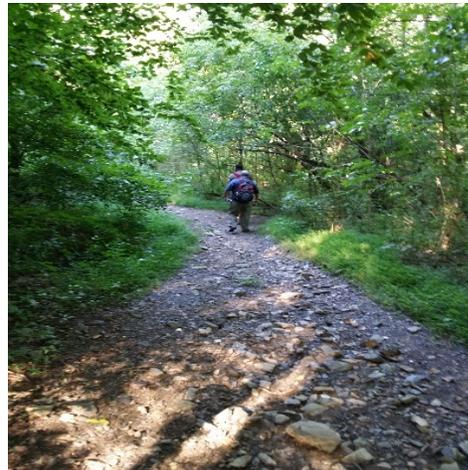
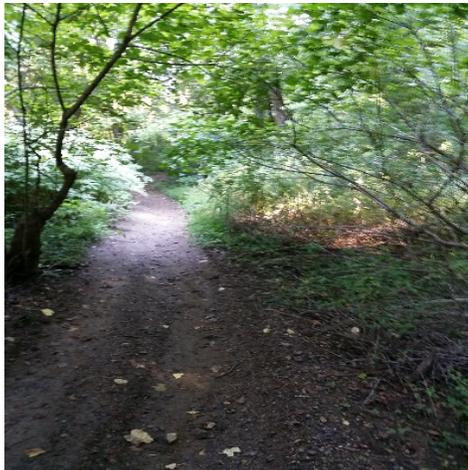
Alignments A and B: Neshaminy High School service drive to Bristol Road - 1.4 miles



Service drive adjacent to ball fields on Neshaminy High School property.

The final section of trail would utilize the existing service road adjacent to the ball fields on the Neshaminy High School property, heading northwesterly for approximately 1,400 feet, before entering into the heavily wooded and steep hillside located to the southwest of the high school buildings.

From the entrance into the woods to the creek is a vertical drop of 170 feet, over a horizontal distance of approximately 1,200 feet, representing an average slope of almost 15 percent. However, in some areas the slope approaches almost 50 percent. Because of these slope conditions, although feasible, building a trail in this area would be very difficult. Development of the trail would involve the creation of a series of switchbacks and require significant retaining walls to prevent erosion. It is estimated that to cover the horizontal distance of 1,200 feet, it would require a trail of over 3,500 feet, which would be very expensive and prove to be a challenge relative to meeting ADA requirements for maximum trail slope.



Existing trails on Neshaminy High School property leading down to Neshaminy Creek.

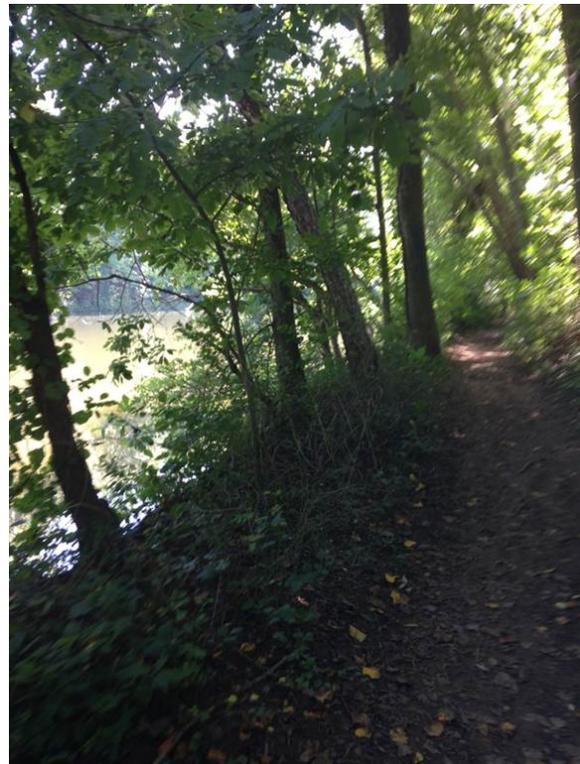


View from east bank of the Neshaminy Creek toward the west bank in approximate location of proposed bridge.



View downstream toward Neshaminy Falls from approximate location of proposed bridge.

Upon reaching the east bank of the Neshaminy Creek, a bridge with a span of approximately 300 feet would be constructed to continue the trail to the other side of the creek. Although final placement would be determined in the next phase of the trail development project, it is estimated that this bridge would be located approximately 1,100 feet upstream of the existing Neshaminy Falls dam.



Existing hiking trails on Bucks County property along west bank of Neshaminy Creek near Neshaminy Falls.

Once on the west side of the Neshaminy Creek, the trail would continue for approximately 2,200 feet to a trailhead parking lot located off of Bristol Road adjacent to the Trevoise Fire Company building.



Neshaminy Falls



Area on Bucks County property recently cleared for AQUA infrastructure work.



End of trail at Bristol Road adjacent to Trevoise Fire Company building.

Although the trail would connect to SEPTA Bus Route 58 that travels along Bristol Road, continuing the trail across Bristol Road to the SEPTA Neshaminy Falls Regional Rail Station would not be possible due to existing conditions in the area. In the future if the existing railroad bridge over Bristol Road were to be replaced, this connection might be possible.

Recommended Alignment for Segment 3

One of the initial objectives of this study was to determine the feasibility of establishing a trail from Core Creek Park to the Neshaminy Falls Regional Rail Station. Although it is technically feasible to do so, the recommended alignment for Segment 3 would be Alignment C which would stop at the new trailhead parking lot to be developed on the Neshaminy High School property, and to not continue to Bristol Road. The reasons for this include:

- Financial costs associated with construction of the trail on the steeply wooded hillside as part of the Neshaminy High School property;
- Concerns regarding the ability to have this segment of the trail be ADA accessible;
- Environmental concerns associated with construction of the trail on such steep terrain;
- Inability to connect at this time to the Neshaminy Falls Regional Rail Station;
- Very expensive, large-span bridge needed to cross the Neshaminy Creek;
- Potentially limited usage due to lack of connectivity to neighborhoods, commercial and other trail destinations on the west side of the creek; and
- Concerns expressed by both the Neshaminy School District and AQUA PA regarding the proximity of the proposed trail to the quarry located on the AQUA PA property.



Bristol Road at entrance to SEPTA Neshaminy Falls regional rail station.

PROPOSED EASEMENTS

Although much of the trail alignment is on publically owned lands, easements for trail construction and maintenance would be needed from several private property owners. In addition to easements, agreements would need to be acquired from the Pennsylvania Department of Transportation for trails crossing and/or in the right-of-way along state-owned roadways. A complete list of easements and acquisitions required is included in Appendix D.

OPINION OF PROBABLE COSTS

Acquisition Costs

Most of the proposed and recommended trail alignment is already in public ownership, or located on-road along existing roads. However, additional easements would be required to complete the trail. For cost estimating purposes a figure of \$1.60 per square foot was used. This is based on other trail projects in the region. However, these costs may vary based on a variety of factors including the final number of square feet in the easement; survey costs; fair market value; and tax appraisals. Based on the \$1.60 per square-

foot estimate and the estimated length and width of easements required for the preferred trail alignment, these costs are estimated to be \$197,328 (Table 11, Column 3).

Design and Engineering Fees

Prior to actual construction, final design and engineering would be required. Based on other trail planning projects, these costs are typically estimated to be 15 percent of the construction costs. For the Lower Neshaminy Creek Trail the design and engineering fees are estimated to be \$461,920 (Table 11, Column 4).

Construction Costs

Opinion of Probable Costs by Segment appears in Appendix B and is summarized in Table 10 below. These budgetary costs are based on an analysis of trail characteristics across each segment of trail. Costs are derived from Pennoni Associates' experience with trails of similar characteristics and are based on current material and labor costs as of the publication of this study. Costs may increase or decrease over time. Additionally, it should be noted that these construction costs include contingencies for potentially higher costs once actual design and engineering drawings are complete.

Table 10 – Estimated Construction Costs by Segment

Segment/Alignment	Construction Costs	Miles	Cost per Mile
1A	\$ 2,612,178	2.1	\$1,243,894
2	\$ 287,460	1.8	\$ 159,700
3C	\$ 795,720	1.1	\$ 723,382
Total	\$3,695,358	5.0	\$ 739,072

Note: Costs cited are exclusive of alternative routes and connector trails and reflect only those costs associated with the primary trail.

Maintenance Costs

Maintenance costs for similar trails in the region generally range from \$6,000 to \$9,000 per mile/per year. It is recommended that the entities responsible for trail maintenance use a figure of \$7,500 per mile to estimate maintenance costs during the first year after development. This figure can then be evaluated and adjusted at the end of the first year. This cost can be used for fundraising purposes as well to help solicit volunteer help for maintenance. Based on the approximately 15.1 miles of the proposed trail route, total annual maintenance costs are estimated to be \$113,250. Table 11 summarizes the various costs by segment.

Table 11 – Total Costs by Trail Segment

Segment/Alignment	Miles	Easements / Acquisition	Design and Engineering	Construction (Primary Trail Route)	Total	Annual Maintenance
1A	2.1	\$132,000	\$ 326,522	\$ 2,612,178	\$ 3,070,700	\$ 15,750
2	1.8	\$ 31,350	\$ 35,933	\$ 287,460	\$ 354,743	\$ 13,500
3C	1.1	\$ 33,888	\$ 99,465	\$ 795,720	\$ 929,073	\$ 8,250
Total	5.0	\$197,238	\$461,920	\$3,695,358	\$ 4,354,516	\$ 37,550

Connector Trails

The costs associated with construction of the connector trail into Detective Christopher Jones Memorial Park have been broken out separately. Although this trails is highly desirable based on the additional interconnectivity it would provide, it is not part of the primary trail.

Table 12 – Connector Trail Costs

Description	Length (Miles)	Acquisition	Design and Engineering	Construction	Total
Detective Christopher Jones Memorial Park	0.2	-	\$12,311	\$98,490	\$ 110,801

Parking Lots

Two parking lots to serve as trailheads have been identified in this study. The first of these would be located on the Neshaminy High School property. As mentioned previously, the cost of this lot has been included in the costs outlined above for Segment 3 since this study recommends ending the trail at this location. However, if the trail were to continue to Bristol Road, this parking lot would be optional, but recommended in order to eliminate potential usage of the parking lots at Neshaminy High School. The second parking lot would be located at a trailhead location at Bristol Road.

Table 13 – Trailhead Parking Lot Costs

Description	Acquisition	Design and Engineering	Construction	Total
Neshaminy High School	\$8,000	\$16,500	\$132,000	\$156,500
Bristol Road	-	\$16,500	\$132,000	\$148,500

IMPLEMENTATION STRATEGIES

RECOMMENDED CONSTRUCTION PHASING

Development of the entire Lower Neshaminy Creek Trail in a single phase, while highly desirable, is unlikely given the easements and permitting required, as well as the substantial costs. Therefore, a phased development approach is recommended. In developing the recommended phasing plan for trail development, the following factors were taken into account:

- The status of current trail development efforts.
- The ability of each segment to serve as a stand-alone trail, i.e. the segment would receive significant usage, even if construction of the remaining segments is delayed.
- The connectivity of the segment to existing trails, adjacent neighborhoods and public transportation in the project area.
- Ownership and the need to acquire easements.
- Costs associated with construction and the acquisition of easements.
- Environmental constraints such as the presence of steep slopes and wetlands.

Each trail segment was evaluated on each of these criteria and rated as a 0, 5, or 10 in each of the categories and then a total score was calculated. These scores were then used to help determine the trail segment priorities. In reviewing the ratings, it is important to look at the rating/scoring scale for each factor individually. For example, construction costs are evaluated on an inverse scale with those segments having a high estimated construction cost receiving a lower rating. In contrast, connectivity was scored based on segments with a high degree of connectivity receiving higher scores. It should also be noted that connector trails are not included in the phasing schedule. Although connector trails are designed to connect nearby residential areas to the primary trail, they are of lesser importance than the development of the primary trail itself. However, in recognition of cost efficiencies, if funding is available, it is recommended that connector trails be constructed at the same time as the primary trail. The results of the evaluation are shown in Table 14.

Table 14 – Trail Segment Feasibility Evaluation Matrix

Segment / Alignment	Status of Current Trail Development High = 10 Average = 5 Low = 0	Ability to act as a stand-alone trail High = 10 Average = 5 Low = 0	Connectivity to other trails, adjacent neighborhoods, parks, and public transportation High = 10 Average = 5 Low = 0	Extent of public ownership / minimal need for easements High = 10 Average = 5 Low = 0	Costs including easements, acquisitions and construction * High = 0 Average = 5 Low = 10	Environmental constraints (Presence of steep slopes, wetlands and sensitive environmental areas) High = 0 Average = 5 Low = 10	Total Score (Higher scores reflect a higher degree of feasibility)	Recommended Phasing
								Trail Ending at Neshaminy High School
1A Bridgetown Pike and Newtown-Langhorne Road to Playwicki Park	0	10	10	5	0	0	25	3
2 Playwicki Park to Intersection of Arbutus Avenue & Rosewood Avenue	0	0	5	10	10	10	35	2
3C Intersection of Arbutus Avenue & Rosewood Avenue to Neshaminy High School/ Old Lincoln Highway Trailhead	5	5	5	0	10	10	35	1

* - Low <\$1,000,000 / High > \$1,500,000 / Average = \$1,000,000 - \$1,500,000

Recommended construction phasing for the recommended trail alignment stopping at the proposed trailhead location at Neshaminy High School is as follows:

Phase 1 - Intersection of Arbutus Avenue & Rosewood Avenue to Neshaminy High School trailhead (Segment 3C) - 1.1 miles

Costs		Cost Drivers	Number Required	Length (Feet)	Area (Acres)
Acquisition / Easement Cost	\$33,888	Easements	4	890	0.1
Design & Engineering Cost	\$99,465	Bridges	-	-	-
Construction Cost	\$795,720	Boardwalk	-	-	-
Total Cost	\$929,073	Road Crossings	3	-	-

This initial segment ranks high in the phasing schedule based on a variety of factors including:

- The proposed trail segment would take advantage of the existing trail located along Old Lincoln Highway in front of Neshaminy High School, while extending it along Old Lincoln Highway to the intersection of Arbutus Avenue and West Gilliam Avenue, thereby providing increased connectivity between the high school and neighborhoods. The extension of the trail to West Gilliam Avenue would also serve to establish future connections into Langhorne and Langhorne Manor boroughs.
- This segment of the trail would have relatively low easement costs.
- This segment also has the ability to establish the identity of the trail and to act as a stand-alone trail in the short-term until other segments can be completed.

