Schuylkill River Park

Master Site Plan

Limerick Township, Pennsylvania

SIMONE COLLINS
LANDSCAPE ARCHITECTURE

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Schuylkill River Park
Master Plan

Draft

Prepared for:

Limerick Township
646 West Ridge Pike
Limerick, Pennsylvania 19468

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Funded in part by:

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Prepared By:

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SC#: 15012.10

September 23, 2015

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LIMERICK TOWNSHIP MONTGOMERY COUNTY

Schuylkill River Park

In 2004, Limerick Township acquired Schuylkill River Park as open space through the land development process. Today, Schuylkill River Park remains undeveloped open space, characterized by the Schuylkill River floodplain, open fields, and floodplain forest. The 20.8-acre park will help meet the Township resident's need for open space and passive recreational opportunities.

Limerick Township applied for and received a DCNR grant to prepare a master plan according to DCNR guidelines. This plan is the result of collaboration between the public, project committee, Township staff, consultants, and the Township Board of Supervisors. This document outlines the planning process and provides a master vision for the future of the park

Master Plan Goals & Objectives

The goal of the Schuylkill River Park Master Plan is to develop a site plan that focuses on passive recreation and fits within the context of the Township's overall park system. The plan will position Schuylkill River Park as a passive 'sister park' to Linfield Sports Park, located within a half mile of Schuylkill River Park. Passive recreation is characterized by activities that respect and add to the site's natural systems such as wildlife observation, walking, or kayaking. An emphasis on preserving the natural site systems and wildlife habitat, and providing safe access to the site are seen as key to the success of Schuylkill River Park.

Plan goals objectives focus on improving the aspects of Schuylkill River Park and are as follows:

GOALS & OBJECTIVES

- Provide a master plan for Schuylkill River Park that focuses on passive recreation and fits within the context of the Townships overall park system.
- Preserve and enhance the site's ecological systems and minimize site development impacts.
- Provide visual and physical access to the Schuylkill River.
- Make pedestrian connections to area destinations: Linfield Sports Park; Linfield Village; and the Schuylkill River Trail.

Regional Context

Approximately 22.8 square miles in size, Limerick Township is a second class Township in northwest Montgomery County, Pennsylvania (See Figure 1.1 Regional Location Map). Located approximately 34 miles northwest of Center City, Philadelphia, Limerick is considered part of the Philadelphia Metropolitan area. The Township is served by three interchanges along State Route 422 which runs through the Southern end of the Township.

Municipal Parks and Recreation System

> "Limerick Township is committed to providing the personal, economic, social and environmental benefits of parks and recreation! Limerick Township Parks & Recreation is here to assist you with making the best use of our services, programs and facilities."
>
> -Limerick Township Parks & Recreation

The Township presently maintains (6) park sites: Community Park (56 acres); Veterans Park (15.5 acres); Linfield Sports Park (17 acres); Schuylkill River Park (20.8 acres) Linfield Landing Park (6 acres); and Kurylo Preserve (80.1 acres). Figure 2.1 lists a summary of the Township operated recreations facilities, size, location, and basic amenities. Currently the Township's Park system focuses on active recreation facilities such as ballfields, hard court areas, and playgrounds. Schuylkill River Park will provide passive recreation, such as opportunities for wildlife observation and hiking, within the Township park system.

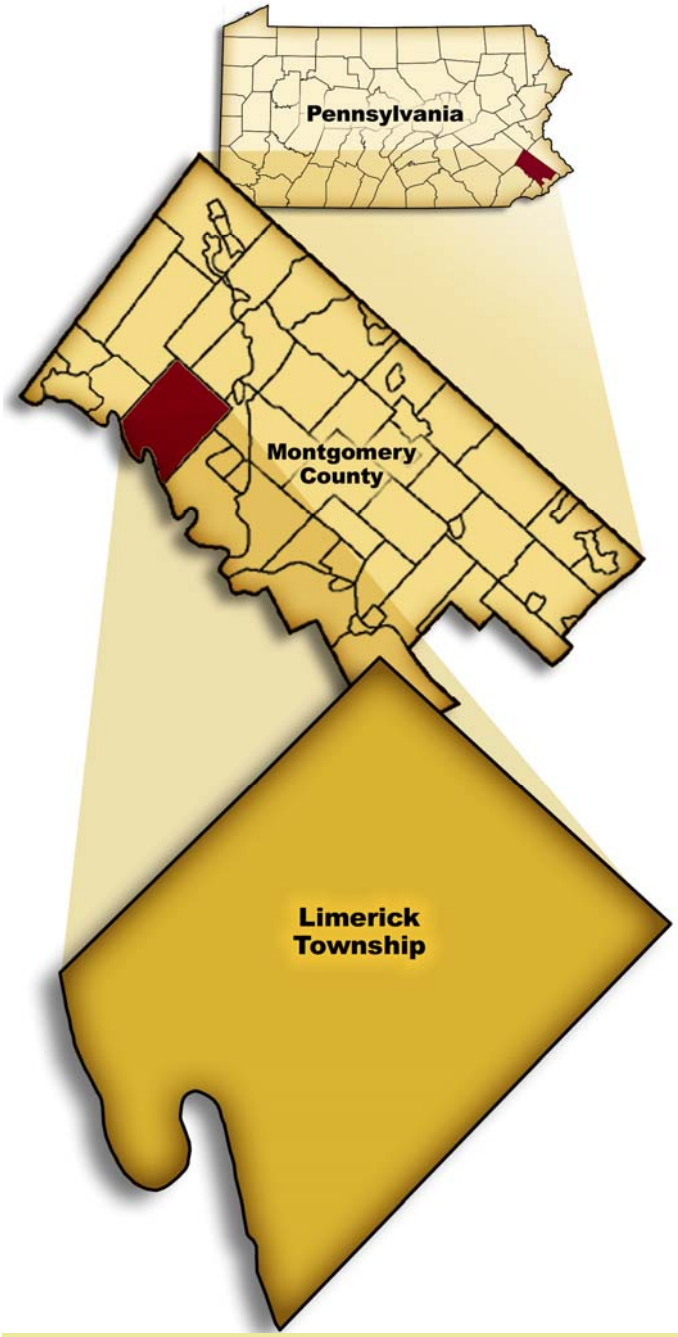

Figure 1.1 Regional Location Map

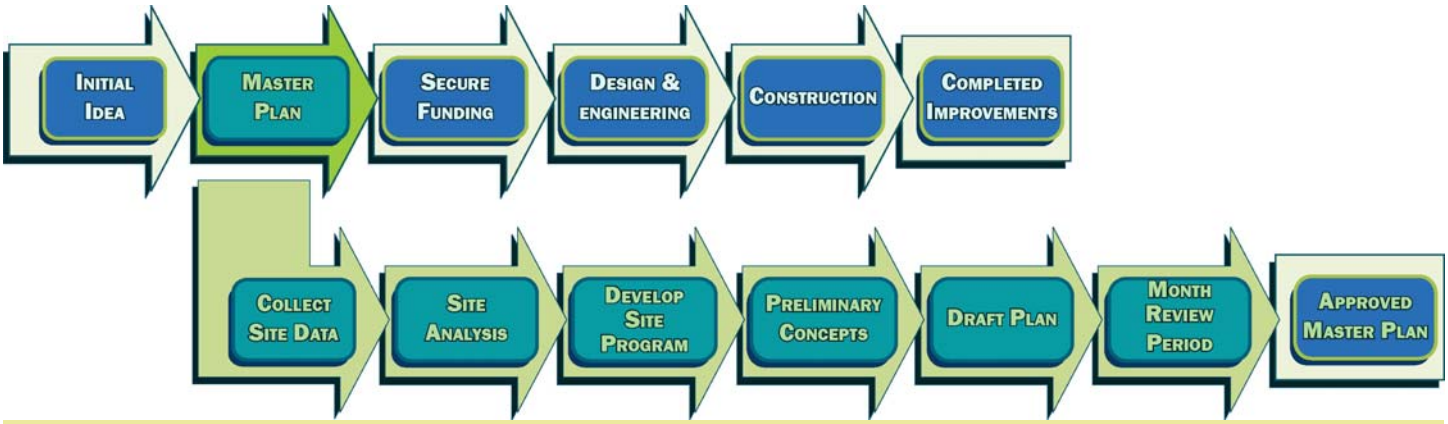

Figure 1.2 Master Plan Planning Process

Demographics

Limerick Township has been a community of growth over the last 25 years; during the 90's the township's population doubled. In recent years the Township has continued to grow. The 2010 US Census list the population of Limerick as 17,268; Significant growth of 28% occurred from the 2000 population of 13,534, outpacing the county growth of 5% over the same period. Limerick Township is positioned for continued growth. The most recent US census estimates the 2013 population to be 18,264 and the Delaware Valley Regional Planning Commission (DVRPC) estimate the Township will have 23,516 residents by the year 2040.

Limerick has a diverse population of young and old, creating a need for a full range of recreational facilities and opportunities. The mean Township population age in the mid-thirties points to an aging population in the decades to follow. Many municipalities across the nation are facing similar demographics and are starting to consider how this change in demographics may affect the use of their park systems. One trend expected to remain is that walking is the number one form of exercise for people over the age of 45 (Harris, 2007). As a population ages, safe walking routes throughout communities will become even more desirable.

As a result of this impressive growth, many of the Township's residents who have spent their lives in Limerick or moved there for its rural feel have found themselves living in a more suburban community than anticipated. Others residents, that have moved to Limerick from more developed municipalities, bring with them expectations for a developed park and recreational system. The master plan for Schuylkill River Park aims to find a balance between these two expectations by adding to the Township park system a large tract of preserved open space with opportunities for residents to participate in passive recreation in a natural setting.

The Master Planning Process

Figure 1.2 illustrates Master Planning as an early step in the process of constructing a new open space facility. The Master Plan Study is being undertaken to develop a consensus for improvements and facilities to be included at Schuylkill River Park. The master plan provides estimates of probable costs of development and outlines a strategy for phasing improvements and matching phases with potential funding sources. The master plan is a document for guidance moving forward and is intended to be

flexible enough to allow for the plan to adapt to future desires and needs of Township residents.

Following the completion of the Master Plan the next step toward implementation is to identify and acquire funding for a phase of improvements. Once funding is identified, detail design and engineering will commence to develop construction documents. Construction documents will be publicly bid and a contract awarded for construction of the improvements. A master plan is typically implemented through a series of phases, dependent on funding over a period of years. In the case of Schuylkill River Park four to five phases spanning eight to ten years is a possible timeframe for the implementation of the improvements.

Public Participation Process

In early 2015, Limerick Township selected Simone Collins Landscape Architecture (SC) to lead the master planning and public participation process for Schuylkill River Park. A project steering committee comprised of residents and staff informed the master plan process. Simone Collins worked with the Township Staff and Project Steering Committee (PSC) to tailor the public participation process to the project needs. Community input and support is the basis for all successful master plans; it is critical for the PSC and designer to hear citizens' observations, needs and visions for the park and incorporate what is learned into the master plan.

The public participation process for Schuylkill River Park included 4 public meetings, 6 committee and 4 key person interviews. Project Steering Committee meetings were open to the public allowing for

TABLE 1.1 PROJECT SCHEDULE

Thursday May 7, 2015	Committee Meeting #1	Park Programming
Thursday May 14, 2015	Public Meeting #1	Park Programming
Thursday June 4, 2015	Committee Meeting #2	Park Concept Review
Monday June 22, 2015	Public Meeting #2	Park Concept Presentation
Thursday Aug 6, 2015	Committee Meeting #3	Draft Plan Working Meeting
Thursday Sep3, 2015	Committee Meeting #4	Draft Plan Review
Wednesday Sep9, 2015	Public Meeting #3	Draft Plan Presentation
Tuesday Oct 13, 2015	Committee Meeting #5	Final Plan Review
Tuesday Oct 20, 2015	Public Meeting #4 Board of Supervisors Meeting	Final Plan Presentation
Thursday Nov 5, 2015	Committee Meeting #6	Project Implementation

citizens to be more involved in the overall planning process. Table 1.1 list the meetings schedule for the project. Meeting notes and attendance sheets for each meeting can be found in the appendix of this report.

The first committee and public meetings focused on collecting information and developing the site program. A brief presentation reviewing the site's features through photographs and analysis mapping was made to familiarize everyone with the particulars of Schuylkill River Park. The presentation was followed by a brainstorming session where participants were asked for their ideas and visions for the park.

These meetings were followed by a second committee and public meeting to review a composite site analysis and initial site concept ideas. The public was invited to provide their feedback on what they liked or did not like about the site concept. A third steering committee meeting was held to review the public feedback and the revisions to a preferred park concept phase.

The draft master plan where presented at the fourth committee meeting and third public meeting for public comment. A month long public review period was held prior to the fifth committee meeting where final plan revisions were made based on public comments and Montgomery County Planning Commission and DCNR input. The final master plan was presented at the fourth public meeting during a Board of Supervisors meeting. The final and sixth committee meeting was held to identify the next steps to be taken to move the plan into the first phases of implementation.

Data Collection and Methodology

Elements for the Base Map were compiled using the best available information. This information included Geographic Information System (GIS) mapping, tax maps, aerial photography, and information gathered from previous and ongoing planning efforts. Information was derived from multiple sources and methods including reports and documents provided by Limerick Township, GIS information provided by the State of Pennsylvania and Limerick Township, field reconnaissance, public meetings and key person interviews.

LIMERICK TOWNSHIP MONTGOMERY COUNTY

CHAPTER 2: SITE INVENTORY & ANALYSIS

Site Description

Schuylkill River Park is a 20.8 acre undeveloped parcel located along the banks of the Schuylkill River adjacent to Linfield Village in the western portion of the Township. The parcel is bordered by the active Conrail Railroad (to the east), the Schuylkill River (to the west), by Exelon owned property (to the north) and a private property (to the south). Longview Road runs north south parallel to the railroad tracks opposite the park and Main Street runs east west to the south of the site. The park parcel is a linear triangle, the widest portion of which is at the north end of the site. The property comes to a 'point' at its southern limits

Physical features of the site include wetlands, open fields and floodplain forest. In recent years, the site and surrounding land have been used for illegal dirt bike trail riding. The site's proximity to the Linfield Sports Park, Trinley Park and the Schuylkill River Trail places it in close proximity to other recreational opportunities.

History

Schuylkill River Park was dedicated as open space to Limerick Township as part of the Villa's at Linfield development in 2004. The property was an undeveloped portion of the Linfield National Golf Course, developed in the late 1990's. Historic aerial photography shows that the land was used for agriculture into the 1970's. There is no evidence that there were ever any buildings or structures on the site. There is nothing of historic significance at the park with either the National Register of Historic Places or National Historic Landmarks Program.

The private property to the south has a building listed on the 1985 Montgomery County Historic Sites Survey. The Zwolak Residence (300 Main Street) was built c. 1865. The 2 ½ brick residence is listed as documenting, "the growth period in Linfield Station following the Civil War." Currently, the site is a plant nursery. Also located to the south of the site (no historical significance) is the "Toll House." The home served as a residence for the toll collector of the Lawrenceville Covered Bridge (now the Main Street Bridge), built in 1849, and replaced by a modern steel bridge in the 1920's. This bridge is being renovated by PennDOT in 2015.

Zoning

The park property is zoned LLI – Limited Light Industrial District. A municipal park is an allowed use in this zoning district.

Properties to the south of the site are zoned R-3 Medium Density Residential. Land to the north is zoned HI-E, Heavy Industrial & Electric and is maintained by the Exelon Corporation.

View of the Toll house and Main Street Bridge

Easements, Covenant and Restrictions

Linfield National Golf Club has an 30 foot Access & Irrigation Easement across the northern portion of Schuylkill River Park from the railroad underpass to the river. The easement is for the use, operation and maintenance of an irrigation pipe and pumps located at the river bank. (A copy of the easement can be found in the appendix of this report.)

There are two natural gas pipelines that cross through the property. Atlantic Pipe Line Company and Gas Transmission Company both hold utility easements for these pipe lines.

The park property is restricted to open space and passive recreation purposes as defined by Township ordinances.

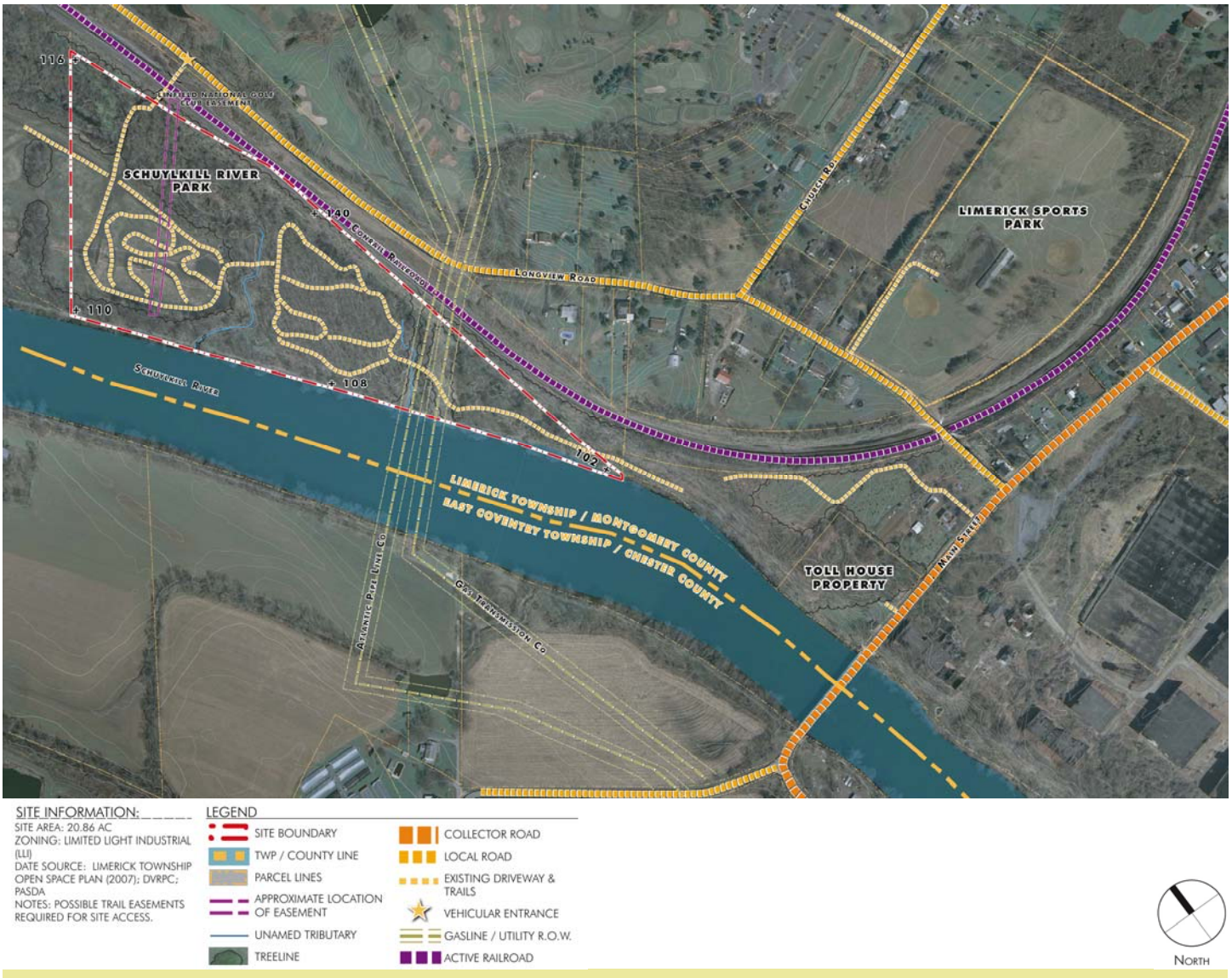

Figure 2.1 Circulation and Utility Map

Area of gas pipe right-of-way through the site.

Access

Vehicular access is provided from Longview Road to the site via a railroad underpass at the northern end of the site. The underpass is wide enough to accommodate a 12' wide driveway and has an open gutter. The underpass is gated on the Longview Road side. The steep slope of the approach driveway and the narrow underpass precludes this entrance from serving as a public driveway for site access.

A construction access road was developed along the bank of the Schuylkill River in the southern end of the site in 2008 for the installation of a gas pipeline that runs across the center of the site. The rough graded road bed runs into the adjoining private property to the south of the site.

Pedestrian Circulation

The site contains a well-developed trail system created by illegal dirt bike riders. The trails are developed in single track loops within the open field at the north end of the site and the central forested area. The trails are six to eight feet (6-8ft) wide and well drained. Moving to the eastern part of the site, there are less defined trails. Some of these trails run down the railroad embankment into the site and are causing erosion.

Infrastructure / Utilities

The site has no access to public water or sewer. Overhead electrical service lines run along the east side of railroad right-of-way, there is no electrical service in the park. Linfield Nation Golf course maintains a gasoline powered water pump in the northern section of the site.

Vehicular access to the park is limited to the Railroad underpass.

Unofficial dirt bike trails existing throughout the site.

Linfield National Golf Course irrigation pump.

Geology and Soils

Schuylkill River Park is located in the Gettysburg – Newark Lowland Section of the Piedmont Province, which is characterized by rolling lowlands, shallow valleys, and isolated hills. It is composed of mainly red shale, siltstone, and sandstone. The main origin material consists of fluvial erosion with some peri-glacial mass wasting. The site is underlain by the Brunswick Formation (Trb) of Triassic age.