Phase 2 - Playwicki Park to Intersection of Arbutus Avenue & Rosewood Avenue (Segment 2) - 1.8 miles

Costs		Cost Drivers	Number Required	Length (Feet)	Area (Acres)
Acquisition / Easement Cost	\$31,350	Easements	-	-	-
Design & Engineering Cost	\$35,933	Bridges	-	-	-
Construction Cost	\$287,460	Boardwalk	-	-	-
Total Cost	\$354,743	Road Crossings	1	-	-

As this segment is principally comprised of existing roadways, with the exception of the trail leading out of Playwicki Park, under the new Maple Avenue Bridge, and onto Bridle Drive/Oriental Drive, the primary costs associated with this segment of trail are the placement of bicycle sharrows and signage along the various streets that make up this segment including Bridle Drive/Oriental Drive, Mistletoe Drive, Periwinkle Avenue, Redwood Avenue, North Buckthorne Avenue, Hollywood Avenue, North and South Clearview Avenues, and Arbutus Avenue. This segment of trail would also provide connectivity to Detective Christopher Jones Memorial Park via a trail from the north end of North Clearview Avenue. Because of its primary alignment on local streets and county-owned property, there are low construction costs and no property easements or acquisitions needed.

Phase 3 - Bridgetown Pike/ Newtown-Langhorne Road Intersection to Playwicki Park (Segment 1A) - 2.1 miles

Costs		Cost Drivers	Number Required	Length (Feet)	Area (Acres)
Acquisition / Easement Cost	\$132,000	Easements	4	4,125	-
Design & Engineering Cost	\$326,522	Bridges	1	250	-
Construction Cost	\$2,612,178	Boardwalk	-	1,300	-
Total Cost	\$3,070,700	Road Crossings	1	-	-

This segment rated high in terms of overall feasibility and phasing as this segment of the trail would connect Playwicki Park to Core Creek Park, enabling it to act as a standalone trail. Although much of this segment would be located on lands already owned by Bucks County, it would be necessary to either obtain easements on or acquire private property. Additionally, relative to other segments, this segment of the trail will be more expensive due to the need for some segments of boardwalk due to the presence of wet soil conditions.

ORGANIZATION, MANAGEMENT AND MAINTENANCE

Proposed Agency Responsibilities / Organization

Managing the Lower Neshaminy Creek Trail, including all activities undertaken to plan, direct, maintain, fund and advertise, would be a complex task. The proposed trail crosses five municipalities, Langhorne Borough and Bensalem, Lower Southampton, Middletown and Northampton townships, as part of the Bucks County Trail network. The complexity is further complicated by the numerous departments and advisory boards within these municipalities, and the fact that sections of the trail would be located along the right-of-way of PennDOT-owned and maintained roads. Although the scenario is complex, it is not unusual as many long-distance trail systems are multi-jurisdictional, crossing municipal boundaries for broad regional use that citizens desire.

There are various models available for developing, operating and maintaining recreational trails such as municipal, County, non-profit trail groups, land trust/conservancy, as well as those established by Pennsylvania Intergovernmental Cooperation Law including municipal/regional trail authorities and commissions. Each management structure has its strengths and weaknesses depending on the capacity and willingness of the participating partners. A myriad of tasks that need to be considered when determining the most effective management structure include: project management; acquisition of land or right-of-way or easement; property management; construction funding; maintenance agreements; insurance/risk management; operations; and public relations.

One local trail management and operation structure that might serve as a model for the Lower Neshaminy Creek Trail project is the Doylestown Community Bike and Hike System. This system is overseen by the Doylestown Community Bike and Hike Committee which was originally a collaborative project between Doylestown Township and Doylestown Borough with each municipality contributing to the development of the trail system. Jointly, these two municipalities continue to plan for, develop and maintain the Doylestown Community Bike and Hike system. Subsequently, Chalfont and New Britain Boroughs, and Buckingham, New Britain and Warrington townships also became involved with the Doylestown Community Bike and Hike Committee in terms of planning efforts and in providing collaborative support for funding applications.

Although there has been cooperation in the planning of trails as evidenced by the initial formation of the Doylestown Community Bike and Hike System, and more recently, the *Tri-Municipal Master Trail & Greenway Plan*, developed collaboratively for Chalfont and New Britain Boroughs and New Britain

Township, each of the municipalities has typically operated individually and autonomously in the development, management, and maintenance of trails within their municipal borders. While that has historically been the case, there has been an increased effort to band together to enhance the competitiveness for grant funding since projects across the state that feature multi-municipal and public/private sector support often receive more favorable consideration.

A critical next step in the trail implementation process is to clarify and formalize the responsibilities for each trail segment and trail partner. Specific tasks and roles that need to be addressed include:

Development Tasks

- Securing required easements and property acquisition.
- Activities associated with the actual development of the trail including acquiring the funding and permits required, as well as the physical construction of the trail itself.

Maintenance Tasks

- Short-term maintenance requirements including the removal of debris, trash, vegetation and tree maintenance.
- Long-term maintenance requirements including resurfacing the trail, replacement of damaged trail amenities, resurfacing of trailhead parking.

The more specifics on the planning, development, and maintenance and operations of the Lower Neshaminy Creek Trail that can be determined in advance and negotiated in advance, the more successful the development and long-term cooperation will be.

Land Acquisition

Prior to the development of any trail, it is necessary to have control of the land. Much of the Lower Neshaminy Creek Trail would be placed on land already under the ownership of either Bucks County or the municipalities. However, as is typically the case with long, linear trail projects, there are areas, such as the Norfolk Southern Railroad corridor and the Neshaminy High School property, where it would be necessary to obtain the rights to use privately-held land. In addition, even though the county owns much of the land along the north side of the creek from Core Creek Park to Playwicki Park, it currently has easements with the Northampton, Bucks County, Municipal Authority that would have to also be consulted and agree to any easements occupying the same lands as the easements they have. Some of the options for obtaining the rights include:

Easements: This is the most often used technique for acquiring the permission needed for a trail to cross private property. This is the preferred method as it is less costly than acquiring full ownership of the land. Specific to trails, an easement modifies the deed to a property to allow the use of a portion of the property for the construction of the trail and permanent use of the trail.

Fee simple purchase: Purchasing the needed land is an alternative to easements. However, fee simple acquisition of the land can be much more costly and time consuming as compared to easement. However, as is the case with the Norfolk Southern Railroad corridor, fee simple purchase is the only option as Norfolk Southern expressed that, while they are supportive of trails, they require that the land be acquired from them, not leased or arranged as easements.

Lease: Similar to easements, a lease agreement can be negotiated authorizing the use of the land for construction of the trail. However, in contrast to easements, leases have a specific time

frame associated with them. Although this type of arrangement would allow for construction of the trail, if a private property owner opts not to renew the lease upon its expiration, this may leave a gap in the trail network.

Trail Development

Once the rights to the land for constructing the trail have been secured, there are a myriad of activities associated with the physical construction of the trail itself. These include securing the funding needed to develop the trail, obtaining the required permits, and management of the construction process itself including overseeing the Request-for-Proposal process typically needed for vendor selection, to overseeing the construction itself. Although it would be advantageous to have one entity responsible for managing these various activities to ensure design and construction consistency, these may not always be possible or desirable.

One additional option that should be considered is to require that developers construct trails as part of the development process. Although most of the area in the Lower Neshaminy Creek Trail project area is already developed, this option can still be utilized for redevelopment projects. Currently, only Middletown Township has ordinance provisions requiring developers to provide trails, sidewalks, or bicycle facilities as part of the development process.

Table 15 - Ordinance Provisions Requiring Trails or Bicycle Facilities

Municipality	Ordinance Section
Bensalem Township	None (Except for Delaware River Waterfront Mixed-Use District)
Lower Southampton Township	None
Middletown Township	Subdivision and Land Development - Section 440-427.B
Northampton Township	Subdivision and Land Development - Section 22-403.2.B (Requires sidewalks)
Langhorne Borough	None

Maintenance

The quality, condition, and safety of a trail are all essential to the long-term success of the trail. To ensure successful operation of the trail, and to assist in minimizing risk both to trail users and the trail operator, a maintenance plan is necessary. A well-designed and executed maintenance program would help to reduce long-term costs by extending the costs of trail components, and would help win the continued support of residents, homeowners, and businesses. Such support can also translate into potentially lower operating costs if residents feel pride in the trail and donate volunteer time to assist in its upkeep.

The frequency of the maintenance tasks to be performed would vary based on the type of trail surface, the surrounding landscape character, and the particular segment of trail. One particular area of concern relative to the Lower Neshaminy Creek Trail is the problem of drainage and flooding that may undermine pavement structures over time. Considering these challenges in the design and engineering phase is critical to help mitigate major maintenance expenses in the future.

Important short and long-term maintenance tasks that need to be addressed in the maintenance program are shown in Table 16 below.

Table 16 – Maintenance Tasks and Recommended Schedule

Short-term	Frequency	Long-term	Frequency
Mowing of trailside areas	Minimum of 4 times per year	Seal-coating trail	Every 4 - 5 years
Pruning	Semi-annual	Resurfacing of trailhead parking areas	Every 10 - 12 years
Removal of trees and limbs	Annual unless across path	Resurfacing the trail	Every 10 - 12 years
Signage / gates / bollards / benches maintenance	As needed		
Snow-plowing if the trail is to be plowed	As needed		
Trash removal	Weekly		
Bridge inspection and maintenance	Inspection by professional engineer every two years		
Drainage structures cleaning	Annually		
Graffiti removal	As needed		
Lighting	Monthly		

The County would be responsible for short-term maintenance tasks on County-owned properties and properties on which it would hold trail easements such as trails located in the right-of-way of state roads, homeowners associations, and other privately-owned property. For trail sections located on non-County public land, the respective governing agency would assume responsibility for short-term maintenance tasks. The specific tasks to be assumed by each party should be clearly defined in any easement or lease terms. Regardless of who assumes responsibility for the maintenance of the trail, the costs associated with these activities should be incorporated into the budgets of the responsible entity.

SECURITY, LIABILITY AND RISK MANAGEMENT

Trail projects often generate concerns about trail security and liability. These concerns may come from individual property owners, organizations, and municipal, County and state governments. These concerns range from liability concerns associated with trail users injuring themselves to a perception that trails may bring additional crime to an area.

Security & Quality of Life

Concerns about crime are typically expressed with most new trail projects. Fortunately over time as new trails have been developed, national studies (e.g., Rails-Trails and Safe Communities, Burke-Gilman Trails Effects on Property Values and Crime) have been conducted to assess the impact the trail has had on crime along the trail corridor. These studies most often indicate that trail projects have positive effects on adjacent neighborhoods. In fact, the rate of crime on suburban trails is usually lower than the national statistics for suburban crime on nearby streets and in homes (Rails-Trails and Safe Communities, 1998). Obviously, any crime committed is undesirable regardless of location, but there is no evidence that trails induce above-average crime rates.

The potential for crime can also be addressed in the design and maintenance plan of the trail. Specific recommendations to maximize trail security are:

- Design the trail to allow for access by local law enforcement.
- Manage the trail corridor to eliminate overgrowth immediately adjacent to the trail.
- Provide security lighting and emergency phones at call boxes at trailhead locations.

- Place benches and other amenities at high activity locations with good visual surveillance.
- Create a “Trail Watch Program” involving local residents.

In general, a well-used trail is the best deterrent to crime. Crimes are less likely to be committed if there is a high risk of being seen by other trail users.

Specific to the proposed Lower Neshaminy Creek Trail, there is an ongoing challenge with illegal all-terrain vehicle (ATV) usage along certain segments of the project corridor. The County, local police departments, as well as Norfolk Southern Railroad are aware of these challenges and have tried a variety of measures to address the issue including the placement of bollards and gates to limit access to these areas, extra patrols, confiscation of the vehicles, running overtime details with their ATV unit. Some of these efforts such as running overtime details were ended due to concerns about insurance and workers’ injuries. More specifically, a sergeant with one of the police departments was injured during one of the details resulting in lost time from work. As local police lieutenants indicated, they have worked with Norfolk Southern to close off some of the more obvious access points that the ATV users use to get to the area. Additionally, police departments cannot chase the ATV’s so it is almost impossible to stop the activity.

Additional measures that might be considered include:

- Establish a Twitter account and/or anonymous phone tip line to encourage residents to send tips, pictures and locations of the ATV drivers so they can be tracked. When the police department receives tips of where ATVs are being parked and stored at night, the police can wait for the owners and take the appropriate course of action.
- Increasing the registration fees and allowable fines for illegally riding ATVs and dirt bikes and devote a portion of those fees and fines to an ATV-enforcement fund.
- Conduct public outreach to riders to let them know about legal places to ride, the environmental damage caused by riding in unauthorized areas.
- Work with the Pennsylvania Department of Conservation and Natural Resources to determine if there is the potential for establishing ATV trails within any of the state-owned lands in the area to help give riders a legal alternative. Currently, the closest ATV lands located on state-owned lands are in the Dixon Miller Recreation Area of Delaware State Forest in Monroe County, a 100 mile / 2.5 hour trip from the Lower Neshaminy Creek project area.

Liability

Pennsylvania, like every state in the nation, has a statute that provides a degree of immunity to landowners who make their properties available to the public for free recreational use. Pennsylvania’s Recreational Use of Land and Water Act (RULWA) limits landowners liability for personal injury or property damage if they make their land available to the public for recreation. The purpose of the law is to encourage landowners to allow hikers, fishermen, and other recreational users onto their properties by limiting the traditional duty of care that landowners owe to entrants upon their land. So long as no entrance or use fee is charged, the Act provides that landowners do not have to keep their land safe for recreational users and have no duty to warn of dangerous conditions. This immunity from liability does not protect landowners who willfully or maliciously fail to warn of dangerous conditions.