Brunswick Formation is moderately weather resistant; creating landscapes of broad shallow valleys and lows hills. The rock is composed of mudstone, siltstone, and shale and is typically soft and grayish-red to reddish-brown. Lockatong

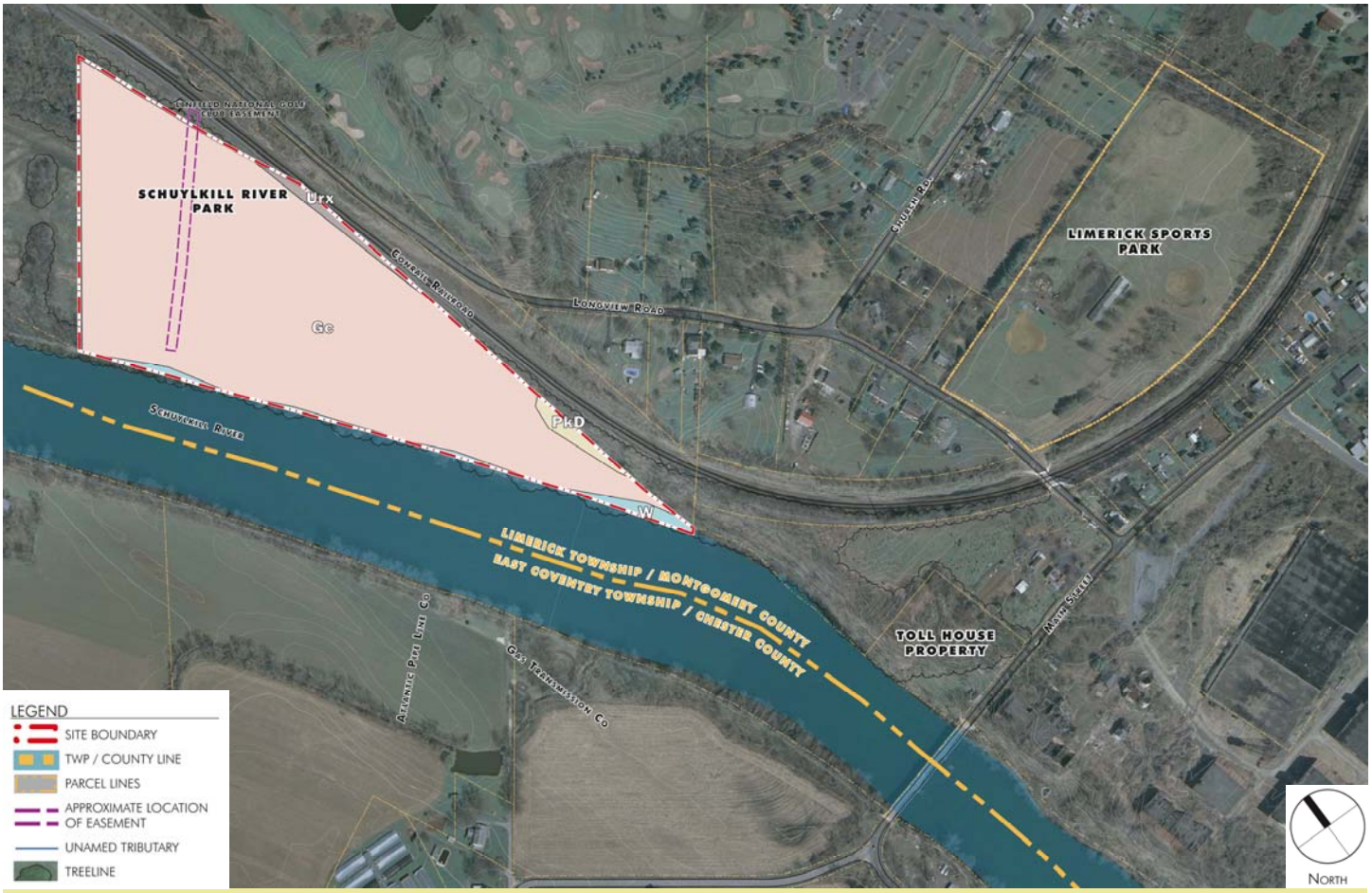

Figure 2.2 Geology and Soils Map

Formation is likewise moderately resistant to weathering and creates landscapes of medium relief with rolling hills. The rock composed of argillite with a thin bed of black shale and is predominantly dark-gray to black.

The following soils can be found on the site: Penn – Klinesville channery silt loams, 15 to 25 percent slopes, Gibraltar silt loam, Urban land – Penn complex, 8 to 25 percent slopes. (Figure 2.2, Geology Map).

Gc – Gibraltar silt loam, 93.7% of site: The Gibraltar series consists of very deep, well drained soils formed in recent alluvium derived from coal washings deposited over alluvium from reddish sandstone, siltstone and shale. Saturated hydraulic conductivity is moderately high. Gibraltar soils are generally found on floodplains. Slopes generally range from 0 to 3 percent. The soils are moderately well drained. The soil depth ranges from 3 to 10 inches. Depth to the bedrock is greater than 60 inches.

PkD – Penn – Klinesville channery silt loams, 15 to 25 percent slopes, 1.4% of site: The Penn series consists of moderately deep, well drained soils formed in residuum weathered from nocalcareous reddish shale, siltstone, and fine-grained sandstone normally of Triassic age. Soil thickness ranges from 17 to 34 inches. Depth to bedrock ranges from 20 to 40 inches.

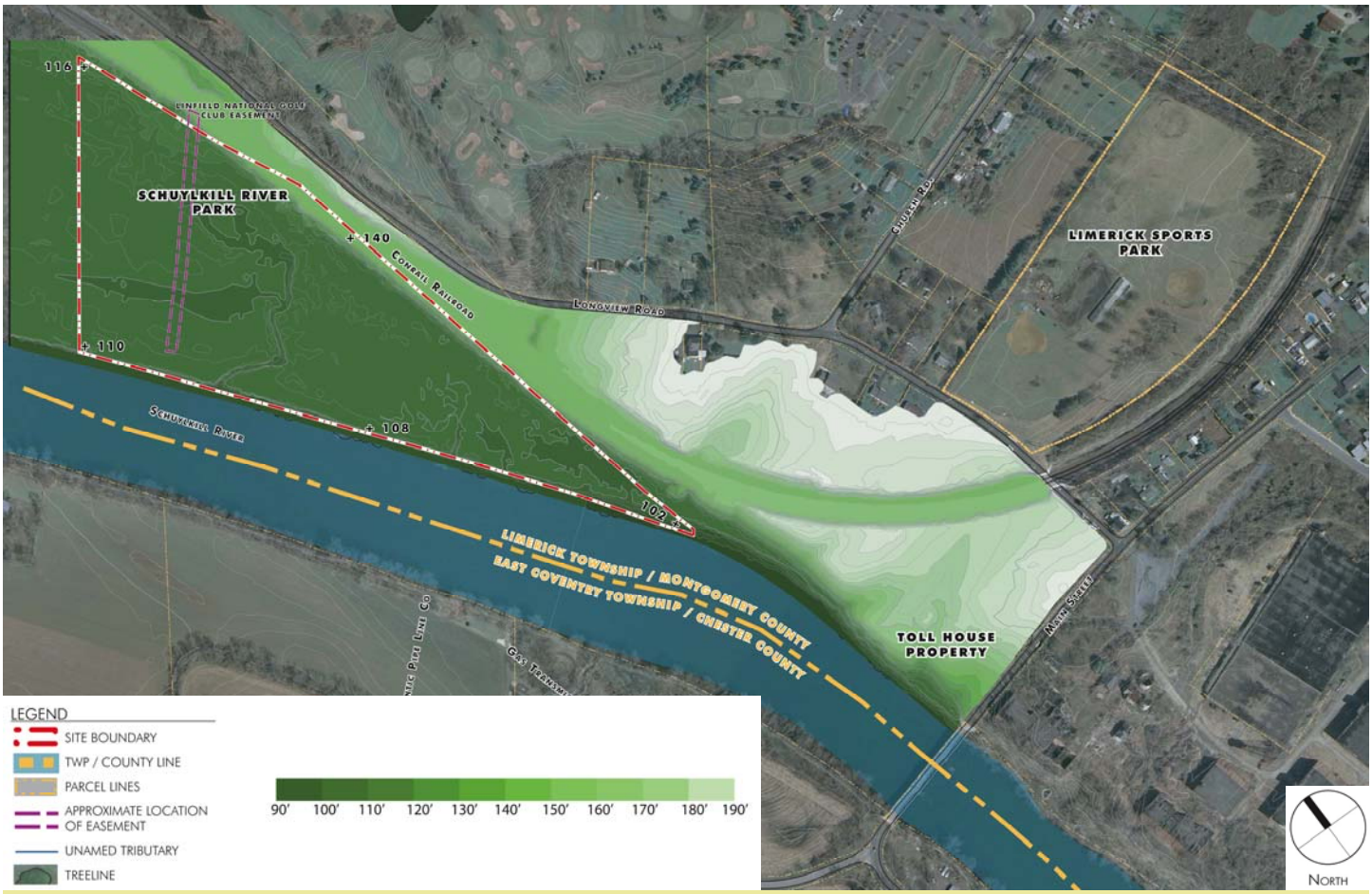

Figure 2.3 Elevation Map

UrxD – Urban land – Penn complex, 8 to 25 percent slopes, 1.1% of site: The Urban Land – Penn series consists of moderately deep, well drained soils formed from weathered shale and siltstone. Soil thickness ranges from 10 to 100 inches. General depth to bedrock ranges from 34 to 44 inches. The Urban land is generally descriptive of urban soils under pavement, buildings, and other artificially covered areas. This is indicative of the grading for the railroad right of way.

Surface water makes up the remaining 3.8% of the site.

Topography

Schuylkill River Park is located almost entirely in the Schuylkill River floodplain and has relatively flat topography. Elevations within the park range from the river water level of 102' to the typical floodplain elevation of 112' to the railroad right-of-way elevation of 140' While the site is mostly flat, there are some steep slopes.

Along the western boundary of the site the Railroad right-of-way was elevated out of the 100-yr floodplain creating areas of steep slopes between the railroad and the park. The elevated grade of the railway creates a natural separation between the park and the active rail line. Areas of steep slopes can also be