Landowners who permit or invite members of the general public onto their properties for recreational purposes, free of charge, can raise this statute as a defense if they are sued for personal injury or

property damage. RULWA does not prevent landowners from being sued; it provides them with an immunity defense to claims that their *negligence* caused the plaintiff's injury. Negligence is the failure to exercise ordinary care such as a reasonably prudent and careful person under similar circumstances would exercise.

As noted above, although RULWA immunizes landowners from negligence claims, landowners remain liable for willful or malicious failure to guard or warn recreational users of a dangerous condition of the land. To determine whether a landowner's behavior was willful, courts will look at whether the owner had actual knowledge of the threat and whether the danger would be obvious to entrants. Actual knowledge might be presumed if the owner were aware of prior accidents at the same spot. But if the land contained a dangerous feature that should have been obvious to recreational users, they may be considered to be put "on notice," which generally would preclude landowner liability. For more information, visit <http://conservationtools.org/guides/show/81-Recreational-Use-of-Land-and-Water-Act#ixzz3CAm0sug0>.

Pennsylvania's governmental immunity statutes, the Tort Claims and Sovereign Immunity Acts, shield municipalities and commonwealth agencies from claims of willful misconduct. Liability may be imposed upon these entities only for their negligent acts.

Risk Management

The Pennsylvania Recreational Use of Land and Water Act and Tort Claims and Sovereign Immunity Act may limit the liability of property owners, trail managers and government entities in the event of a personal injury lawsuit. However, to minimize the possibility of injuries on the trail, risk management strategies should be taken to provide protection in the event of a lawsuit. These include:

- Identify and, to the extent possible, remove hazardous conditions and attractive nuisances during the original construction of the trail.
- Design the trail for safety.
- Conduct public educational and informational programs relative to safe trail usage as it applies to various user groups including bicyclists, dog walkers, in-line skaters, etc.
- Use prominent signage to warn users of potentially dangerous areas such as approaching road crossings.
- Regularly inspect the trail and correct any unsafe conditions and keep written records of inspections and maintenance activities performed.
- Prominently post hours of operation and other rules and regulations, along with emergency contact information.
- Develop procedures for handling medical emergencies.

POTENTIAL FUNDING SOURCES

Finding the funding for the design and construction of trail projects can be a challenge, but following is a list of possible funding sources for this project:

Federal Funding Sources

- MAP-21 - Transportation Alternatives Program
- United States Department of the Interior - National Parks Service (NPS)
 - Rivers, Trails and Conservation Assistance (RTCA) Program
- Land and Water Conservation Fund

State Funding Sources

- Pennsylvania Department of Conservation and Natural Resources (PA DCNR)
 - Recreational Trails Program
 - Community Conservation Partnership Program
- Pennsylvania Department of Community and Economic Development (PA DCED)
 - Greenways, Trails and Recreation Program
- Act 13, Marcellus Legacy Fund

Local Sources

- Bond Issue
- Public taxes, including County and municipal

Private Funding Sources

- PECO Green Region Grants Program
- William Penn Foundation
- Kodak American Greenways Awards
- American Hiking Association - National Trails Fund

A comprehensive list of funding sources is provided in Appendix C of this study.

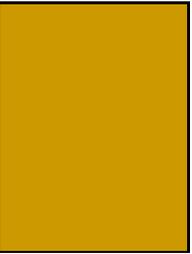
RECOMMENDATIONS FOR FUTURE ACTION

Development of the Lower Neshaminy Creek Trail depends upon several actions, the most important being the creation of the management structure involving the citizens and many governmental and other organizations with involvement in the trail. As the trail alignment crosses seven municipalities, County-owned land, and a variety of privately-owned properties, it is critical that a structure be established and determinations made regarding who will be responsible for the various tasks needed to make this trail a reality. Table 17 summarizes future actions that are critical to the implementation process.

Table 17 – Implementation Tasks

Key Tasks	Responsible Parties
Identify and establish the sponsoring organizational structure to be used for the funding, development, operation and maintenance of the trail.	Bucks County, Friends of the Trail group, Municipalities, private land owners, Delaware Valley Regional Planning Commission, Bicycle Coalition
Preserve the Right-of-Way for the trail by securing necessary easements and making local planning commissions and municipal leadership aware of trail alignment so they can secure easements and require trail development as part of land development proposals and incorporate the trail into municipal, recreation, and land use plans.	Bucks County, Friends of the Trail group, Municipalities, Bucks County Recreation Council
Look for "Early Win" / small success projects to help move the project forward	Bucks County, Municipalities, Friends of the Trail group
Initiate fund-raising and grant writing activities to secure funding for Phase 1 design and engineering	Sponsoring Organization (TBD)
Preliminary and Final Design	Sponsoring Organization (TBD)
Construction	Sponsoring Organization (TBD)
Set up a Maintenance Program and Endowment	Sponsoring Organization (TBD)

APPENDIX A1
Public Participation



terrain vehicle access. Additionally, many expressed concern about the publicizing of the meeting. Following the presentation, attendees were asked to provide their input in the following areas:

- Specific points of interest they would like to see the trail connect to
 - The number one destination point identified were recreational sites including Core Creek Park and Playwicki Park. There was also interest in connecting to public transportation. There was not significant interest in providing connections to libraries, historic/cultural sites or schools.
- Preferences relative to trail surfaces based on the attributes of each trail surface type
 - Most people expressed a preference for either natural surface or crushed aggregate trail surfaces. While these types of surfaces might be suitable for certain sections of the proposed trail alignment, the proximity of the proposed trail to the creek, make these types of surfaces less desirable from a maintenance and durability perspective as compared to a paved surface such as concrete or asphalt. Additionally, natural surface trails limit handicapped-accessibility of the trail.
- Current trail-related activities they participate in
 - The most frequently cited activities that people participate in are hiking/walking, nature study and canoeing/kayaking.
- Specific concerns regarding the proposed trail
 - The top three concerns cited regarding the proposed trail included concerns about trash, loss or privacy, and environmental impacts. Other concerns expressed focused primarily on personal safety, property damage, and illegal motorized use.
- Amenities they would like to see incorporated as part of the trail design (signage, park benches, trash receptacles, restroom facilities, etc.)
 - The top three trail amenities people expressed interest in included trash/recycling receptacles, educational signage, and an emergency communication system. Other amenities with some interest included drinking fountains, trail signage, park benches and picnic shelters.

This meeting was also attended by a representative from the Bucks County Courier Times and The Intelligencer which published articles recapping the meeting. Copies of these articles, as well as copies of notifications about this meeting via social media and websites, are included in this appendix.

December 16, 2014 - Public Meeting

Middletown Township Municipal Building

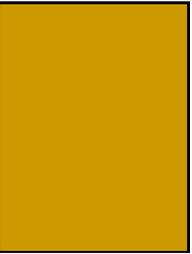
The second public meeting was a presentation of the proposed trail alignment and was attended by twenty-five (25) residents. Those in attendance were generally supportive of the proposed alignment and expressed appreciation that the concerns raised during the initial meeting were addressed.

As with the first public meeting, the meeting was announced via municipal and county websites and social media, and meeting notices in local newspapers. Additionally, emails were sent to those individuals who attended the August 5, 2014 and provided an email address. Following the public workshop, the presentation from the workshop was posted on the Bucks County Planning Commission website from January - June 2015 at <http://www.buckscounty.org/government/communityservices/PlanningCommission>. An article about the meeting appeared in the Bucks County Courier times.

Public comment period on draft study

The final opportunity for public comment on the study was the posting of the draft study on the Bucks County Planning Commission website. The draft study was available on the website from December 4 - December 18, 2015. Press releases regarding the availability of the study were again sent to local news agencies as well as to the municipalities in the project area, as well as being advertised on municipal and county websites and social media outlets. Additionally, emails were sent to those attending either of the public meetings who had provided an email address letting them know about the availability of the draft study.

APPENDIX A2
Public Participation—
Press Releases, Social Media,
Newspaper Articles

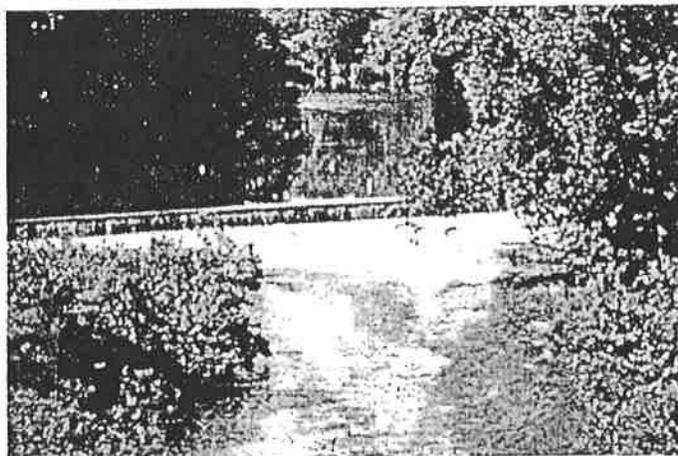


SOURCE Levittown Patch
DATE 7, 24, 14
SECTION —
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County Considering Lower Neshaminy Creek Trail Project

Bucks County will hold a Community Visioning Workshop on August 5 to provide an overview of the project and to gather public input.

Posted by Kara Seymour , July 23, 2014 at 01:47 PM



The following is an announcement from Bucks County:

Bucks County is preparing a study to determine the feasibility of establishing a trail, this time along the Lower Neshaminy Creek extending from the confluence of Core and Neshaminy Creeks to the Neshaminy Falls SEPTA station.

The study's steering committee is comprised of local municipal representatives as well as various organizations interested in accommodating an active community. Public participation is requested during the design phase of this important trail system.

The County will hold a Community Visioning Workshop on August 5, 2014 to provide an overview of the project and to gather the public's important ideas, suggestions and concerns. Discussed at the meeting will be potential uses of the trail, particular amenities and features, and the locations of possible trailheads and trail connections.

The format for the meeting will be a brief presentation followed by a participatory exercise to obtain feedback about the proposed trail. Please join the county's Planning Commission:

Tuesday, August 5, 2014
7 p.m. to 8:30 p.m.
Middletown Township Municipal Building
3 Municipal Way
Langhorne, PA 19047

Community involvement is welcome and encouraged. Please contact the Bucks County Planning Commission at 215-345-3400 or orbpc@co.bucks.pa.us with any questions.

SOURCE Intelligencer
DATE 7, 24, 14
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PAGE -
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Bucks plans nature trail from Bensalem to Middletown

By James McGinnis Staff writer | Posted: Wednesday, July 23, 2014 5:44 pm

Officials in Bucks County want your thoughts on a nature trail extending from Middletown's Core Creek Park to the Neshaminy Falls SEPTA station in Bensalem.

The Bucks County Planning Commission has announced a "community visioning workshop" for the proposed Lower Neshaminy Creek Trail, which would be part of a larger network of trails stretching all the way into central Bucks County.

The public meeting is scheduled for 7 p.m., Aug. 5 inside the Middletown municipal building located at 3 Municipal Way.

Residents with questions were invited to contact the planning commission at 215-345-3400 or e-mail bcpc@co.bucks.pa.us



Gina Cervetti

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Langhorne Borough, PA

Be a Part of the Planning Process: Lower Neshaminy Creek Greenway Trails Visioning Workshop

The County of Bucks is preparing a study to determine the feasibility of establishing a trail along the Lower Neshaminy Creek extending from the confluence of Core and Neshaminy Creeks to the Neshaminy Falls SEPTA station. Our steering committee is comprised of local municipal representatives and various organizations interested in accommodating an active community and we invite you to join us in designing this important trail system.

The County will hold a Community Visioning Workshop on August 5, 2014 to provide an overview of the project and to gather your important ideas, suggestions and concerns. Discussed at the meeting will be potential uses of the trail, particular amenities and features, and trail connections.

The format for the meeting will be a brief presentation followed by a participatory exercise to obtain your feedback about the proposed trail. Please join us.

Tuesday, August 5, 2014

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Middletown Township Municipal Building
3 Municipal Way
Langhorne, PA 19047

We hope to see you there. Please contact the Bucks County Planning Commission at 215-345-3400 or bcpcc@co.bucks.pa.us with any questions.

This project was financed in part by a grant from the Commonwealth of Pennsylvania, Commonwealth Financing Authority.

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Middletown Township
BUCKS COUNTY, PENNSYLVANIA

Workshop - Lower Neshaminy Creek Greenway Trails

Posted in: [Parks and Recreation](#), 7/24/2014 2:45 PM

Be a Part of the Planning Process: Lower Neshaminy Creek Greenway Trails Visioning Workshop

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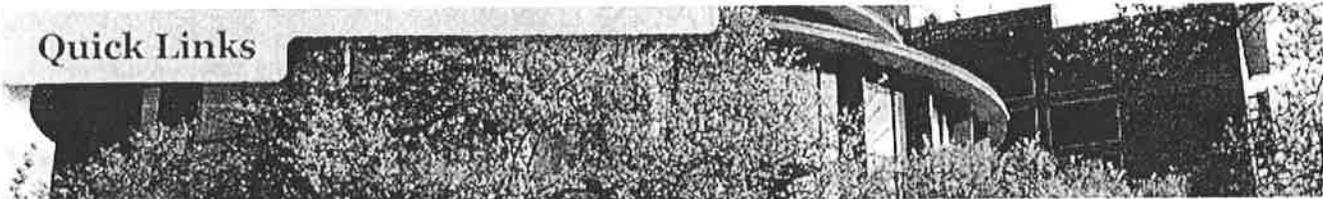
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2014 News

Be a Part of the Planning Process: Lower Neshaminy Creek Greenway Trails Visioning Workshop

July 23, 2014

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BUCKS COUNTY COMMISSIONERS: ROBERT G. LOUGHERY, CHAIRMAN; CHARLES H. MARTIN, VICE CHAIRMAN; AND DIANE M. ELLIS-MARSEGLIA, L.C.S.W.

55 East Court Street
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(All other callers): 215-348-6000
Email: webmaster@co.bucks.pa.us

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County Weighing Trail Along Lower Neshaminy Creek

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Provided by the County of Bucks:

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Cloudy skies over the Neshaminy Creek in the Newportville section of Bristol Township on Friday
Credir: Tom Sofield/LevittownNow.com

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July 1 @ 6:00 pm - July 31 @ 9:00 pm

Bucks County Job Seekers Invited to Enter 'Make Me Over' Contest

July 15 - August 8

Bucks County Job Seekers Invited to Enter 'Make Me Over' Contest

July 15 - August 8

Bristol Borough First Friday

August 1 @ 5:00 pm - 10:00 pm

Hope for Hannah Pancake Breakfast

August 2 @ 8:00 am - 10:00 am

[View All Events](#)

SOURCE Inquirer
DATE 7, 24, 14
SECTION B
PAGE 3
POSITION left

BUCKS COUNTY

**Neshaminy trail
meeting set**

LANGHORNE Bucks County officials will hold a meeting in August to solicit public comment for a potential trail along Neshaminy Creek, they announced this week.

The trail section to be addressed would run from where the Core and Neshaminy Creeks meet to the Neshaminy Falls Regional Rail station, the county said.

The meeting is scheduled for Aug. 5 from 7 to 8:30 p.m. at the Middletown Township Municipal Building.

Previous meetings, including one in Richboro Tuesday night, have addressed the viability of other sections of the trail.

More information is available from the Bucks County Planning Commission at 215-345-3400.

— Chris Palmer

Jul 31, 2014



County Considering Lower Neshaminy Creek Trail Project

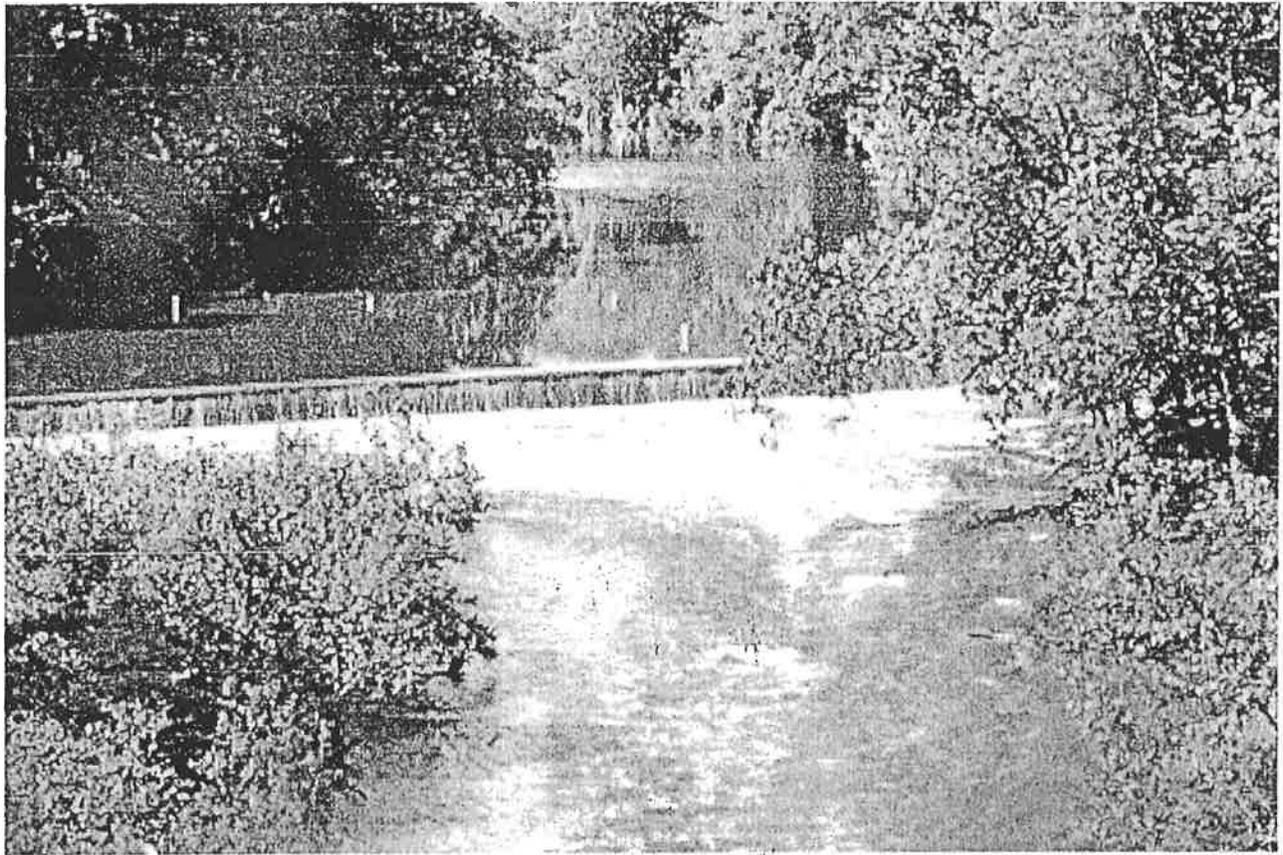
Bucks County will hold a Community Visioning Workshop on August 5 to provide an overview of the project and to gather public input.

By Kara Seymour (/users/kara-seymour-2)

July 23, 2014 at 11:47 am  0

0

(http://www.addthis.com/bookmark.php?v=300&winname=addthis&pub=ra-53285eac5a065339&source=tbx-300&lng=en-US&s=google_plusone_share&url=http%3A%2F%2Fpatch.com%2Fpennsylvania%2Flevittown%2Fcounty-considering-lower-neshaminy-creek-trail-project&title=County%20Considering%20Lower%20Neshaminy%20Creek%20Trail%20Project%20-%20Politics%20-%20Levittown%2C%20Pennsylvania%20%7C%20Patch&ate=AT-ra-53285eac5a065339/-/-/53da2c396eac8311/2&frommenu=1&uid=53da2c39ee49ee78&ct=1&pre=ht3A%2F%2Fwww.bing.com%2Fsearch%3Fq%3Dlower%2Bneshaminy%2Bcreek%2Btrail%26src%3DIITopResult%26FORM%3DIE11TR%26conversationid%3D&tt=0&captcha_provider=nucaptcha)



The following is an announcement from Bucks County:

Bucks County is preparing a study to determine the feasibility of establishing a trail, this time along the Lower Neshaminy Creek extending from the confluence of Core and Neshaminy Creeks to the Neshaminy Falls SEPTA station.

The study's steering committee is comprised of local municipal representatives as well as various organizations interested in accommodating an active community. Public participation is requested during the design phase of this important trail system.

The County will hold a Community Visioning Workshop on August 5, 2014 to provide an overview of the project and to gather the public's important ideas, suggestions and concerns. Discussed at the meeting will be potential uses of the trail, particular amenities and features, and the locations of possible trailheads and trail connections.

The format for the meeting will be a brief presentation followed by a participatory exercise to obtain feedback about the proposed trail. Please join the county's Planning Commission:

Tuesday, August 5, 2014

7 p.m. to 8:30 p.m.

Middletown Township Municipal Building

3 Municipal Way

Langhorne, PA 19047

Community involvement is welcome and encouraged. Please contact the Bucks County Planning Commission at 215-345-3400 or bpc@co.bucks.pa.us with any questions.

Don't miss updates from Patch!



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[Patch/177675968913077](https://facebook.com/pages/Levittown-PA/Levittown-Patch/177675968913077))  (<https://twitter.com/BensalemPatch>) 

(<http://instagram.com/patch>)

oola_utm_content=ab_autosized-generated-1r_2-rows:PC-Article-View:)
oola_utm_content=ab_autosized-generated-1r_2-rows:PC-Article-View:)
From the Web

([http://thestir.cafemom.com/entertainment/175102/josh_murray_ruins_bachelorette_ending?](http://thestir.cafemom.com/entertainment/175102/josh_murray_ruins_bachelorette_ending?utm_medium=sm&utm_source=rss&utm_content=entertainment_rssfeed&quick_picks=1&utm_medium=sem2&utm_source=levittown)

[utm_medium=sm&utm_source=rss&utm_content=entertainment_rssfeed&quick_picks=1&utm_medium=sem2&utm_source=levittown\)](http://thestir.cafemom.com/entertainment/175102/josh_murray_ruins_bachelorette_ending?utm_medium=sm&utm_source=rss&utm_content=entertainment_rssfeed&quick_picks=1&utm_medium=sem2&utm_source=levittown)

Josh Murray Ruins 'Bachelorette' Ending With Telling Comment
Stirring Daily

([http://thestir.cafemom.com/entertainment/175102/josh_murray_ruins_bachelorette_ending?](http://thestir.cafemom.com/entertainment/175102/josh_murray_ruins_bachelorette_ending?utm_medium=sm&utm_source=rss&utm_content=entertainment_rssfeed&quick_picks=1&utm_medium=sem2&utm_source=levittown)

[utm_medium=sm&utm_source=rss&utm_content=entertainment_rssfeed&quick_picks=1&utm_medium=sem2&utm_source=levittown\)](http://thestir.cafemom.com/entertainment/175102/josh_murray_ruins_bachelorette_ending?utm_medium=sm&utm_source=rss&utm_content=entertainment_rssfeed&quick_picks=1&utm_medium=sem2&utm_source=levittown)

Residents hear proposal for trail along Neshaminy Creek

By ANTHONY DIMATTIA Staff writer | Posted: Tuesday, August 5, 2014 10:30 pm

Residents on Tuesday heard the details of a proposal that would place a trail along the Neshaminy Creek from Middletown's Core Creek Park to SEPTA's Neshaminy Falls train station in Bensalem.

The "community visioning workshop" was part of a cost feasibility study for the proposed Lower Neshaminy Creek Trail, which would be part of a larger network of trails stretching from Bensalem to Chalfont. Nearly 30 residents gave their input after a brief presentation by Bucks County representatives inside the Middletown municipal building.

"The study is designed to go out and look at the physical and environmental constraints that are out there to determine whether we can ever build a trail along the creek," said Paul Gordon of the Bucks County Planning Commission.

It could cost roughly \$6 million to build a near 6-mile, 10-foot wide handicapped-accessible asphalt and boardwalk path that would be used by hikers, bikers and pedestrians through Langhorne, Lower Southampton, Middletown and Northampton, Gordon said.

Construction along the east side of the creek would be preferable because of already condemned properties and other land owned by Middletown and the Neshaminy School District, Gordon said.

"The county has no interest in condemnation or eminent domain," he said.

However, some residents were wary the trail would bring unwelcome crime to their homes that sit near the proposed trail.

"Our houses don't get broken into right now, but if you increase that kind of foot traffic through there we are the ones that are going to pay," said Christina Davis, of Lower Southampton.

In a study, Gilmore and Associates civil engineers note the many positives of having such a trail. Among them, the designed path links to parks, schools and bus stations, allowing more workers and students to bike and access mass transit more safely. The trail could also boost the local economy.

Still, there will be challenges to Bucks County's trail plan. Several areas on the lower and upper Neshaminy contain steep slopes and several "large-span bridges," and boardwalks might be required in protected wetlands, according to the study.

This is not the first time officials have tried to build trails along the Neshaminy. Plans for a creekside park date back to 1955. Proposals for a Neshaminy Creek park were included in county plans drafted in 1974 and 1986, officials said.

Another trail feasibility study is underway for the Black Ditch, Mill and Queen Anne creeks, which run through Bristol Township, Falls and Middletown.

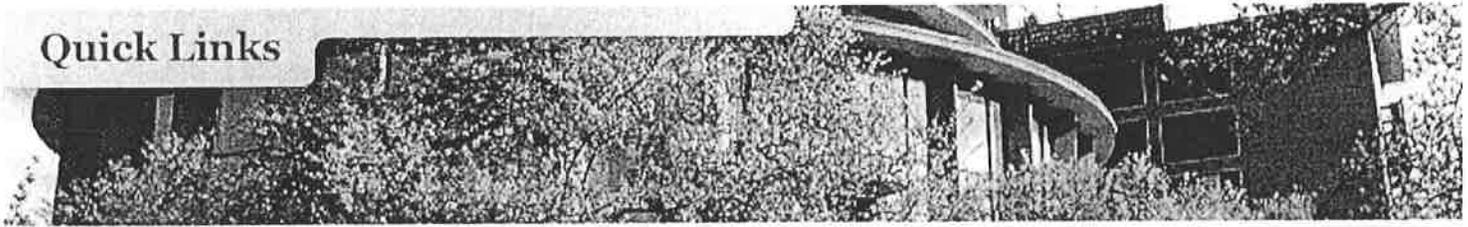
So far, though, no money has been acquired for any of those construction projects, and officials are hesitant to even speculate on a timeline.

For more information, contact the planning commission at 215-345-3400 or bcpc@co.bucks.pa.us.



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Quick Links



Be a Part of the Planning Process: Lower Neshaminy Creek Greenway Trail Presentation

December 2, 2014

The County of Bucks Is preparing a study to determine the feasibility of establishing a trail along the Lower Neshaminy Creek extending from Core Creek Park to Bristol Road at the Neshaminy Falls Train Station. The study's steering committee is comprised of various organizations interested in accommodating an active community and public participation is requested during the design phase of this important trail system.

The County will present an overview of the proposed trail route on Tuesday, December 16, 2014. The conducted field survey work will be discussed, as will information based on interviews with key stakeholders, all of which went into the planning of the proposed route.

The format for the meeting will be a brief presentation followed by discussion and community input. Please join the county's Planning Commission:

Tuesday, December 16, 2014
7:30 p.m. to 8:30 p.m.
Middletown Township Municipal Building
3 Municipal Way
Langhorne, PA 19047

Community involvement is welcome and encouraged. Please contact the Bucks County Planning Commission at 215-345-3400 or bcpc@co.bucks.pa.us with any questions.