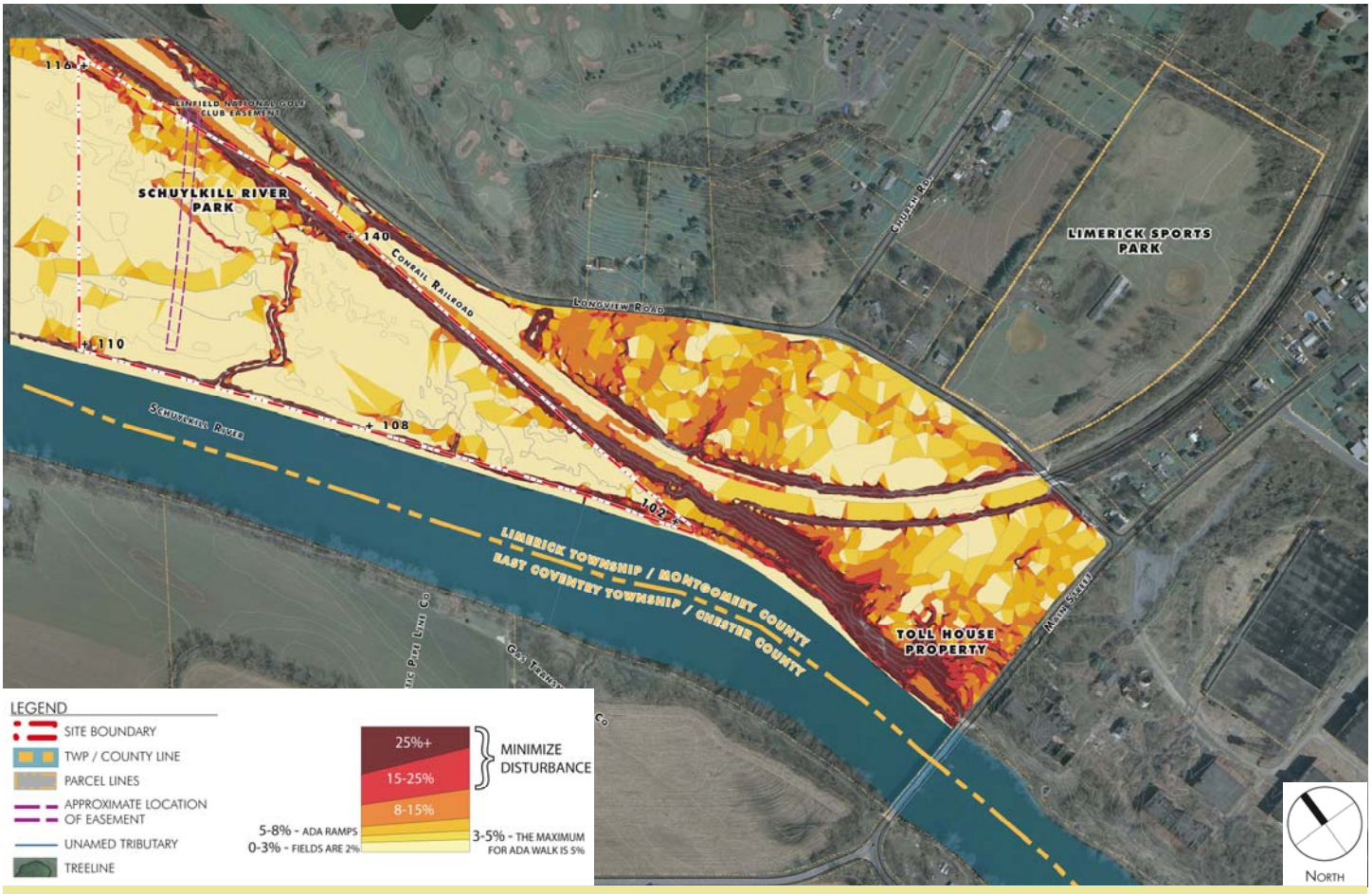

Figure 2.4 Slope Analysis Map

found along the banks of the Schuylkill River and the various streams located on site.

The direction a slope faces, or slope aspect, can inform decisions on what plant material will thrive or where the best shady spot would be on a hot summer day. The majority of slopes in the Park are Southwest facing. The majority of the southwest facing slopes are found along the railroad right of way and along the slope toward the Schuylkill River.

Hydrology

The Schuylkill River forms the western boundary of the site and is classified as a warm water fishery and a state scenic river. The majority of site is within the

The majority of the site falls within the Schuylkill River Floodplain.

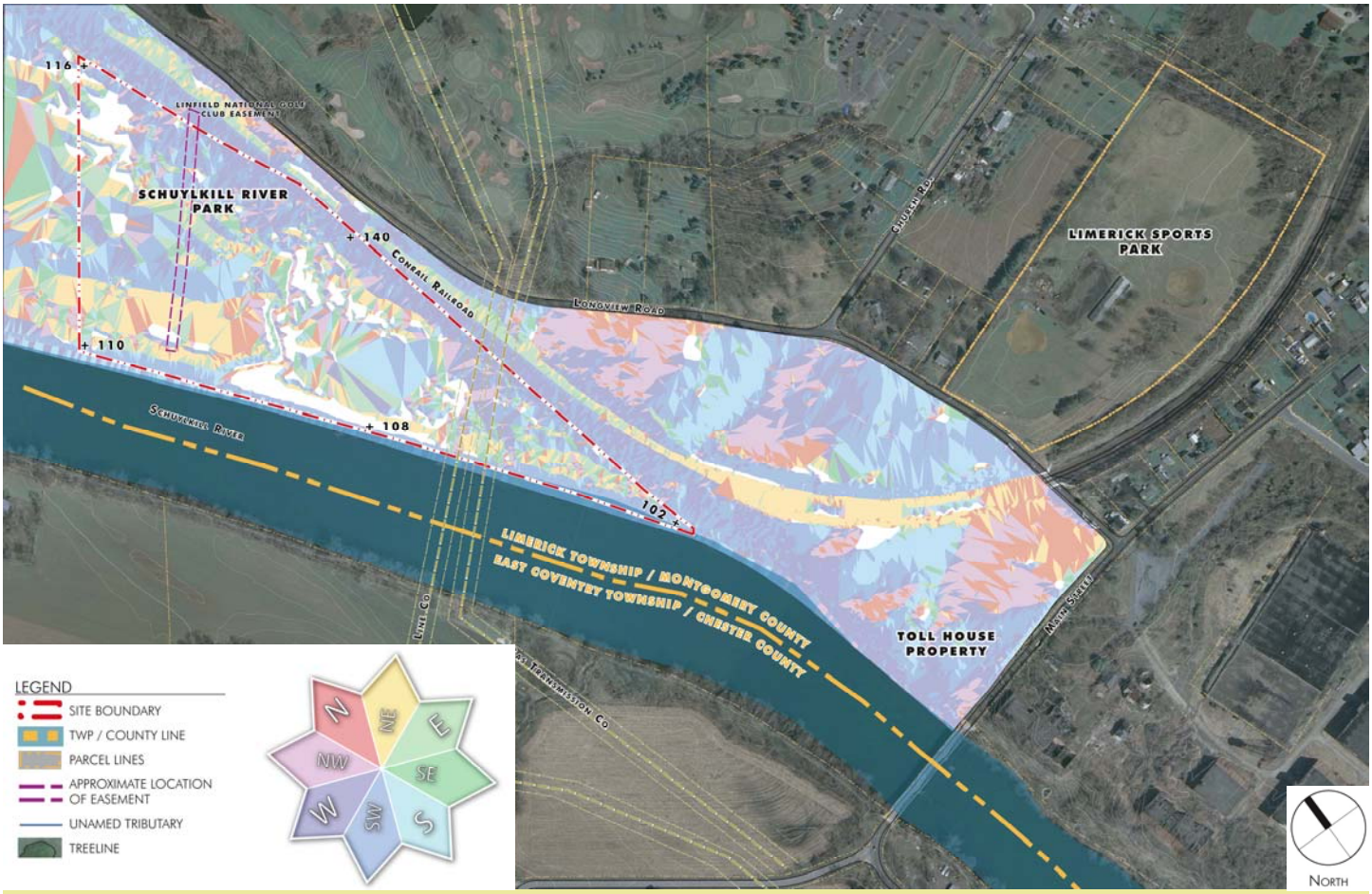

Figure 2.5 Slope Aspect Map

Steep slopes along railroad embankment.

100-year floodplain for the Schuylkill River.

The site contains a 4.60-acre wetland classified as a Palustrine System Broad-Leaved Deciduous Forested wetland that experiences temporary flooding (PFO1A). These types of wetlands are dominated by trees, shrubs, emergents, mosses or lichens; with woody vegetation that is 18 feet tall or taller. Surface water is present for brief periods during growing season, but the water table usually lies well below the soil surface for most of the growing season. Plants that grow both in uplands and wetlands will be found within these wetlands. The wetland was surveyed in 1985 using aerial imagery. An updated wetland surveys will be required prior to any site development activities.

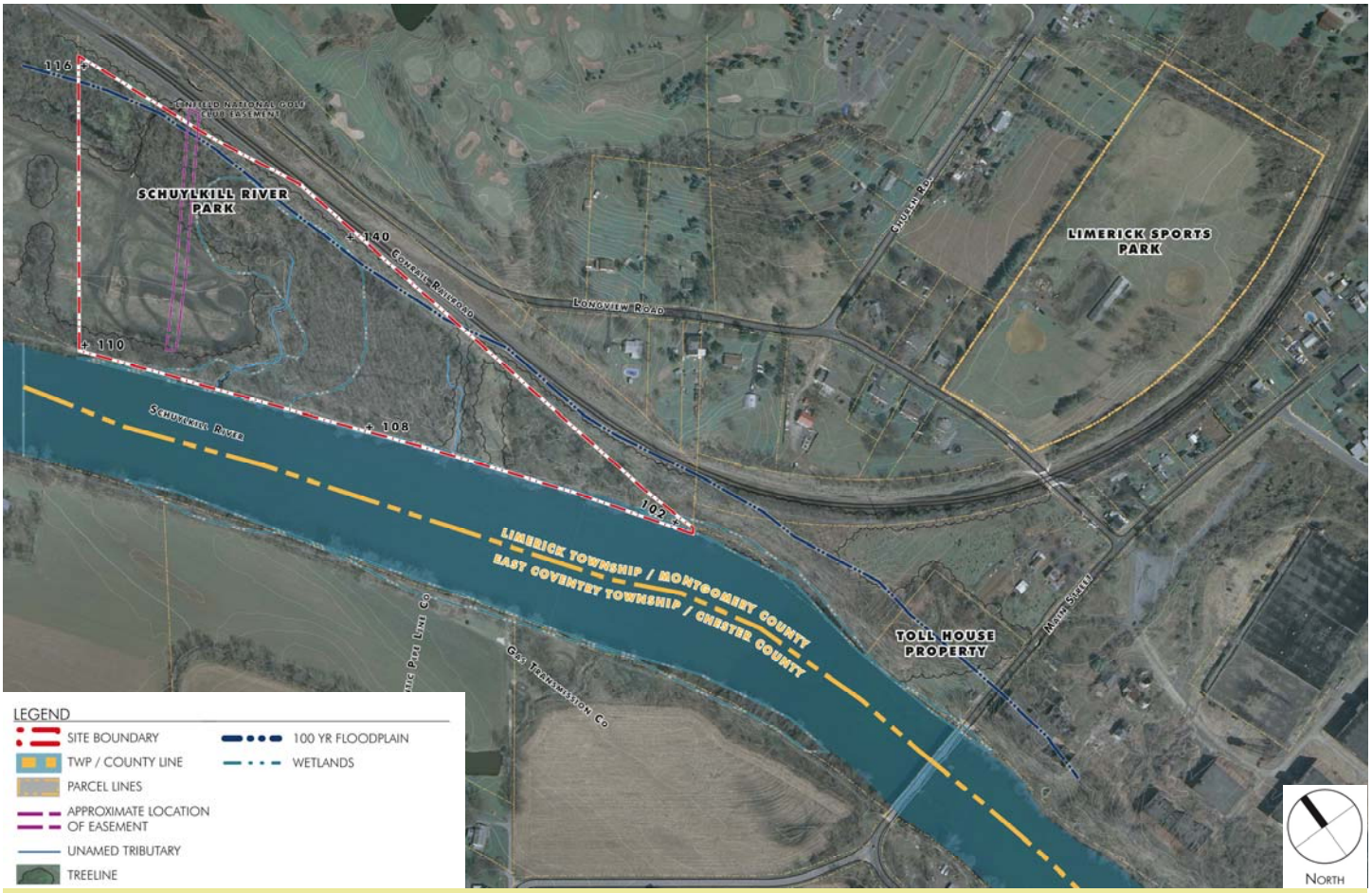

Figure 2.6 Hydrology Map

View of the Schuylkill River from the gas pipe utility right-of-way

There are two unnamed tributaries on the site. The first is associated with the site wetland and is located along the northern boarder of the central woods. The second crosses the site from the railroad embankment to the river in the area of the gas utility right-of-way.

Vegetation

The vegetation habitats at Schuylkill River Park are a mixture of open old fields, mature hardwood floodplain forests, and wetlands. The northern portion of the site is dominated by old field growth. Young forest and wetland vegetation separate the field from the railroad embankment. The central portion of the site and banks along the Schuylkill River are comprised of mature hardwood floodplain forests. At the southern end of the site the floodplain forest gives way to upland forest located along the railroad embankment and is dominated by beech. There is an opening within the forest at the utility right-of-way were the vegetation is routinely mowed. This area is one of the few points in the park with open views to the river. The site does have some invasive plant species but is not dominated by invasive stands typical to some southeast Pennsylvania waterways.