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BUCKS COUNTY COMMISSIONERS: ROBERT G. LOUSHERY, CHAIRMAN; CHARLES H. MARTIN, VICE CHAIRMAN; AND JANE M. BULL, MARGIE WA, L & S, M

65 East Court Street
Doylestown, PA 18901
Phone: (Toll free from within Bucks County) 1-800-942-8227
(All other calls are) 215-348-6900
Email: web@readingco.bucks.pa.us

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P. David Pollock



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Bucks County, Pennsylvania

Developed by Perception - Website Design & SEO



34° John Bolaris' Forecast »
Philadelphia, PA

philly.com



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Meeting to discuss Bucks trail route is scheduled

[Share](#) [Tweet](#) [Reddit](#) [Email](#) 1 COMMENT

LAST UPDATED: Wednesday, December 3, 2014, 1:08 AM

BUCKS COUNTY

Meeting to discuss trail route on Neshaminy Creek is set

LANGHORNE Lower Bucks County residents will get a chance this month to view a proposed trail route along the Neshaminy Creek.

The county's planning commission is scheduled to present the overview on Dec. 16 at the Middletown Township Municipal Building, 3 Municipal Way, Langhorne, 19047, from 7:30 to 8:30 p.m. The proposed route would run from Core Creek Park in Langhorne to the Neshaminy Falls Train Station in Feasterville-Treose.

The meeting's format will include a brief presentation followed by discussion and community input.

- Ben Finley

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[Justice Dept. to investigate wife's
Childhood Death](#)

AP

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\$1557 & up -- Tuscany & Venice 6-Nt. Escape w/Air & Car

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Montco town \$3.2M in debt; residents shocked

SOURCE INTELLIGENCER
DATE 12/3/14
SECTION A
PAGE 7
POSITION TOP

NEWS BRIEF

Nature trail plans to be unveiled

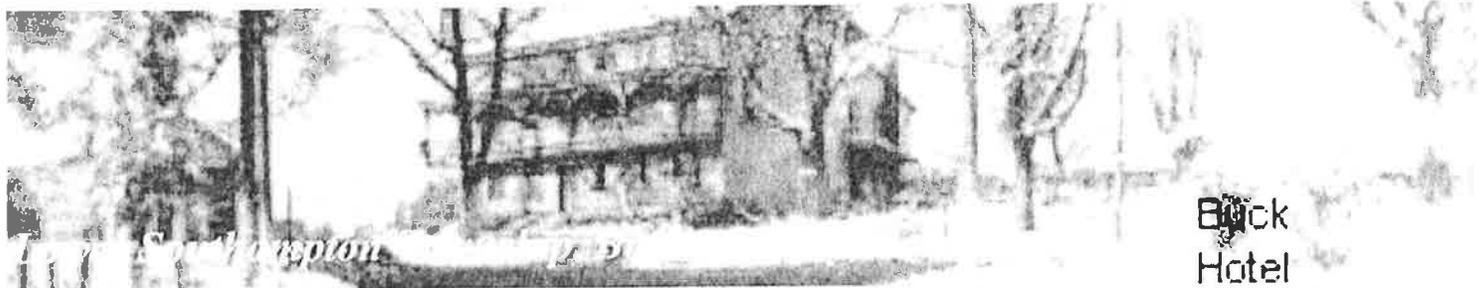
Bucks County wants your thoughts on a nature trail that could run from Middletown's Core Creek Park to the Neshaminy-Falls Train Station in Bensalem.

A public meeting is scheduled for 7:30 p.m. Dec. 16 to discuss the proposed Lower Neshaminy Creek Greenway.

The meeting is to be held in Middletown's town hall, which is located at 3 Municipal Way.

Officials with the Bucks County Planning Commission are scheduled to unveil the proposed route that would follow the Neshaminy Creek near Langhorne and pass Neshaminy High School.

For more information, contact the planning commission at 215-345-3400 or bcpc@co.bucks.pa.us.



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- Duluth Sewer Club
- Library
- Resources
- Jobs & Careers
- Grants & Committees
- Permits & Pavos
- Contact Us
- Site Index/Search
- Administration
- Police Department
- Fire Marshal's Office
- Zoning Department
- Finance Department
- Public Works Department
- Parks & Rec Department

Lower Southampton Township

- On Going Programs
- Military Residents Serving
- Departments
- Help with Home Solicitors
- Stormwater Management
- Area Links
- Civic Groups/Organizations
- Taxes
- Right to Know
- Public Notices/Projects
- Public Bid Notices
- Act 44 Pension Fund Compliance
- Employee Information

LSAA sponsors Free Santa Pictures, Saturday, Dec 13



SANTA IS COMING!!
 Saturday, December 13th
 11:00 am – 2:00 pm
 Lower Southampton Township
 Library
 1983 Bridgetown Pike, Feasterville
 Sponsored by LSAA

Bring canned goods and other non-perishable items for the needy in our community and get your picture

taken with Santa for FREE!

Saturday, December 20th, Santa is coming to town



Santa Claus is Coming to Town!
 Escorted by The Feasterville Fire Company
 Saturday December 20, 2014
 9 am to 6 pm
 Rain or Shine (or snow)

Santa will be riding a top Ladder 1 and escorted by Lower

Southampton's bravest fire fighters. He will be traveling around the lower portion of Feasterville to greet all the children of our community.

Listen for the sirens for location or check the Feasterville Fire Company facebook



Neshaminy Creek Trail Planning - December 16th

Be a Part of the Planning Process:

Lower Neshaminy Creek Greenway Trail Presentation



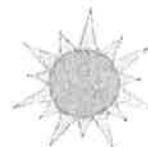
HAPPY HOLIDAYS
 The Township offices will close early on Wednesday, December

24th and re-open on Monday, January 5th, 2015.

Lower Southampton Township
 1500 Desire Ave
 Feasterville, PA 19053
Phone: 215 357-7300
FAX: 215-357-0946

POLICE Department

In an **emergency**, always dial 911
 Normal Business - 215-357-1235



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Newcomer to our township? [Click here](#) to get started



Township FACEBOOK

www.facebook.com/pages/Lower-South-Twp/135720199860677



Internal Phone Extensions for Township Employees

[phone directory 3-2014.pdf](#)

Adobe Acrobat document [99.8 KB]

Township Email Address:

administration@lstwp.org

Trash Collection

Questions/Problems

Call J.P. Mascaro at 800-432-1616.

For **sanitary sewer backup emergencies ONLY** when the **township is closed**, call 215-357-3248. When the **township is open**, during normal business hours of 9:00 AM - 5:00 PM, call Public

The County of Bucks is preparing a study to determine the feasibility of establishing a trail along the Lower Neshaminy Creek extending from Core Creek Park to Bristol Road at the Neshaminy Falls Train Station. Our steering committee is comprised of representatives from the municipalities and other parties interested in accommodating an active community. We invite you to join us in designing this important trail system.

Works at 215-357-7300, x302 or x318 or the receptionist at x301.

For a **Water EMERGENCY ONLY**, call 215-343-3946.



**WELCOME TO LOWER
SOUTHAMPTON'S WEB SITE**

On Tuesday, December 16th, the County will present an overview of the proposed trail route based on interviews with key stakeholders and field survey work conducted.

Please join us.

Tuesday, December 16, 2014
7:30 p.m. to 8:30 p.m.
Middletown Township Municipal Building
3 Municipal Way
Langhorne, PA 19047

We hope to see you there. Please contact the Bucks County Planning Commission at 215-345-3400 or bcpc@co.bucks.pa.us with any questions.

Holiday Open House & Market at Playwicki

[Click here](#) for more information.

The market will be held every Saturday from November thru May.

The Holiday Children's Programs are now available

[Click here](#) for Parks and Recreation.

Collection for the Veterans Home

The VAC is collecting items for the Delaware Valley Veteran's home again this year. This year the list of items are:

- Men's and Women's large Soap bars
- Men's and Women's deodorant / antiperspirant (large size)
- Hand sanitizer (with or without the pump on the container)
- Men's body wash
- Mouth wash
- T-shirts (assorted sizes)
- White socks (assorted sizes)
- 3 head electric razors (they need 15 to 20 of these)

The items should be delivered to the Township by Friday, December 19th.

Thank you very much.

Brant Warner

Civilian Police Academy

CIVILIAN POLICE ACADEMY

IF YOU ARE INTERESTED IN ATTENDING THE NEXT "CIVILIAN POLICE ACADEMY" PLEASE CONTACT US AT 215-357-1235, ASK FOR SANDY. THE NEXT SESSION IS PLANNED FOR MID FEBRUARY. THE PROGRAM RUNS FOR EIGHT WEEKS, TUESDAY EVENINGS 7:00 P.M.

THE SLOGAN OF THE "CIVILIAN POLICE ACADEMY" IS UNDERSTANDING THROUGH EDUCATION AND TRAINING. THE OBJECTIVE OF THE PROGRAM IS TO PROVIDE RESIDENTS WITH INFORMATION ON LAW ENFORCEMENT OPERATION OF THE LOWER SOUTHAMPTON POLICE DEPARTMENT. SOME TOPICS COVERED ARE: LAWS OF ARREST, USE OF FORCE, ACCIDENT INVESTIGATION, CRIME SCENE SEARCH, TRAFFIC ENFORCEMENT AND THE COURT SYSTEM.

January Christmas Tree Collection

**Trees should be placed
curbside the third (3rd) week
in January to be collected on
THURSDAY, JANUARY 18th**



County of Bucks

www.BucksCounty.org

County Commissioners
Robert G. Loughery, *Chairman*
Charles H. Martin, *Vice-Chairman*
Diane M. Ellis-Marseglia, LCSW

Commissioners' Office of Public Information
55 East Court Street, 5th Floor
Doylestown, PA 18901
215-348-6415

Contact: Chris Edwards or Juliet Kelchner
215-348-6415

FOR IMMEDIATE RELEASE December 2, 2014

NEWS

BE A PART OF THE PLANNING PROCESS: LOWER NESHAMINY CREEK GREENWAY TRAIL PRESENTATION

The County of Bucks is preparing a study to determine the feasibility of establishing a trail along the Lower Neshaminy Creek extending from Core Creek Park to Bristol Road at the Neshaminy Falls Train Station. The study's steering committee is comprised of various organizations interested in accommodating an active community and public participation is requested during the design phase of this important trail system.

The County will present an overview of the proposed trail route on Tuesday, December 16, 2014. The conducted field survey work will be discussed, as will information based on interviews with key stakeholders, all of which went into the planning of the proposed route.

The format for the meeting will be a brief presentation followed by discussion and community input. Please join the county's Planning Commission:

Tuesday, December 16, 2014
7:30 p.m. to 8:30 p.m.
Middletown Township Municipal Building
3 Municipal Way
Langhorne, PA 19047

Community involvement is welcome and encouraged. Please contact the Bucks County Planning Commission at 215-345-3400 or bcpc@co.bucks.pa.us with any questions.

SOURCE INTELLIGENCE
DATE 12/3/14
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POSITION TOP

NEWS BRIEF

Nature trail plans to be unveiled

Bucks County wants your thoughts on a nature trail that could run from Middletown's Core Creek Park to the Neshaminy-Falls Train Station in Bensalem.

A public meeting is scheduled for 7:30 p.m. Dec. 16 to discuss the proposed Lower Neshaminy Creek Greenway.

The meeting is to be held in Middletown's town hall, which is located at 3 Municipal Way.

Officials with the Bucks County Planning Commission are scheduled to unveil the proposed route that would follow the Neshaminy Creek near Langhorne and pass Neshaminy High School.

For more information, contact the planning commission at 215-345-3400 or bepec@co.bucks.pa.us.

SOURCE INQUIRER
DATE 12/3/14
SECTION B
PAGE 3
POSITION Right

BUCKS COUNTY

Meeting to discuss trail route on Neshaminy Creek is set

LANGHORNE Lower Bucks County residents will get a chance this month to view a proposed trail route along the Neshaminy Creek.

The county's planning commission is scheduled to present the overview on Dec. 16 at the Middletown Township Municipal Building, 3 Municipal Way, Langhorne, 19047, from 7:30 to 8:30 p.m. The proposed route would run from Core Creek Park in Langhorne to the Neshaminy Falls Train Station in Feasterville-Trevose.

The meeting's format will include a brief presentation followed by discussion and community input.

— Ben Finley



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Meeting to discuss Bucks trail route is scheduled

[Print](#) [Tweet](#) [Reddit](#) [Email](#) [0 COMMENTS](#)

LAST UPDATED: Wednesday, December 3, 2014, 1:08 AM

BUCKS COUNTY

Meeting to discuss trail route on Neshaminy Creek is set

LANGHORNE Lower Bucks County residents will get a chance this month to view a proposed trail route along the Neshaminy Creek.

The county's planning commission is scheduled to present the overview on Dec. 16 at the Middletown Township Municipal Building, 3 Municipal Way, Langhorne, 19047, from 7:30 to 8:30 p.m. The proposed route would run from Core Creek Park in Langhorne to the Neshaminy Falls Train Station in Feasterville-Trevoze.

The meeting's format will include a brief presentation followed by discussion and community input.

- Ben Finley

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Woman, 23, dies on Newark flight

Reviews



Lower Southampton Township



Lower Southampton Township

Be a Part of the Planning Process!
Lower Southampton Creek Greenway Trail Re-orientation
The County of Bucks is preparing a study to determine the feasibility of re-orienting a trail along the Middlebrook Creek, extending from Coxe Creek Park to the end of the Middlebrook Falls Trail season. Our steering committee is composed of representatives from the municipalities and other entities interested in accommodating an active community. We invite you to join us in designing this important trail system.

On Tuesday, December 16th, the County will present an overview of the proposed trail route based on interviews with key stakeholders and field survey work conducted.

Please join us:
Tuesday, December 16, 2014
7:30 p.m. to 8:30 p.m.
Middlebrook Township Municipal Building
3 Municipal Way
Langhorne, PA 19047

We hope to see you there. Please contact the Bucks County Planning Commission at 215-345-3400 or boyc@co.bucks.pa.us with any questions.