Wildlife

The park wildlife is typical of floodplain communities of Southeast Pennsylvania. A Pennsylvania Natural Diversity Inventory (PNDI) search was conducted for the site. PNDI Records indicate that there is a potential species impact for the site and further review of the project by the U.S. Fish and Wildlife Service and PA Department of Conservation will be required as the project moves forward to

Unnamed tributary running through the site wetland area.

Upland forest at southern end of the site.

construction. This is most likely due to the wetlands found on site. Due to the passive nature of the park plan with minimal improvements, no major roadblocks are anticipated due to this potential impact (A copy of the PNDI receipt can be found in the appendix.).

Opportunities and Constraints

Schuylkill River Park provides an opportunity to provide passive recreation with access to view unique habitats such as wetlands and floodplain forest. Opportunities exist for scenic views of the Schuylkill River at key locations within the park. Site development will be constrained by steep slopes, the site floodplain and wetlands and in some cases special permitting may be required. Schuylkill River Park has the potential for a landing site on the Schuylkill River Water Trail.

View of Main Street Bridge from the southern point.

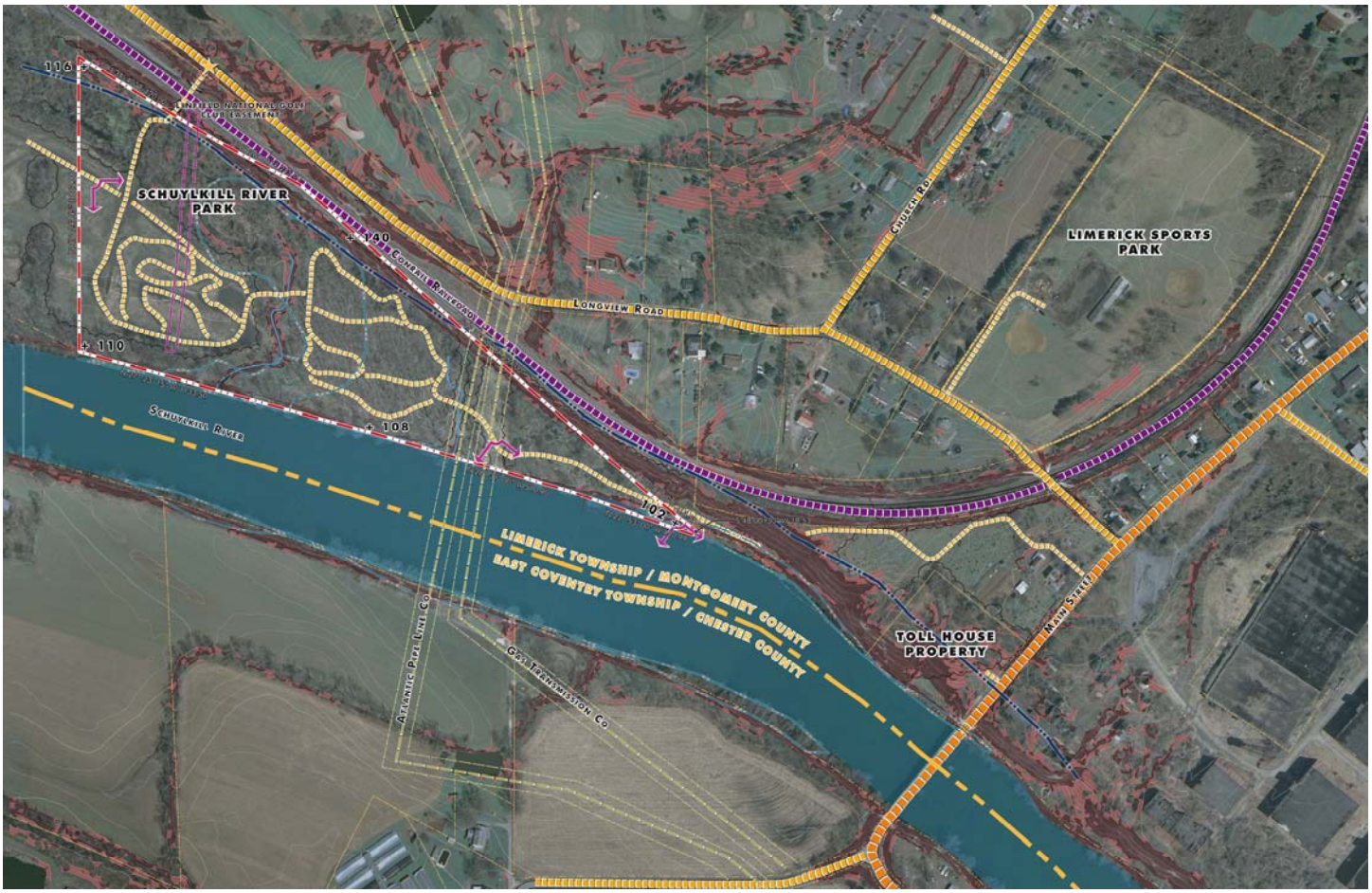

Figure 2.8 Composite Site Analysis

LIMERICK TOWNSHIP MONTGOMERY COUNTY

CHAPTER 3: MASTER SITE PLAN

Anticipated Level of Uses

The Schuylkill River Park is designed as a passive use park. Passive uses tend to draw a smaller number of users when compared to their active use partners. It would be expected that this park will be quieter and less visited. Because of this a plan for random police patrols should be organized.

Design Considerations

Every design project must address many design considerations. Below is a listing of major design considerations that are either mandated or are a goal identified through the public participation process. These include:

ADA Accessibility

Public recreation improvements must be designed in accordance with the most recent edition of the ADA Accessibility Guidelines for Buildings and Facilities. The most recent version of the ADA Accessibility Guidelines for Buildings and Facilities can be found at: http://www.ada.gov.

Additional guidelines have been developed to provide guidance for outdoor recreation facilities including trail. These guidelines can be found at: http://www.access-board.gov/guidelines-and-standards/recreation-facilities

Trail Facilities

One of the key opportunities for Schuylkill River Park is the consolidation and formalization of existing trails within the site. It will be critical to consider how the trails function both within the site and as part of a greater Township and Regional trail system. There are many resources that address safety, aesthetics, and accessibility of trails. These Include:

Guide for Development of Bicycle Facilities, American Association of State Highway and Transportation Officials (AASHTO), 1999

Trails for the Twenty-First Century: Planning, Design, and Management Manual for Multi-Use Trails, Rails to Trails Conservancy (RTC), 1993

Statewide Bicycle & Pedestrian master Plan, Bicycling & Walking in Pennsylvania– A Contract for the 21st Century: Bicycle Guidelines, Commonwealth of Pennsylvania Department of Transportation.

Native Plant Material & Invasive Plant Removal

The use of native plants supports the vision of enhancing the natural systems at the Preserve. The planting design for the Preserve should include canopy and understory tree groves; shrub and herbaceous plant understory; and meadow reestablishment. Habitat restoration in some areas of the site should include native plant buffers and screen plantings. Native plant materials can create an attractive landscape that will help reduce long-term maintenance costs. Native plants are generally resistant to most pests and diseases and require little or no irrigation or fertilizers. In addition to the above benefits, native plants provide food and habitat for indigenous fauna.

Disturbed land often enables invasive plant materials to establish on a site. The Township can initiate a program of invasive plant removals within the Preserve and seek to replant these areas with native plants. In addition the Township can work with neighboring properties to develop management plans for the hedgerows toward the removal of invasive species. This is a labor intensive task, ideally suited for volunteers, including school or scout groups.

Sustainable Materials

Choices in site materials have the potential to affect the health of a project sites ecosystem as well as the larger environment as a whole. Every material has a life cycle; raw materials / natural resources, products manufactured, and delivery for use. Closer consideration of the sustainability of a materials life cycle can have far reaching benefits. Sustainable material practices include (SITES, 2014):

- Re-use of existing site materials
- Purchase local and sustainably-produced plants and materials
- Consider the full life cycle of materials, consider the end life of a product can it be deconstructed and reused.
- Work towards zero net waste in demolition, construction, and management.

Best Management Practices (BMP's)

Developed by the Pennsylvania Department of Environmental Protection (PaDEP), Pennsylvania Handbook of Best Management Practices for Developing Areas offers numerous solutions for handling on-site stormwater. Best Management Practices (BMP's) that might be implemented at this Preserve include: protect and restore riparian/forest buffers; protect / utilize natural stormwater flow runoff direction; habitat restoration; soil amendments; native tree planting; berms that help detain and infiltrate stormwater; rain gardens; bio-swales; and the use of porous surfaces in the parking areas, or trails. These facilities require site-specific soil tests to determine site suitability and the infiltration rates of the existing soils.

Incorporation of these BMPs into the Preserve Master Site Plan will have a direct positive impact on preserving and enhancing water quality. The opportunity for education exists through the placement of interpretive signage to educate Preserve visitors about watershed water quality and how BMP's can positively impact all sites.

Construction Permits

The Township regulates all construction, including earth grading activities. Certain projects require Grading Permits & Erosion & Sedimentation Control plans. The development of the Preserve must conform to the municipal permits and land development process application process. Necessary permits and approvals for regulated earth disturbance activities from the Montgomery County Conservation District or appropriate PA DEP regional office must be secured by the Township.

Construction projects that involve the disturbance of more than one acre of earth will require a National Pollutant Discharge Elimination System (NPDES) permit. The permit is a federal requirement that is administered at the state level with the overall goal to improve water quality.

The permit plans are divided into two (2) parts. All project phases must comply with the stipulations of PA Code Chapter 102, Erosion and Sediment Control and are reviewed and approved by the local Conservation District. The Erosion & Sedimentation Pollution Control plans (ESPC) are to be implemented by the contractor throughout construction until the site is stabilized by permanent plant growth. A second part of the NPDES permitting process is proposed stormwater management areas. The Post Construction Stormwater Control Plans (PCSC) are designed to manage stormwater for the 2-year storm event with the goal of infiltrating it into the ground.

Public Consensus

A community consensus was generated during the committee and public meetings. There were three themes that dominated discussions: The River, Natural Habitat, and Connections. The three themes were expanded as follows:

1. The River

- Create a landing on the Schuylkill River Water Trail
- Provide non-motorized boat put-in
- Create fishing access

2. Natural Habitat

- Expand and enhance wetland habitats
- Provide for stream bank restoration
- Enhance habitat diversity through the creation of vernal pools
- Provide boardwalk access to the wetland habitats

3. Connections

- Connect Schuylkill River Park to the Schuylkill River Trail (in Chester County)
- Connect Schuylkill River Park to Linfield Village and Linfield Sports Park
- Consolidate the existing trail network within the park
- Minimize any negative impacts to the park

On-site parking for Schuylkill River Park is not feasible due to the limited site access via the railroad underpass on Longview Road. The masterplan considered options for off-site parking areas and trail connections into the park. These options for parking locations include:

- Longview Road Wastewater Treatment Center located one tenth of a mile north of the underpass on Longview road,
- Linfield Sports park located one-half of a mile south of the underpass along Longview Road
- The Toll House Property located south of the site on Main Street. (The Township has spoken with the current owner about the Township acquiring this site and the current owner is open to negotiations). It will be necessary to secure a trail access easement with current land owners of the adjoining private property (to the south) to link to the Toll House Property to Schuylkill River Park.

Preliminary Concept Plan 1

Based on feedback from the first public and committee meetings, a concept that incorporated these three themes was developed (See Figure 3.1). The plan was presented to the project committee and public, and the comments regarding the plan informed the development of a draft Master Site Plan. Two options for trail connections to off-site parking were proposed.

The concept plan recommended that the northern area of the park habit be enhanced through an addition of an constructed open water wetland. A trail and boardwalk would loop around the restored wetlands. Connecting to this trail would be a series of woodland trails loop consolidated from the existing trail network. These woodland trails would lead park visitors through the open floodplain forest into the forest opening at the utility right-of-way. Located along the banks of the river in this opening is a proposed fishing pier to allow for safe, accessible fishing on the river.

A half mile trail connection is proposed to connect Schuylkill River Park to Linfield Sports Park. This trail would require an easement from the property owners adjacent to the park. This connection would make it feasible for Schuylkill River Park visitors to par at Linfield Sport Park. By locating parking offsite, Schuylkill River Park remains a natural, quiet park where visitors can escape into a natural setting.

Trail Link to Wastewater Treatment Plant

Due to its close proximity to the park entrance along Longview Road the Wastewater Treatment Plant is one option for off-site parking. The facility is located one-tenth mile north of the site. A gravel parking of 10 parking spaces is proposed along the north side of the existing driveway. A five foot wide asphalt pedestrian trail is proposed along the western shoulder of Longview Road connecting the park to the exiting driveway and railroad underpass. A pedestrian crossing of Longview Road will be located on the south side of the waste treatment center driveway. Road sight lines at the driveway are good and the western shoulder is wide enough to accommodate an on-shoulder trail. Emergency and maintenance access would be maintained through the underpass. A small parking lot and turn-around for Township maintenance vehicles is proposed. The existing driveway will be gated at the street.

Trail Link to Linfield Sports Park

A second parking and trail connection to Linfield Sports Park is also proposed. The half mile trail connection is proposed to Schuylkill River Park along the southern edge of the railroad right-of-way. This trail would require a trail easement through the southern private property. At Main Street to the railroad overpass a 5 foot wide sidewalk is proposed. At the railroad overpass, the width of the sidewalk would narrow to three feet to accommodate a walkway and two lanes of traffic. Beyond he railroad overpass the trail would continue as a five foot pedestrian trail along the western shoulder of Longview Road. A pedestrian crossing will be located on the south side of the Linfield Sports Park Entrance. This trail would need an easement from

Figure 3.1 Schuylkill River Park Preliminary Concept Plan 1

the property owners adjacent to the park. This connection would serve to connect parking at Linfield Sport Park to Schuylkill River Park.

An alternative to this route is to continue the proposed pedestrian trail along the western shoulder of Longview Road from the park driveway to the driveway entrance of Linfield Sports Park. A pedestrian crossing would be located on the south side of the Linfield Sports Park Entrance. (See Figure 3.1)

Preliminary Concept Plan 2

The second concept plan for Schuylkill River Park (Figure 3.2) explored recreation opportunities on the Toll House parcel should the Township acquire the land. Acquiring this parcel would allow:

- a small ten (10) space parking area
- a boat put-in / river trail landing for canoes & kayaks
- a picnic area
- fishing access
- pavilion overlook.
- The Toll House would be repurposed for a township use such as housing of staff, a community meeting space, or park restrooms.

Figure 3.2 Schuylkill River Park Preliminary Concept Plan 2

Preferred Site Master Plan

The Schuylkill River Park preferred site plan (See Figure 3.3) incorporates all the various trail connections and other features that were discussed in committee and public meetings. These include:

- Connecting the park to neighborhood amenities & parking via trails
- Acquiring the Toll House Property
- Pursuing access easement(s) through the adjacent property east of the park
- Developing water-based passive recreational facilities.
- Creating low-impact activity nodes in the park
- Determining future feasibility of acquiring the adjacent property east of the park.

The final primary park entrance will be determined based on the Township's ability to acquire the Toll House property, trail access easements to link the park to Main Street and future acquisition of the property east of the park. Without additional property and or easements, the existing Longview Road driveway will serve as the primary park entrance. The addition of a park signage at the road and a gate at the street are proposed. Minor driveway improvements should be made to the underpass to insure that emergency and maintenance vehicles can safely use this access.

A kiosk with park rules and trail map is proposed at the maintenance parking area. A constructed open wetland area with boardwalk and observation areas

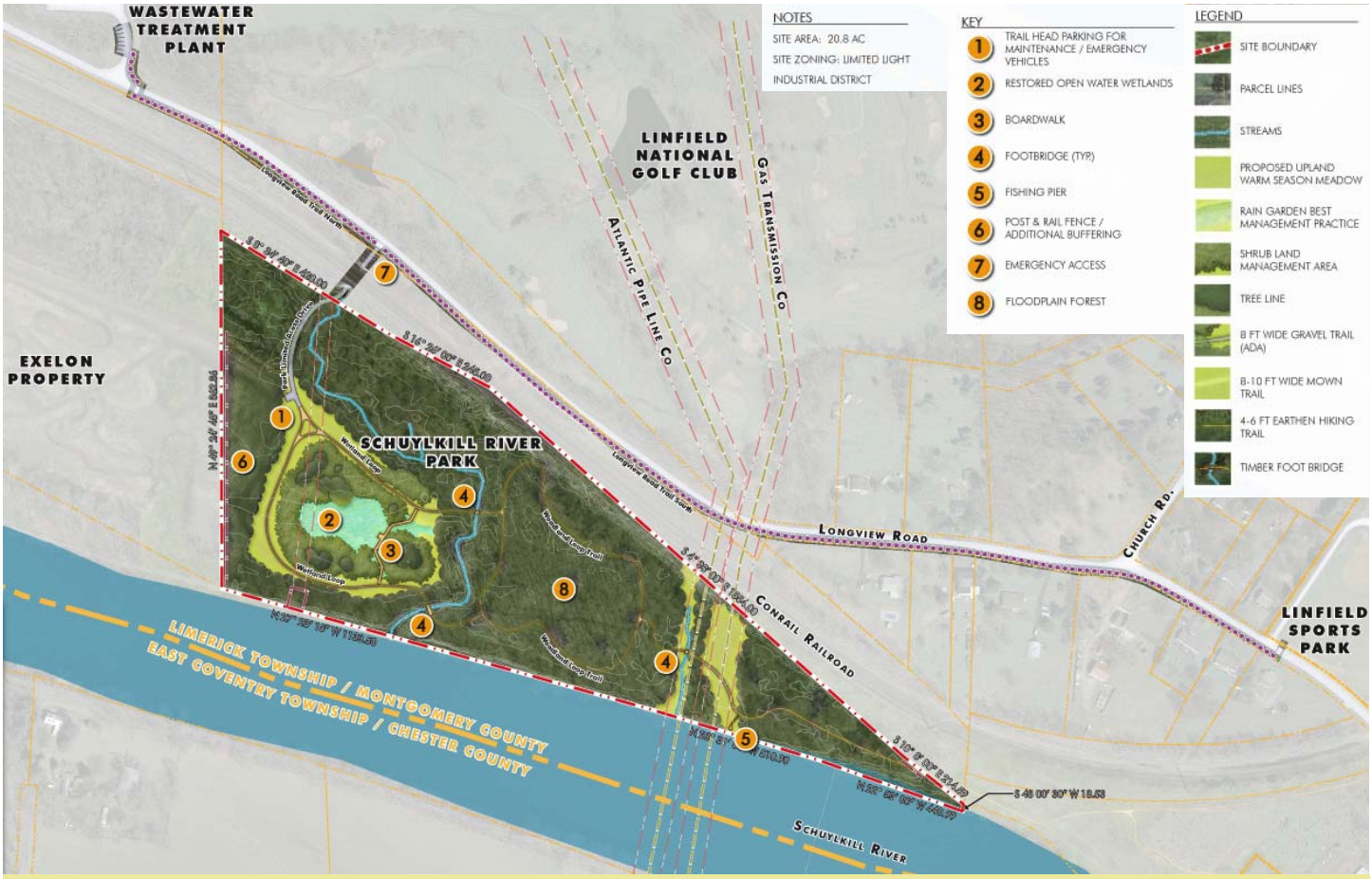

Figure 3.3 Preferred Site Master Plan

Figure 3.4 Illustrative Rendering of the Constructed Wetland Area

and interpretative signs is proposed. A mulch or woodchip loop trail will connect the boardwalk to other park trails. A fence is proposed along the shared property line with Exelon to define the boundary. The addition of tree reforestation planting in this area would also create a buffer and help to define this border.

Within the floodplain forested area the exiting trail network is consolidated into one loop trail. Small footbridges will cross the intermittent streams. The park's woodlands and wetlands will be cleaned of debris and dirt bike ramps. Site management and detailed restoration planting plans should be developed as the master plan is implemented. Topography created by the dirt bike use could be repurposed to create new habitats such shallow vernal pools.

The flood plain forest trail system will provide access to a small fishing pier located south of the gas pipeline right-of-way. A trail will would continue to the southern point of the park were selective clearing will provide for views to the river. The terminus of the park trail should be fenced unless a trail access easement is obtained from the property adjacent of the south border of the park.

The Toll House Property

The acquisition of the Toll House property should be pursued by the Township. The addition of property along Main Street will create the potential for park amenities that cannot be developed Schuylkill River Park. The Toll House is located one-half mile from the regional Schuylkill River Trail in East Coventry Township, Chester County. The acquisition and repurposing of the Toll House Property will allow the following park facilities to be developed:

- Gravel Parking area with 10 parking spaces
- Trail to kayak/canoe launch / water trail landing
- Pavilion and lookout area
- Repurposing of the Toll House for Township use
- Sidewalk connections along Main Street
- Fishing access area