Lower Southampton Township



Lower Southampton Township

Carol Pashinski Query Sees people even to the creek are you going to overtake
Big Land from Alan
Carol Pashinski Query Sees people even to the creek are you going to overtake
Big Land from Alan

Lower Southampton Township has a meeting. The location here is to be correct. I would suggest that you attend this very informative public meeting on 12/16.

Carol Pashinski Query I don't like those anymore. Not as obvious



Lower Southampton Township



Lower Southampton Township

IF YOU ARE INTERESTED IN ATTENDING THE NEXT "CIVILIAN POLICE ACADEMY"
PLEASE CONTACT US AT 257 1233. ASK FOR SAHJY. THE NEXT SESSION IS PLANNED FOR MID FEBRUARY. THE PROGRAM RUNS FOR EIGHT WEEKS. TUESDAY EVENINGS 7:00 P.M. - 9:00 P.M.



Lower Southampton Township



Lower Southampton Township

U.S. Coast Guard Pacific Northwest
1000 1st Avenue, Seattle, WA 98101
206.462.1000

Seattle Fire Department
1000 1st Avenue, Seattle, WA 98101
206.462.1000

Rembo Fire & Emergency Service
1000 1st Avenue, Seattle, WA 98101
206.462.1000

Dolphin Swim Club
1000 1st Avenue, Seattle, WA 98101
206.462.1000



Lower Southampton Township



Lower Southampton Township



Lower Southampton Township



Lower Southampton Township



Lower Southampton Township



Lower Southampton Township



Lower Southampton Township



Lower Southampton Township



Lower Southampton Township



Lower Southampton Township



Lower Southampton Township



Lower Southampton Township



Lower Southampton Township



Lower Southampton Township



Lower Southampton Township

Gordon, Paul W.

To: Lower Neshaminy Creek Public Meeting Attendees
Subject: Lower Neshaminy Creek Trail Study - Public Workshop #2

From: Gordon, Paul W. [<mailto:pwgordon@co.bucks.pa.us>]
Sent: Tuesday, December 02, 2014 7:34 AM
To: Brian Smiley; Christina Davis; David Maksynzovid; Debby L. Lamanna; Demi; Gregory Yori; Jennifer Yori; Jim Eife & Elaine Schilf; Louis & Alice Floge; Matt Gilbert; Nancy Mines; Robert Lamb; Ron Cuff; Steve Rodriguez; William Davis
Subject: Lower Neshaminy Creek Trail Study - Public Workshop #2

Good morning,

You are receiving this email as you've either expressed interest in the Lower Neshaminy Creek Trail Feasibility Stud, or have attended a previous public meeting regarding the study.

The purpose of this email is to inform you that the second public workshop has now been scheduled as follows:

Tuesday, December 16, 2014
7:30 p.m. to 8:30 p.m.
Middletown Township Municipal Building
3 Municipal Way
Langhorne, PA 19047

The meeting is being advertised via a press release sent to local media outlets, and postings to county and municipal websites and social media feeds.

The purpose of the meeting will be to present the proposed trail alignment based on site analysis work conducted over the past few months.

We hope you will be able to join us. In the event that you aren't able to attend, the meeting materials will be posted on the county website following the meeting which will provide an additional opportunity for comment.

Thanks again for your continued interest in the study.

Paul W. Gordon
Environmental Planner
Bucks County Planning Commission
1260 Almshouse Road
Doylestown, PA 18901
(215) 345-3884

Close the medicine cabinet!

Residents hear plans for proposed trail along Neshaminy Creek

By ANTHONY DIMATTIA Staff writer | Posted: Tuesday, December 16, 2014 10:30 pm

Bucks County officials unveiled plans Tuesday for a proposed nature trail that could run from Middletown's Core Creek Park to the Neshaminy-Falls Train Station in Bensalem.

Plans for the Lower Neshaminy Creek Greenway would include a route following the Neshaminy Creek near Langhorne Borough and past Neshaminy High School, said Paul Gordon of the Bucks County Planning Commission during a meeting with roughly two dozen residents inside the Middletown municipal complex.

It could cost roughly \$6 million to build a near 6-mile asphalt and off-road path that would be used by hikers, bikers and pedestrians through Langhorne, Lower Southampton, Middletown and Northampton as part of a larger network of trails stretching from Bensalem to Chalfont, officials said.

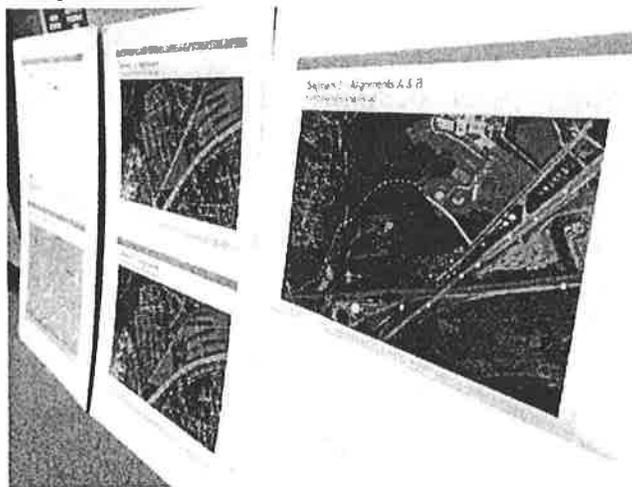
Construction along the east side of the creek would be preferable because of already condemned properties on Oriental Drive near Periwinkle Avenue and other land owned by Middletown, Gordon said. A trail on the east side in Middletown would avoid steep slopes along the west side of the creek, he said.

The study broke the lower trail into three segments with various options that could run through residential areas and along roadways.

In the study, Gilmore and Associates civil engineers note the many positives of having such a trail. Among them, the designed path links to parks, schools and bus stations, allowing more workers and students to bike and access mass transit more safely. The trail could also include amenities like trash and recycling receptacles, an emergency communication system, educational signage and directions and mile markers.

Gordon said that the county would not use eminent domain to take any land to build the trail.

"We don't want a trail that is unwanted," he said. "We're really trying to minimize the impact to



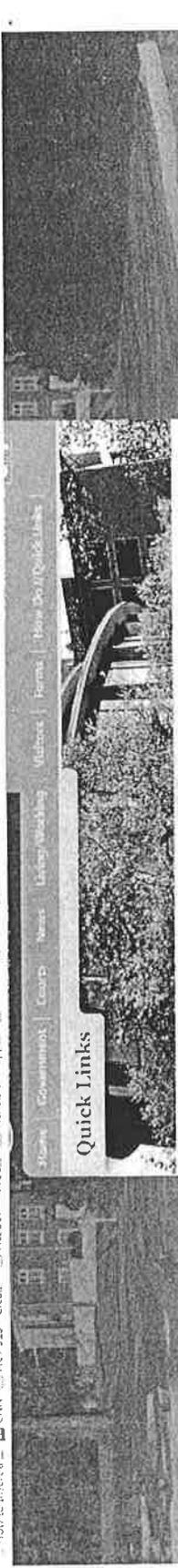
Bucks County officials unveiled plans Tuesday for a proposed nature trail that could run from Middletown's Core Creek Park to the Neshaminy-Falls Train Station in Bensalem.

homeowners while providing a trail.”

A feasibility study for the upper portion of the trail has been approved by Bucks County commissioners with the study on the middle portion nearly complete, Gordon said. Another trail feasibility study for the Black Ditch, Mill and Queen Anne creeks, which run through Bristol Township, Falls and Middletown will go before county commissioners for approval on Wednesday. So far, though, no money has been acquired for any of those construction projects, and officials are hesitant to even speculate on a timeline.

“Trail development is a long process at times,” Gordon said.

For more information, contact the planning commission at 215-345-3400 or bcpc@co.bucks.pa.us.



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About Us

The Bucks County Planning Commission (BCPC), an advisory board to the county commissioners, consists of nine appointed members and a staff of 30 employees. The BCPC assists the county commissioners in their planning and provides guidance and advice on planning and land use issues. They meet the 1st Wednesday of every month to discuss the business of the commission. Some laws, including the Pennsylvania Municipalities Planning Code (MPC) and the Statewide Planning Act (Act 237), require that county planning commissions review plans of proposed development and sewage facilities. Other state-mandated activities include stormwater management planning for the county's watersheds.

The planning commission is also responsible for local status and administration of local planning programs, and to provide information.



Committee Name	Chair	Members	Staff
Bucks County Planning Commission	John J.
Bucks County Zoning Board of Adjustment
Bucks County Historic Landmarks Commission
Bucks County Open Space Advisory Board
Bucks County Stormwater Management Advisory Board
Bucks County Watershed Advisory Board
Bucks County Planning Commission
Bucks County Zoning Board of Adjustment
Bucks County Historic Landmarks Commission
Bucks County Open Space Advisory Board
Bucks County Stormwater Management Advisory Board
Bucks County Watershed Advisory Board

From: Gene S.

Sent: Wednesday, December 16, 2015 7:53 AM

To: Planning Commission planningcommission@buckscounty.org

Subject: Support for Neshaminy Creek Trail

I am writing to support the proposed Neshaminy Creek trail.

This would be an ideal project since it would serve for recreation and transportation.

I live in Langhorne Boro and am an avid cyclist. This project would bring great hiking and biking options to my corner of Bucks County as has been enjoyed by towns along the Delaware River canal path.

It also would be wonderful to give those commuting by train a safer way to get to the station by bike. My fellow train commuters often comment when they see me biking to the Langhorne station. They say they would enjoy doing so but are not comfortable sharing the road with drivers. Making it easier for people to bike to trains cuts pollution, eases parking crunches at stations and makes it easier for busy commuters to build exercise into their daily routine.

Thank you for this proposed project.

Eugene S. (Langhorne resident)

From: Steven Nelson
Sent: Monday, December 21, 2015 4:08 PM
To: Planning Commission planningcommission@buckscounty.org
Cc: Ken Boyle
Subject: Comments on draft Lower Neshaminy Trail Feasibility Study

This email is written on behalf of Bike Bucks County, a county-wide advocacy group and the Bucks County affiliate of the Bicycle Coalition of Greater Philadelphia.

We have reviewed the draft Study and appreciate the opportunity to comment on it.

We commend the County for completing this work on a very important portion of a future county-wide trail network. It is encouraging to see that for the majority of this proposed multi-use trail that a viable alignment exists. It is also encouraging to see the County continuing the implementation of the County's Bicycle Master Plan, as well as the Circuit. As noted in the Study, this trail is supported by previous County and municipal plans.

We support the overall goals articulated in the study and the recommendations contained in it. We also recognize the significant obstacles that prevent the trail from continuing past Neshaminy High School. It appears that there was adequate opportunity for public input, which we also support. As the Bicycle Coalition is mentioned as a participant in the next step regarding a management structure, and since we are the local county affiliate, we would be happy to participate.

Given the complexity of what is required to construct this trail – funding acquisition, engineering and design, permitting, right-of-way acquisition, trail construction and long term maintenance – we believe that the County is best suited to manage this process. The County, with its experienced staff in the Planning Commission and Parks Department, has the expertise in the various tasks that are necessary to see this project through its many stages. Having the County manage the funding, engineering, permitting, r-o-w acquisition, construction and maintenance will assure a more coordinated approach (and, hopefully, more cost-efficient approach) than having each municipality manage the trail through their jurisdiction. There will still need to be coordination with the municipalities, particularly related to r-o-w acquisition through the land development process, but having a single entity be the overall manager is a preferred solution, in our opinion.

In the funding discussion, we did not see any mention of county funding through its operating or capital budget, or through the use of the Act 13 funds that it receives annually for projects like this. We would recommend that all funding sources be listed, including those available only to the County.

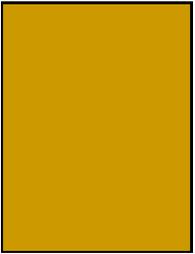
Finally, although this is a vital link in the future trail network, and we support its construction, we hope that the County continues to focus on the Upper Bucks Rail Trail and the Newtown Rail Trail in the short term, as these 2 trails would link to existing regional trails and are considered high priority.

Thank you again for the opportunity to comment.

Steven Nelson
Bike Bucks County



APPENIDIX B
Opinion of Probable Costs



Lower Neshaminy Creek Trail Feasibility Study
 Summary - Opinion of Probable Construction Cost

Segment	Location and Description	Miles	Construction (Includes a 20% Contingency)	Design / Engineering	Easement / Property Acquisition	Estimated Cost
1A	Bridgetown Pike & Newtown-Langhorne Road to Playwicki Park (Alignment A)	2.1	\$ 2,612,178	\$ 326,522	\$ 132,000	\$ 3,070,700
1B	Bridgetown Pike & Newtown-Langhorne Road to Playwicki Park (Alignment B)	2.2	\$ 2,606,926	\$ 325,866	\$ 81,600	\$ 3,014,392
1C	Bridgetown Pike & Newtown-Langhorne Road to Playwicki Park (Alignment C)	2.7	\$ 2,168,220	\$ 271,028	\$ 10,058,250	\$ 12,497,498
2	Segment 2 - Playwicki Park to Rosewood Avenue	1.8	\$ 287,460	\$ 35,933	\$ 31,350	\$ 354,743
3A	Segment 3 – Rosewood Avenue to Bristol Road (Alignment A)	2.5	\$ 3,436,230	\$ 429,529	\$ 276,288	\$ 4,142,047
3B	Segment 3 – Rosewood Avenue to Bristol Road (Alignment B)	2.6	\$ 2,933,626	\$ 366,703	\$ 253,088	\$ 3,553,417
3C	Segment 3 – Rosewood Avenue to Neshaminy High School / Old Lincoln Highway Trailhead (Alignment C) (Includes Trailhead Parking Lot (P1) at Neshaminy High School / Old Lincoln Highway)	1.1	\$ 795,720	\$ 99,465	\$ 33,888	\$ 929,073
	Total Recommended Primary Trail Route	5.0	\$ 3,695,358	\$ 461,920	\$ 197,238	\$ 4,354,516
	Connector Trails & Parking					
C1	Detective Christopher Jones Memorial Park Connector Trail	0.2	\$ 98,490	\$ 12,311	\$ -	\$ 110,801
P1	Neshaminy High School / Old Lincoln Highway Parking Lot		\$ 132,000	\$ 16,500	\$ 8,000	\$ 156,500
P2	Bristol Road Parking Lot		\$ 132,000	\$ 16,500	\$ -	\$ 148,500

Assumptions/Clarifications:

1. Linear Foot Costs based on historical data and Linear Foot cost averages for similar projects to create a weighted average Linear Foot price
2. PennDOT streetscape design & permitting work trends towards 15% of construction costs
3. PennDOT contingencies have trended between 20%

SEGMENT 1B : Bridgetown Pike & Newtown-Langhorne Road to Playwicki Park (2.2 MI.)