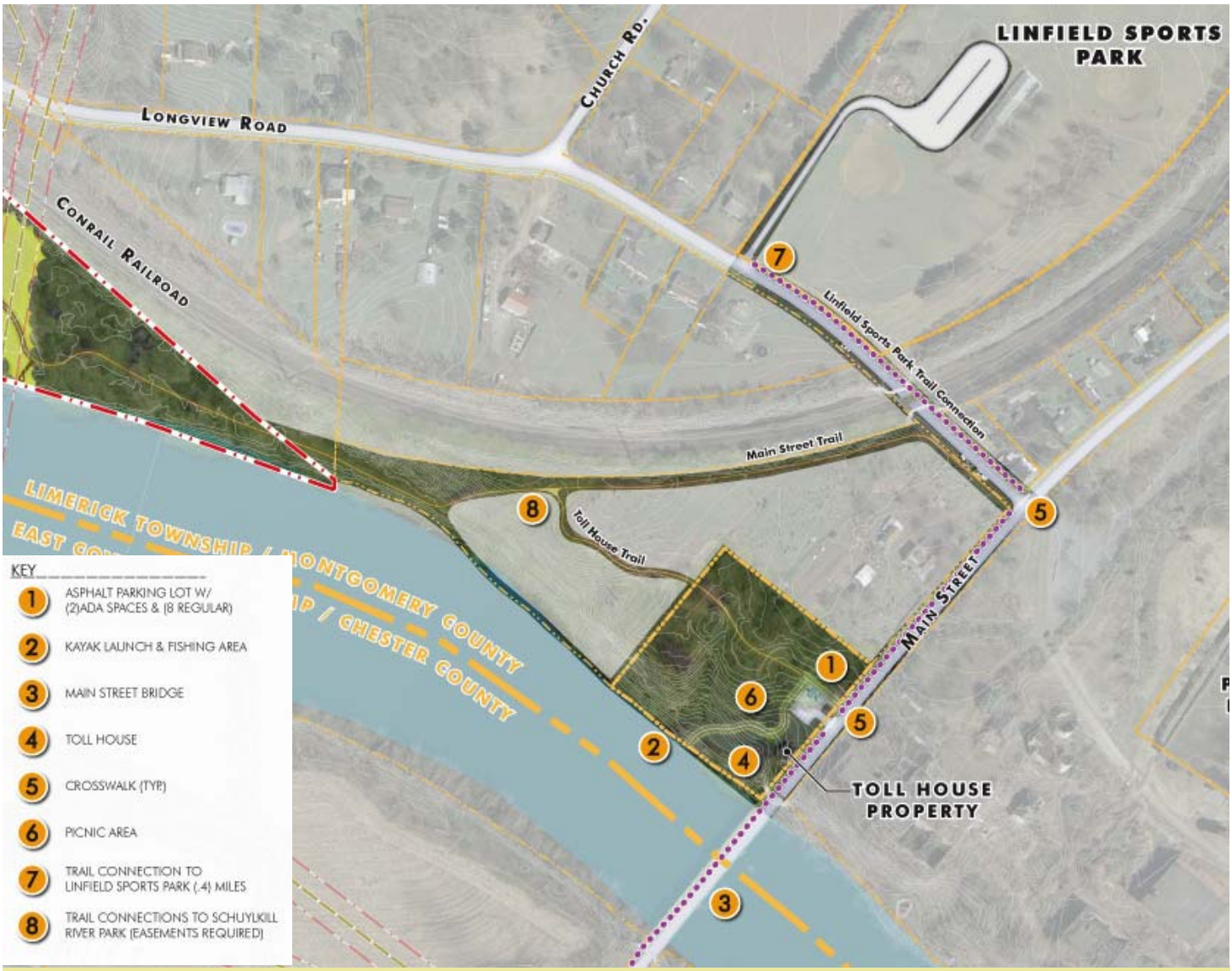

Figure 3.5 Preferred Site Master Plan—Toll House

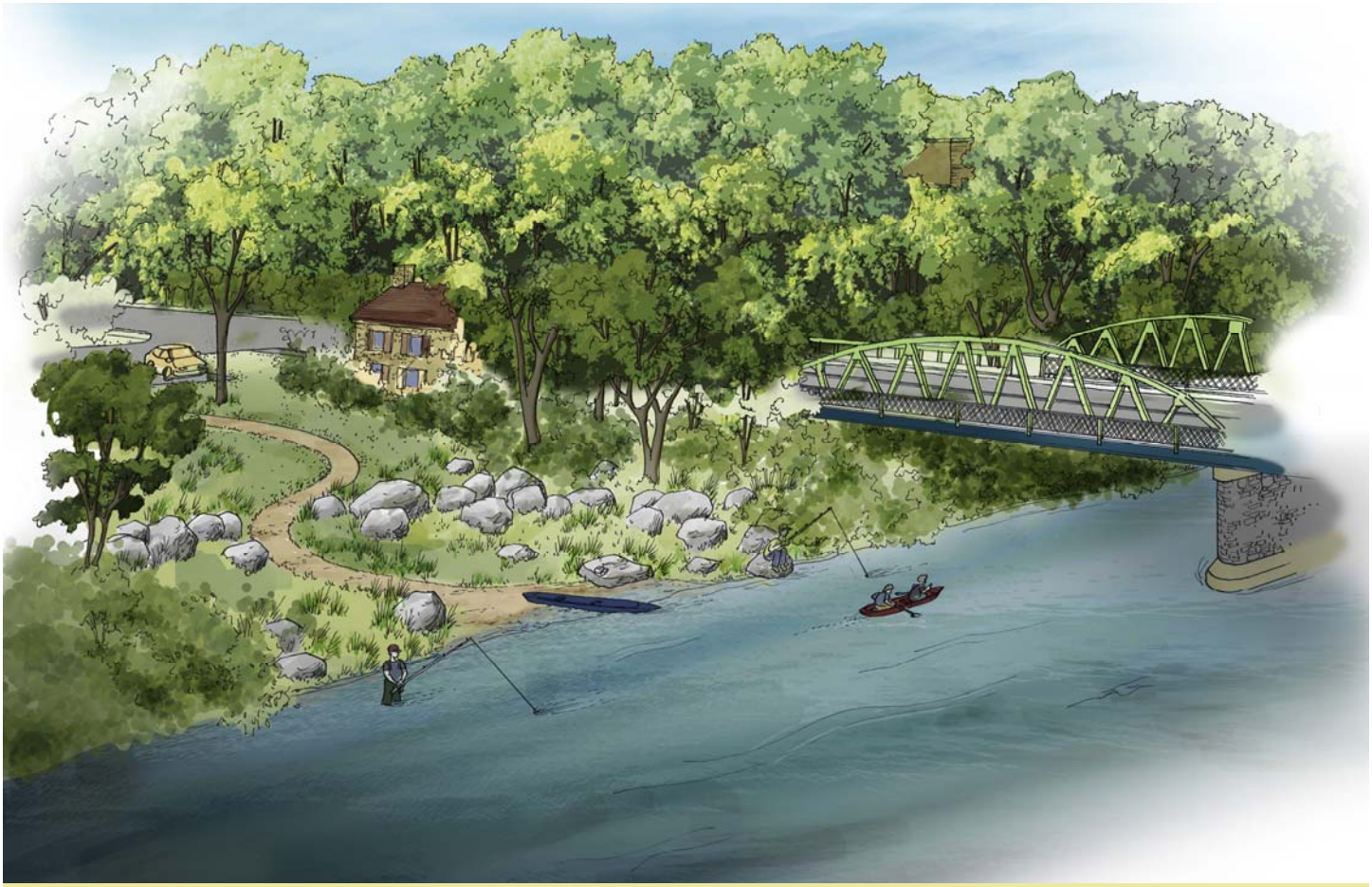

Figure 3.6 Illustrative Rendering of the Toll House River Access.

Connections

Linfield Village

Linfield Village is located approximately one-half mile north east of the Toll House along Main Street. The passive development of Schuylkill River Park will bring additional recreational opportunities to this historic township population center. The park will provide waterfront access and recreation opportunities which are currently limited..

Schuylkill River East Trail

Schuylkill River Park is adjacent to the Township's and Montgomery County's plans for the Schuylkill River Trail "East". The trail alignment follows the east bank of the Schuylkill River from Mont Clare / Phoenixville to Pottstown. Within the Linfield Village area the majority of the trail alignment is located on public land or areas poised for redevelopment, specifically the Publicker site. Schuylkill River Park can serve as a trail head along this portion of the proposed trail.

Schuylkill River Trail

The main branch of the Schuylkill River Trail is located in East Coventry Township, Chester County, one-half mile from the park, at the intersection of New Schuylkill Road (S.R. 724) and Linfield Road (Main Street. It is the phase one terminus of the Chester County portion of the Schuylkill River Trail.

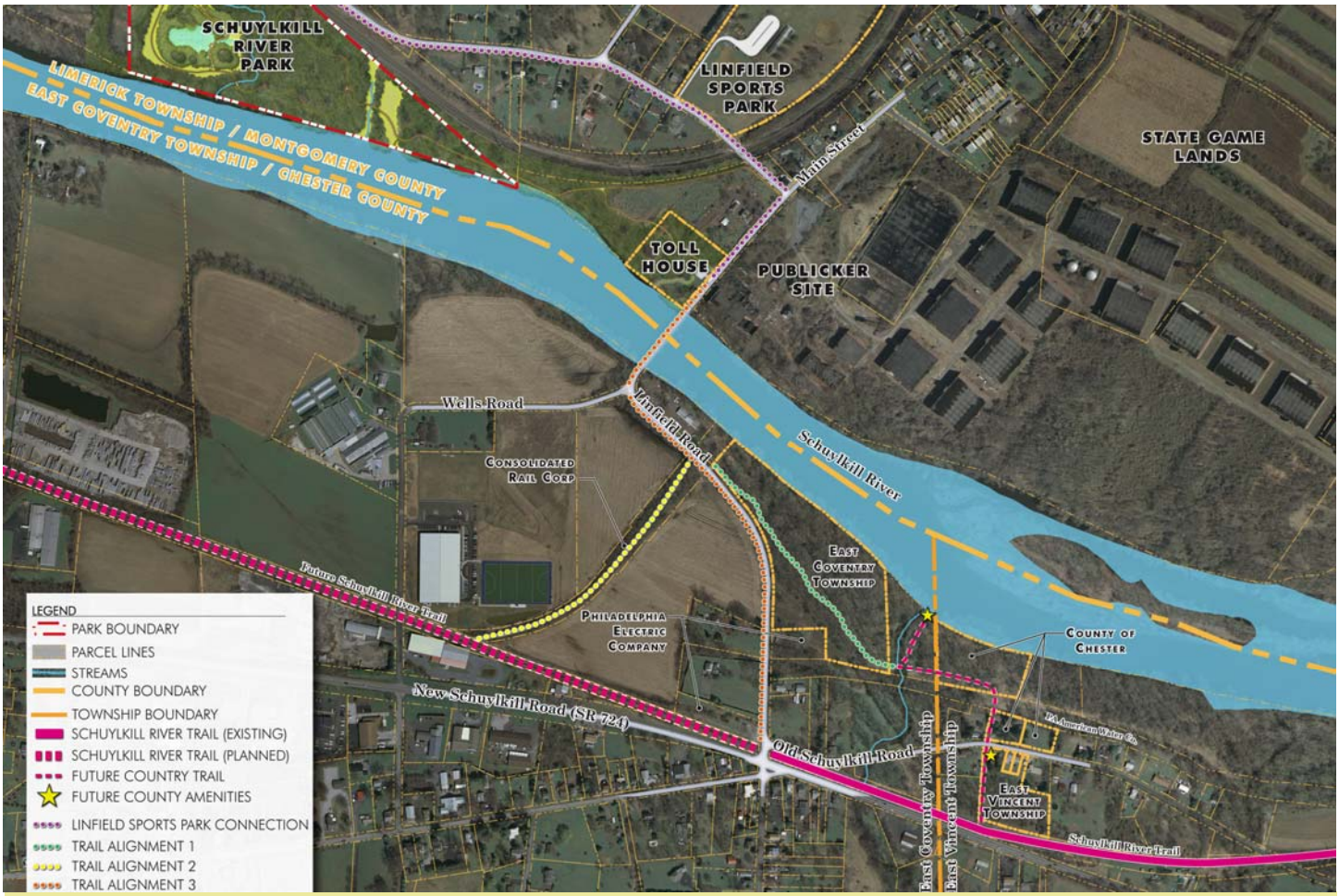

Figure 3.7 Schuylkill River Trail Connections Alternative

The six mile section of trail connects Parker's Ford to Mont Clare / Phoenixville.

Once completed the multi-use trail will connect Pottsville to Philadelphia spanning 130 miles. Within the Greater Philadelphia area 60 miles of completed trail includes a 26 mile stretch from Philadelphia to Phoenixville. An additional 6 mile section starting outside of Phoenixville runs form the Chester County's Cromby Trail head to Parkerford. Chester County is in negotiations to obtain railroad right of way to continue the trail north to connect to the existing trail in Pottstown. From Pottstown a 20 mile constructed segment of the trail continue north to Reading.