Segment	Trails / Access Roads (Existing)	On-Road / Sidewalks (Existing)	Off-Road / Right-of-Way (Proposed)	Segment Description	Multi-Use Trail - 8' Wide	Multi-Use Trail - 10' Wide	Pedestrian Walkway - 4' Concrete Sidewalk	Multi-Use Trail - Wood Boardwalk	Signage Wayfinding	Signage - Warning/Safety/Share the Road	Pavement Markings - Crosswalk	Pavement Markings - Trail	Curb Cur/ADA Ramp	Traffic Signal - RRFB	Structure - Bridge Crossing/Ramp	Structure - Guiderail	Structure - Fence/Railing	Structure - Retaining Wall	Concrete Sidewalk Removal & Restoration	Unit Cost	Total Cost	Comments					
					LF	LF	LF	LF	LF	EA	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA			Unit of Measure		
SEGMENT 1B: Bridgetown Pike & Newtown-Langhorne Road to Playwicki Park (2.2 MI.)	2,350	325	9,125		1,225																\$94.00	\$115,150					
						5,750																		\$110.00	\$632,500		
																									\$63.00	\$0	
										1,900															\$140.00	\$266,000	
												11,800													\$5.00	\$59,000	
													325												\$7.50	\$2,438	
																									\$1,200.00	\$0	
															11,475										\$2.00	\$22,950	
																	4								\$4,000.00	\$16,000	
																		1							\$50,000.00	\$50,000	Crossing Bridgetown Pike along western side of Newtown-Langhorne Road
																			2,500						\$400.00	\$1,000,000	10' Truss x 250' span
																									\$60.00	\$0	
																									\$50.00	\$0	
																									\$100.00	\$0	
																						525			\$16.00	\$8,400	
SUBTOTAL CONSTRUCTION																						\$2,172,438					
CONTINGENCY (20%):																						\$434,488					
EASEMENT ACQUISITION:																						\$81,600	51,000 square feet at \$1.60/square foot				
DESIGN/ENGINEERING (15%):																						\$325,866					
TOTAL SEGMENT ROUTE																						\$3,014,392					

LF = Linear Feet
EA = Each

SEGMENT 1C: Bridgetown Pike & Newtown-Langhorne Road to Playwicki Park (2.7 MI.)

Segment	Trails / Access Roads (Existing)	On-Road / Sidewalks (Existing)	Off-Road / Right-of-Way (Proposed)	Segment Description	Multi-Use Trail - 8' Wide	Multi-Use Trail - 10' Wide	Pedestrian Walkway - 4' Concrete Sidewalk	Multi-Use Trail - Wood Boardwalk	Signage Wayfinding	Signage - Warning/Safety/Share the Road	Pavement Markings - Crosswalk	Pavement Markings - Trail	Curb Cut/ADA Ramp	Traffic Signal - RRFB	Structure - Bridge Crossing/Ramp	Structure - Guiderail	Structure - Fence/Railing	Structure - Retaining Wall	Concrete Sidewalk Removal & Restoration	Unit Cost	Total Cost	Comments					
					LF	LF	LF	LF	LF	EA	LF	EA	EA	EA	EA	LF	LF	LF			Unit of Measure						
SEGMENT 1C: Bridgetown Pike & Newtown-Langhorne Road to Playwicki Park (2.7MI.)	1,525	12,975				1,025															\$94.00	\$96,350					
								11,900															\$110.00	\$1,309,000			
																								\$63.00	\$0		
																								\$140.00	\$0		
											14,500													\$5.00	\$72,500		
																								\$7.50	\$0		
																								\$1,200.00	\$0		
														14,500											\$2.00	\$29,000	
																								\$4,000.00	\$0		
																2								\$50,000.00	\$100,000	Crossing Bridgetown Pike along western side of Newtown-Langhorne Road and crossing Newtown-Langhorne Road along south side of Bridgetown Pike	
																	500							\$400.00	\$200,000	10' Truss x 50' span	
																								\$60.00	\$0		
																								\$50.00	\$0		
																								\$100.00	\$0		
																								\$16.00	\$0		
SUBTOTAL CONSTRUCTION																						\$1,806,850					
CONTINGENCY (20%):																						\$361,370					
PROPERTY ACQUISITION:																						\$10,058,250	134.11 acres @ \$75,000/acre				
DESIGN/ENGINEERING (15%):																						\$271,028					
TOTAL SEGMENT ROUTE																						\$12,497,498					

LF = Linear Feet
EA = Each

SEGMENT 2: Playwicki Park to Intersection of Arbutus Avenue & Rosewood Avenue (1.8 MI.)

Segment	Trails / Access Roads (Existing)	On-Road / Sidewalks (Existing)	Off-Road / Right-of-Way (Proposed)	Segment Description	Multi-Use Trail - 8' Wide	Multi-Use Trail - 10' Wide	Pedestrian Walkway - 4' Concrete Sidewalk	Multi-Use Trail - Wood Boardwalk	Signage Wayfinding	Signage - Warning/Safety/Share the Road	Pavement Markings - Crosswalk	Pavement Markings - Trail	Curb Cut/ADA Ramp	Traffic Signal - RRFB	Structure - Bridge Crossing/Ramp	Structure - Guiderail	Structure - Fence/Railing	Structure - Retaining Wall	Concrete Sidewalk Removal & Restoration	Unit Cost	Total Cost	Comments											
					LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	Unit of Measure							
SEGMENT 2: Playwicki Park to Intersection of Arbutus Avenue & Rosewood Avenue (1.8 MI.)	1,150	7,600	675																	\$94.00	\$0												
									675															\$110.00	\$74,250								
																								\$63.00	\$0								
																								\$140.00	\$0								
																									9,425	\$5.00	\$47,125						
																										8,750	\$7.50	\$65,625					
																											1	\$1,200.00	\$1,200				
																												675	\$2.00	\$1,350			
																														\$4,000.00	\$0		
																															\$50,000.00	\$50,000	Crossing Brownsville Road at Clearview Avenue
																															\$400.00	\$0	
																															\$60.00	\$0	
																															\$50.00	\$0	
																															\$100.00	\$0	
																											\$16.00	\$0					
SUBTOTAL CONSTRUCTION																					\$239,550												
CONTINGENCY (20%):																					\$47,910												
PROPERTY ACQUISITION:																					\$31,350	2.1 acres @ \$15,000/acre											
DESIGN/ENGINEERING (15%):																					\$35,933												
TOTAL SEGMENT ROUTE																					\$354,743												

LF = Linear Feet
EA = Each

SEGMENT 3A : Intersection of Arbutus Avenue & Rosewood Avenue to Bristol Road (2.5 MI.)

Segment	Trails / Access Roads (Existing)	On-Road / Sidewalks (Existing)	Off-Road / Right-of-Way (Proposed)	Segment Description	Multi-Use Trail - 8' Wide	Multi-Use Trail - 10' Wide	Pedestrian Walkway - 4' Concrete Sidewalk	Multi-Use Trail - Wood Boardwalk	Signage Wayfinding	Signage - Warning/Safety/Share the Road	Pavement Markings - Crosswalk	Pavement Markings - Trail	Curb Cut/ADA Ramp	Traffic Signal - RRFB	Structure - Bridge Crossing/Ramp	Structure - Guiderail	Structure - Fence/Railing	Structure - Retaining Wall	Concrete Sidewalk Removal & Restoration	Unit Cost	Total Cost	Comments																				
					LF	LF	LF	LF	LF	EA	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA			Unit of Measure																	
SEGMENT 3A : Intersection of Arbutus Avenue & Rosewood Avenue to Bristol Road (2.5 MI.)	3,050	450	9,750		9,050																\$94.00	\$850,700																				
																								\$110.00	\$0																	
						400																			\$63.00	\$25,200																
																									\$140.00	\$0																
											13,250														\$5.00	\$66,250																
												450													\$7.50	\$3,375																
													7												\$1,200.00	\$8,400																
															12,800										\$2.00	\$25,600																
																14									\$4,000.00	\$56,000																
																	2								\$50,000.00	\$100,000	Crossing Old Lincoln Highway at Arbutus Avenue and crossing Old Lincoln Highway at Orchard Avenue															
																		3,000							\$400.00	\$1,200,000	10' Truss x 300' span															
																			50						\$60.00	\$3,000																
																				3,500					\$50.00	\$175,000	top of wall															
																					3,500				\$100.00	\$350,000																
																				SUBTOTAL CONSTRUCTION																						
																				CONTINGENCY (20%):																						
																				EASEMENT ACQUISITION:																						
																				DESIGN/ENGINEERING (15%):																						
																				TOTAL SEGMENT ROUTE																						

LF = Linear Feet
EA = Each

SEGMENT 3B : Intersection of Arbutus Avenue and Rosewood Avenue to Bristol Road (2.6 MI.)

Segment	Trails / Access Roads (Existing)	On-Road / Sidewalks (Existing)	Off-Road / Right-of-Way (Proposed)	Segment Description	Multi-Use Trail - 8' Wide	Multi-Use Trail - 10' Wide	Pedestrian Walkway - 4' Concrete Sidewalk	Multi-Use Trail - Wood Boardwalk	Signage Wayfinding	Signage - Warning/Safety/Share the Road	Pavement Markings - Crosswalk	Pavement Markings - Trail	Curb Cut/ADA Ramp	Traffic Signal - RRFB	Structure - Bridge Crossing/Ramp	Structure - Guiderail	Structure - Fence/Railing	Structure - Retaining Wall	Concrete Sidewalk Removal & Restoration	Unit Cost	Total Cost	Comments					
					LF	LF	LF	LF	LF	EA	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA			Unit of Measure		
SEGMENT 3B : Intersection of Arbutus Avenue and Rosewood Avenue to Bristol Road (2.6 MI.)	3,050	4,325	6,500		6,025																\$94.00	\$566,350					
																								\$110.00	\$0		
							175																		\$63.00	\$11,025	
																									\$140.00	\$0	
											13,875														\$5.00	\$69,375	
												4,325													\$7.50	\$32,438	
													2												\$1,200.00	\$2,400	
														9,550											\$2.00	\$19,100	
																4									\$4,000.00	\$16,000	
																									\$50,000.00	\$0	
																			3,000						\$400.00	\$1,200,000	10' Truss x 300' span
																				50					\$60.00	\$3,000	
																					3,500				\$50.00	\$175,000	
																						3,500			\$100.00	\$350,000	
																									\$16.00	\$0	
SUBTOTAL CONSTRUCTION																						\$2,444,688					
CONTINGENCY (20%):																						\$488,938					
EASEMENT ACQUISITION:																						\$253,088	158,180 square feet at \$1.60/square foot				
DESIGN/ENGINEERING (15%):																						\$366,703					
TOTAL SEGMENT ROUTE																						\$3,553,417					

LF = Linear Feet
EA = Each

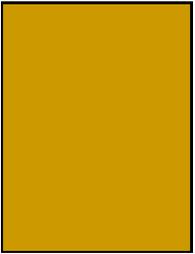
SEGMENT 3C : Intersection of Arbutus Avenue & Rosewood Avenue to Neshaminy High School / Old Lincoln Highway Trailhead (1.1 MI.)

Segment	Trails / Access Roads (Existing)	On-Road / Sidewalks (Existing)	Off-Road / Right-of-Way (Proposed)	Segment Description	Multi-Use Trail - 8' Wide	Multi-Use Trail - 10' Wide	Pedestrian Walkway - 4' Concrete Sidewalk	Multi-Use Trail - Wood Boardwalk	Signage Wayfinding	Signage - Warning/Safety/Share the Road	Pavement Markings - Crosswalk	Pavement Markings - Trail	Curb Cur/ADA Ramp	Traffic Signal - RRFB	Structure - Bridge Crossing/Ramp	Structure - Guiderail	Structure - Fence/Railing	Structure - Retaining Wall	Concrete Sidewalk Removal & Restoration	Unit Cost	Total Cost	Comments					
					LF	LF	LF	LF	LF	EA	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA			Unit of Measure		
SEGMENT 3C : Intersection of Arbutus Avenue & Rosewood Avenue to Neshaminy High School / Old Lincoln Highway Trailhead (1.1 MI.)	1,600	450	3,775		3,375																\$94.00	\$317,250					
																								\$110.00	\$0		
						400																			\$63.00	\$25,200	
																									\$140.00	\$0	
											5,825														\$5.00	\$29,125	
												450													\$7.50	\$3,375	
													7												\$1,200.00	\$8,400	
														5,375											\$2.00	\$10,750	
															14										\$4,000.00	\$56,000	
																2									\$50,000.00	\$100,000	
																				50					\$400.00	\$0	10' Truss x 300' span
																									\$60.00	\$3,000	
																									\$50.00	\$0	top of wall
																									\$100.00	\$0	
																									\$16.00	\$0	
SUBTOTAL CONSTRUCTION																						\$553,100					
CONTINGENCY (20%):																						\$110,620					
EASEMENT ACQUISITION:																						\$25,888	16,180 square feet at \$1.60/square foot				
DESIGN/ENGINEERING (15%):																						\$82,965					
TOTAL SEGMENT ROUTE																						\$772,573					

LF = Linear Feet
EA = Each

APPENDIX C

Potential Funding Sources



APPENDIX C: POTENTIAL FUNDING SOURCES

The most likely means of implementing the Lower Neshaminy Creek Trail plan identified in this feasibility study is through application to multiple funding sources. Most trails are developed using a combination of public funding from various government levels, private funding, local public forces and volunteer assistance. This appendix provides an overview of some of the potential funding sources for development of the Lower Neshaminy Creek Trail.

Federal Funding

The Federal Government provides funding for transportation projects through various funding programs. These are typically in the form of block grants provided to states through funding formulas and are typically administered through the state or the Delaware Valley Regional Planning Commission.

MAP-21 - Transportation Alternatives Program - For the past two decades, the Surface Transportation Act (SAFETEA-LU) served as the largest single source of funding for the development of bicycle, pedestrian, trail and greenway projects. After the expiration of SAFETEA-LU in March 2012, President Obama signed a new multi-year appropriations bill referred to as MAP-21, or Moving Ahead for Progress in the 21st Century in July 2012. The new act created the Transportation Alternatives Program (TAP) which combines several SAFETEA-LU programs under a single heading, continuing funding for programs and projects defined as transportation alternatives, including:

- on and off-road pedestrian and bicycle facilities;
- community improvement programs;
- recreational trail program projects; and
- safe routes to school projects.

MAP-21 also continues the Surface Transportation Program (STP) and the Congestion Mitigation Air Quality Program (CMAQ) which also supply potential funding for trail improvements.

<http://www.fhwa.dot.gov/map21/guidance/guidetap.cfm>

Surface Transportation Program - The Surface Transportation Program provides flexible funding that may be used by States and localities for projects to preserve and improve the conditions and performance on any Federal-aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects.

<http://www.fhwa.dot.gov/map21/guidance/guidestprev.cfm>

Congestion Mitigation and Air Quality Program - A rail trail project often fits the eligibility requirements for both the Transportation Alternatives Program and the Federal Congestion Mitigation and Air Quality Improvement Program (CMAQ) of SAFETEA-LU. CMAQ is a transportation air quality improvement program that provides funding for both bike and pedestrian facilities that serve to reduce automobile travel. A municipality/applicant must complete a CMAQ Air Quality Analysis Worksheet for Bicycle and Pedestrian Projects to document a quantifiable reduction in auto emissions and/or congestion to be eligible under this program. Under this program, the project cost is funded 80% federal and 20% state or local match. <http://www.fhwa.dot.gov/map21/guidance/guidecmaq.cfm>

United States Department of the Interior - National Parks Service (NPS) - Rivers, Trails and Conservation Assistance (RTCA) Program - A National Parks Service program which provides technical assistance to establish and restore greenways, rivers, trails, watersheds and open space.

<http://www.nps.gov/orgs/rtca/apply.htm>

Land and Water Conservation Fund - Created by Congress in 1965, the Land and Water Conservation Fund (LWCF) was a bipartisan commitment to safeguard natural areas, water resources and our cultural heritage, and to provide recreation opportunities to all Americans. The program uses revenues from the depletion of one natural resource - offshore oil and gas - to support the conservation of land and water. This is accomplished by using royalties paid by energy companies drilling for oil and gas on the Outer Continental Shelf (OCS). These royalties are placed in the fund for the purpose of creating and protecting national parks, areas around rivers and lakes, national forests, and national wildlife refuges from development, and to provide matching grants for state and local parks and recreation projects.

<http://www.lwcfcoalition.org/about-lwcf.html>

State Funding

The State of Pennsylvania offers multiple funding sources in support of open space, historic and cultural resource preservation, natural resource protection, recreation and park facilities, and greenways implementation. Similar to the federal funding programs, these programs are administered by a variety of different departments. The Pennsylvania Greenways Toolbox's Funding Guide provides additional information about these programs.

Pennsylvania Department of Conservation and Natural Resources (PA DCNR)

Recreational Trails Program - The Pennsylvania Recreational Trails Program (PRT) is an assistance program funded through the U.S. Department of Transportation's Federal Highway Administration (FHWA). FHWA provides funds to states to develop and maintain recreational trails and trail-related facilities for motorized and non-motorized recreational trail uses. The Department of Conservation and Natural Resources (DCNR) has been designated as the state agency responsible for administering this federal program in Pennsylvania.

http://www.dcnr.state.pa.us/cs/groups/public/documents/document/d_001241.pdf

Community Conservation and Partnership Program - Community Recreation and Conservation grants are awarded to municipalities and authorized nonprofit organizations for recreation, park, trail and conservation projects. These include planning for feasibility studies, trail studies, conservation plans, master site development plans, and comprehensive recreation, park and open space and greenway plans; land acquisition for active or passive parks, trails and conservation purposes; and new development and rehabilitation of parks, trails and recreation facilities.

http://www.dcnr.state.pa.us/cs/groups/public/documents/document/D_001230.pdf

Pennsylvania Department of Community and Economic Development (PA DCED)

Greenways, Trails and Recreation Program (GTRP) - Act 13 of 2012 establishes the Marcellus Legacy Fund and allocates funds to the Commonwealth Financing Authority (the "Authority") for planning, acquisition, development, rehabilitation and repair of greenways, recreational trails, open space, parks and beautification projects using the Greenways, Trails and Recreation Program (GTRP).

http://www.newpa.com/sites/default/files/uploads/GreenwaysTrailsRecreation_Guidelines-2014-v2.pdf

Act 13 - Marcellus Legacy Fund - In addition to the competitive grant program created by Act 13, the Act also put into place a drilling fee on unconventional gas wells being drilled for the production of natural gas from shale formations (such as the Marcellus Shale). The Pennsylvania Public Utility Commission (PUC) is responsible for administering the collection and distribution of the fees. Act 13 also contains provisions regarding how the fees may be spent. A significant portion of the funds collected are distributed directly to local governments to cover the local impacts of drilling. In addition, all Counties receive funds based upon their population that can only be used for the following:

- Planning, acquisition, development and repair of greenways, recreational trails, open space, natural areas, community conservation and beautification projects, community and heritage parks
- Water resource management

Local Funding

In addition to the various grant programs administered by Federal and State governments, there are a number of other government initiatives that can provide funding for implementing trail plans.

Bond Referendums

As evidenced by the success of the Bucks County Open Space Program, bonds are a proven and effective way to finance long-term recreational improvements. General obligation bonds are secured by the full faith and credit of the issuing entity. In this case, the local government issuing the bonds pledges to raise its property taxes, or use any other sources of revenue, to generate sufficient revenues to make the debt service payments on the bonds. A general obligation pledge is stronger than a revenue pledge, which typically translates into a lower interest rate than a revenue bond. With any type of bond referendum, an education and awareness program should be implemented to increase public and voter support in advance of any vote.

Property Tax and Earned Income Tax - Pennsylvania's Act 153 of 1996, which amended the Pennsylvania Conservation and Land Development Act, expanded the authority of municipalities to fund open space projects through local taxes. Under the Act, two different taxation tools were identified that can be used to purchase development rights or open space lands.

Property Tax - This is a tax charged to real property owners based on a percentage of the assessed property value, not to exceed the millage authorized by voter referendum. Property taxes provide a steady source of revenue. However, because communities are limited in the total level of the millage rate, the use of property taxes to fund open space activities may inhibit the ability of the municipality to raise money for other needed activities.

Earned Income Tax - This is a tax applied only to earned income, not to real estate assets or pensions. Because of this, it may prove to be more acceptable in municipalities with a higher percentage of retired senior citizens. Pennsylvania caps the earned income tax at 1.0 percent. However, Act 153 authorizes voters to approve the levy of an increased earned income tax beyond the 1.0 percent limit, exclusively for the purpose of financing purchases of open space.

Realty Transfer Tax - The realty transfer tax is a tax on the sale of real estate. The maximum levy is 1 percent of the sales price. If both the municipality and school district levy this tax, both must share the 1 percent.

Hotel Tax - The hotel occupancy tax, imposed at the same rate as sales and use tax, applies to room rental charges for periods of less than 30 days by the same person. The purpose of the hotel tax is to increase tourism and economic development in Pennsylvania. The tax supports advertising, development of publications related to tourism, capital and program projects to attract tourists, and in some counties open space conservation, trails and recreation facility improvements. Bucks County supports projects to increase tourism through its hotel tax.

Private Funding Sources

Grant funding is available through many private avenues, most of which have specific agendas. Key to obtaining such funding is a clear match of the project goals to the funding intent. Often, private grants require a non-profit entity [501(c)3] to receive and administer any funds. Frequently, private funding can be used to meet the matching requirements of many public programs which require some amount of local funding as a good faith indication of local support. Finally there are in-kind gifts and cooperative partnerships which permit a right of way through private lands and develop a cooperative agreement for use, maintenance and safety. These can frequently be seen in rails-with-trails as well as trails that use utility rights of way and cooperative maintenance.

PECO Green Region Grants Program - Green Region grants are available to municipalities in amounts up to \$10,000. The grants can be used with other funding sources to cover a wide variety of planning and direct expenses associated with developing and implementing open space programs, including consulting fees, surveys, environmental assessments, habitat improvement, and capital improvements for passive recreation.

<https://www.peco.com/Community/CharitableGiving/GreenRegion/Pages/ApplicationGuidelines.aspx>

William Penn Foundation - The William Penn Foundation's mission is to improve the quality of life in the Greater Philadelphia region through efforts that foster rich cultural expression, strengthen children's futures, and deepen connections to nature and community. In partnership with others, the Foundation works to advance a vital, just, and caring community. The Foundation works to improve the quality of life in the Greater Philadelphia region by advancing dynamic and diverse communities that provide meaningful opportunity.

In 2011, the Foundation provided \$10 million in funding for The Regional Trails Program, administered by the Delaware Valley Regional Planning Commission, with the goal of capitalizing upon opportunities for trail development by providing funding for targeted, priority trail design, construction and planning projects that will promote a truly connected, regional network of multi-use trails with Philadelphia and Camden as its hub. Although the funding for this program provided by William Penn has been depleted, efforts are currently underway to replenish the funding stream via other funding sources.

<http://www.william penn foundation.org/GrantmakingOverviewApplicationProcess.aspx>

<http://www.dvrpc.org/RegionalTrailsProgram/>

Kodak American Greenways Awards - The Conservation Fund, in conjunction with the Eastman Kodak Company and the National Geographic Society, provide small grants for the purpose of growing greenways, water trails, trails and natural areas. Funded projects typically advance one of the goals of the program including catalyzing new greenway projects; assisting grassroots greenway organizations; leveraging additional money for conservation and greenway development; and promoting use and enjoyment of greenways.

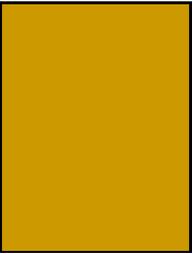
http://www.conservationfund.org/kodak_awards

American Hiking Association - National Trails Fund - Established by the American Hiking Society in 1998, this national grants program provides funding for establishing, protecting, and maintaining foot trails. Eligible projects include those that:

- Have hikers as the primary constituency
- Secure trail lands, including acquisition of trails and trail corridors
- Will result in visible and substantial ease of access, improved hiker safety and/or avoidance of environmental damage

<http://www.americanhiking.org/our-work/national-trails-fund/>

APPENDIX D
List of Easements Needed
for Trail Completion



LOWER NESHAMINY CREEK TRAIL - EASEMENTS / LAND ACQUISITION NEEDED

Segment	Route Option	Parcel	Owner	Easements					Acquisition			
				Length	Width	Total Square Feet	Cost per Square Foot	Total	Acres	Cost per Acre	Total	
1	A	31-039-014	Private	1,775	20	35,500	\$ 1.60	\$ 56,800				
1	A	31-030-014-001	Private	375	20	7,500	\$ 1.60	\$ 12,000				
1	B	31-039-011-036	Notting Hill Chase Community Association	575	20	11,500	\$ 1.60	\$ 18,400				
1	A & B	31-035-039	Breezy Point	725	20	14,500	\$ 1.60	\$ 23,200				
1	A & B	31-026-131	Breezy Point	1,250	20	25,000	\$ 1.60	\$ 40,000				
1	C	22-021-040	Norfolk Southern						13.20	\$ 75,000	\$ 990,000	
1	C	22-021-020.001	Norfolk Southern						1.47	\$ 75,000	\$ 110,250	
1	C	22-021-020-004	Norfolk Southern						0.74	\$ 75,000	\$ 55,500	
1	C	18-002-002-001	Norfolk Southern						7.90	\$ 75,000	\$ 592,500	
1	C	18-002-002	Norfolk Southern						10.80	\$ 75,000	\$ 810,000	
1	C	22-021-004	Norfolk Southern						100.00	\$ 75,000	\$ 7,500,000	
			Total						134.11		\$ 10,058,250	
2		22-002-001 thru 22-002-022 / 22-002-036 thru 02-002-071 / 22-002-073 thru 22-002-080	Private						2.09	\$ 15,000	\$ 31,350	
3	A / C	22-012-613	Scully Company - Orchard Square Apartments	725	20	14,500	\$ 1.60	\$ 23,200				
3	A / B / C	22-016-001	Private	135	8	1,080	\$ 1.60	\$ 1,728				
3	A / B / C	22-011-002.001	Neshaminy School District	30	20	600	\$ 1.60	\$ 960				
3	A & B	22-011-002	Neshaminy School District	7,825	20	156,500	\$ 1.60	\$ 250,400				
				Length on Map 1,625 ft - Easement for switchbacks est @ 4X + Access Road Upgrades (1,325 ft)								
Total	Segment 1A			4,125		82,500		\$ 132,000				
	Segment 1B			2,550		51,000		\$ 81,600				
	Segment 1C								134.1	\$ 10,058,250		
	Segment 2								2.1	\$ 31,350		
	Segment 3A			8,715		172,680		\$ 276,288				
	Segment 3B			7,990		158,180		\$ 253,088				
	Segment 3C			890		16,180		\$ 25,888				