Currently there is an unofficial trail head on PECO property in Parker's Ford. However Chester County does not have plans to develop an official trailhead at this location. The County is working with East Vincent and East Coventry to develop a trail amenity at Parker's Ford Tavern. Schuylkill River Park is proposed to act as a local trail head to this regional trail.. The acquisition of the Toll House would be critical in creating this linkage into Limerick Township.

The plan explores three (3) trail alignments to connect Schuylkill River Park to the Schuylkill River Trail. All options start on the Chester County side of the Main Street Bridge and contain road shoulder trail segments. However, two (2) options explore off-

road trails for the majority of the route. In all cases, sidewalks along the north shoulder of Main Street will connect Schuylkill River Park to the existing sidewalks along the north side of the Main Street Bridge. (figure xxx)

Trail Alignment 1 – Parker's Ford Tavern

Alignment 1 proceeds on the west shoulder of Linfield Road to a point just beyond the elevated railroad spur. It would then proceed south / southeast through East Coventry Township lands to Chester County lands. Here the trail would bridge across a small stream and connect to a Chester County planned trail. This County trail connects the historic Parker's Ford Tavern area with the main branch of the Schuylkill River Trail. It also links to a planned river trail landing / canoe launch on the river.

Figure 3.8 Linfield & Wells Intersection Improvements

Trail Alignment 2 – Rail Spur Connector

Like alignment 1, this starts on the shoulder of Linfield Road and continues to the former rail spur which sits slightly above the roadway. The trail would be graded up from the road to the elevated rail spur and proceed southwest to the future main alignment of the Schuylkill River Trail. This option assumes Chester County acquisition of this rail spur. Like alignment 1, this provides a mostly off-road trail.

Trail Alignment 3– Linfield Road On-shoulder Trail

This alignment will be an on-shoulder trail along the western side of Linfield Road to the intersection of the Schuylkill River Trail at Route 724.

Trail Alignment 3 will be the easiest to implement. It is possible that this route, developed soon, is replaced later by one of the off-road alignments. Also, it may be advantageous to construct both alignment 2 (Rail Spur Connector) to link to the north end of the Schuylkill River Trail and either alignments 1 or 3, which connects to the main trail further south.

Implementation of a trail connection from the Main Street Bridge will be the responsibility of East Coventry and Chester County. Limerick Township (and Montgomery County) could offer support and encouragement in the form of grant application endorsement, trail advocacy and by soliciting the involvement of County Commissioners and state elected officials to support implementation of this link, since it will benefit Montgomery County and Limerick Township residents.

Site Maintenance

Management of the site should be based on the park goals of re-establishing habitat and providing public access. Habitat management requires maintenance at key times during the year. For example, wetland meadows should be left undisturbed in the fall and throughout the winter to provide cover for birds and small mammals. As the primary improvement to the park, trail maintenance should not be deferred. The regular review and maintenance of trails will maintain a safe user environment while identifying any necessary repairs. The park should be regularly monitored in order to manage the habitat quality.

The following is a monthly outline of basic maintenance tasks that should be completed. The frequency (by month) of these maintenance tasks is indicated in parentheses.

January

- Inspect trails, bridges & culverts / make repairs (1)
- Snow removal for maintenance driveway and parking area only (as needed)

February

- Inspect trails, bridges & culverts / make repairs (1)
- Signage inspection and repairs (1)
- Inspect and mechanically remove invasive plants
- Snow removal for maintenance driveway and parking area only (as needed)

March

- Inspect site trees for winter damage / perform work (1)
- Inspect trails, bridges & culverts / make repairs (1)
- Mow warm season meadows (1)
- Snow removal for maintenance driveway and parking area only (as needed)
- Inspect and mechanically remove invasive plants
- Inspect BMP's & remove debris as required (1)

April

- Plant / replant (revegetation target areas) (1)
- Inspect trails, bridges & culverts / make repairs (1)

May

- Inspect trails, bridges & culverts / make repairs (1)

June

- Inspect trails, bridges & culverts / make repairs (1)

July

- Inspect trails, bridges & culverts / make repairs (1)
- Inspect meadows for invasive plants – Mow ½ of meadow if required (1)

August

- Inspect trails, bridges & culverts / make repairs (1)

September

- Signage inspection (1)
- Inspect trails, bridges & culverts / make repairs (1)

October

- Inspect trails, bridges & culverts / make repairs (1)
- Inspect BMP's remove debris as required (1)

November

- Inspect trees / prune as required (1)
- Inspect trails, bridges & culverts / make repairs (1)
- Fall clean-up (as required)
- Snow removal for maintenance driveway and parking area only (as needed)

December

- Inspect trails, bridges & culverts / make repairs (1)
- Snow removal for driveway and parking area only (as needed)

Safety and Crime Deterrence

The best way to deter possible crime in the park is by a combination of basic Township park rules and community participation in the park's stewardship. The basic Township park rule of closing the park from dusk till dawn should be followed active observation by park neighbors should be encouraged and the

formation of a "Friends of Schuylkill River Park" would formalize this type of stewardship. Random police patrols should occur. When initial park trail improvements are built and the open space is transitioning into a welcoming public space, the Township staff and police should maintain an active dialogue with neighbors and "Schuylkill River Park Friends" so that unwanted possible activities such as littering, vandalism and underage drinking, if they occur, are immediately know and curtailed. As runners and hikers and fisherman start to use the park, they will become the eyes and ears of "authority" armed with cell phones. People who engage in negative activities do not wish to be seen performing these activities and will typically go elsewhere once they are targeted for their bad behavior.

Park users should also be encouraged to help the Township maintain and operate the trails. When there are problems, trail users can notify the Township about the issue. It is important that municipal office phone numbers and email addresses be posted at the park entrance, parking area and trail connection access points as a part of park signage.

Emergency and Maintenance Access

The existing Longview Road driveway will serve as access for emergency and maintenance personal. collapsible bollards at the road will limit access to township and emergency personal. Emergency plans should be develop for rescue situations on the hiking trails.

LIMERICK TOWNSHIP PARKS & RECREATION DEPARTMENT PARKS RULES AND REGULATIONS

Limerick Township park facilities are open from dawn until dusk. Restroom facilities are open from 8:00 am to 8:00 pm daily from April 1st through October 31st.

All animals MUST be on a leash at all times and the owner must clean up after them. Doggy Bags are available at various stations throughout the parks for your convenience.

Parking in designated parking spots **ONLY**. Vehicle access is limited to the general parking areas.

The uses of alcohol and controlled substances are strictly prohibited on Township property. **Smoking is prohibited under pavilions.**

No outside signs may be placed on Township property within any of the Limerick Township park facilities.

Permit holders for fields, courts or pavilions are required to have a copy of the permit with them at all times at the facility permitted for use.

Park users are required to observe all regulations as listed in the Limerick Township Code, Chapter 114, as well as printed and posted parks rules and regulations.

Limerick Township Parks & Recreation Staff, Limerick Township Public Works Parks Crew, Township Staff and the Limerick Police Department have the right to enforce all permits and park rules. In the case of a police, fire or medical emergency, dial 9-1-1.

TABLE 4.1 SCHUYLKILL RIVER PARK PROBABLE COST OF DEVELOPMENT

Phase 1 - Longview Entrance Improvements and Trails	**$**	**233,466**
On Site - Improvement Cost	*$*	*150,822*
Long View Road Trail Connection - Sewage Treatment Plant Parking Area	*$*	*26,046*
Design & Engineering, Mobilization, and Contingency	*$*	*56,598*
Phase 2 - Constructed Open Water Wetlands Area	**$**	**345,706**
Improvement Cost	*$*	*261,899*
Design & Engineering, Mobilization, and Contingency	*$*	*83,808*
Phase 3- Toll House Site Development (Acquisition Cost not Included)	**$**	**315,511**
On Site - Improvement Cost	*$*	*107,297*
Main Street Concrete Sidewalk - Bridge to Longview Road	*$*	*131,726*
Design & Engineering, Mobilization, and Contingency	*$*	*76,487*
Phase 4 - Toll House Building Renovations	**$**	**314,160**
Improvement Cost	*$*	*238,000*
Design & Engineering, Mobilization, and Contingency	*$*	*76,160*
Phase 5 - Trail Connections to Linfield Sports Park	**$**	**130,707**
Long View Road Entrance to Linfield Sports Park Connection	*$*	*64,954*
From Main Street - Easement Required	*$*	*34,066*
Design & Engineering, Mobilization, and Contingency	*$*	*31,687*
Total Project Cost	*$*	*1,339,550*

SCHUYLKILL RIVER TRAIL CONNECTIONS COSTS (BY CHESTER COUNTY, EAST COVENTRY)

Trail Alignment 1 – Parker's Ford Tavern	**$**	***65,582***
Improvement Cost	*$*	*49,684*
Design & Engineering, Mobilization, and Contingency	*$*	*15,899*
Trail Alignment 2 – Rail Spur Connector	**$**	***50,227***
Improvement Cost	*$*	*38,051*
Design & Engineering, Mobilization, and Contingency	*$*	*12,176*
Trail Alignment 3– Linfield Road On-shoulder Trail	**$**	***84,774***
Improvement Cost	*$*	*64,223*
Design & Engineering, Mobilization, and Contingency	*$*	*20,551*

CHAPTER 4: IMPLEMENTATION AND FUNDING STRATEGY

Project Phasing

Improvements to Schuylkill River Park will most likely occur in phases, based on available funding, with multiple options for project funding. The timing and scope of the phases will be determined by the amount of future funding available and the Township's success with grant applications. The phasing plan for the parcel is included to suggest potential strategies for implementation of improvements over time.

Estimate of Probable Development Costs

A detailed estimate of probable development costs is based on the proposed improvements shown on the Master Site Plan. Unit costs were established based on construction costs for similar projects and reflect prevailing wage rates that are required for public construction projects. A detailed cost estimate is included in the appendix of this report with a summary of the improvement costs, per phase, outlined to the right.

Phased Capital Program

The phases described in this plan are intended as a guide to assist the Township to make decisions on moving forward over an eight to ten (8-10) year period. It is suggested that during the first five (5) years, the Township apply for additional funding, complete surveying, construction documentation and obtain permit approvals for Schuylkill River Park.

Potential Partners / Funding Sources

PA DCNR Community Conservation Partnership Program

The PA DCNR Community Conservation Partnership Program (C2P2) provides funding for communities and nonprofit organizations to acquire, plan and implement opens space, conservation and recreation resources, including trails. DCNR accepts grant applications annually-with deadlines usually in April. Projects will receive additional consideration for using "green" technology or practices. The next C2P2 application deadline will be in April, 2016. DCNR funds can be used for most park projects, and as a match to many federal funds for some trails. DCNR requires a 50–50 match (cash or in kind services) to its grant awards. The first step is to contact the DCNR regional advisor.

More information on this program can be found at the DCNR website: www.dcnr.state.pa.us/brc/

Greenways, Trails and Recreation Program (GTRP)

The Department of Community and Economic Development (DCED) Greenways, Trails and Recreation Program (GTRP) is a program that helps fund for planning, acquisition, development, rehabilitation and repair of greenways, recreational trails, open space, parks and beautification projects. Grant applications cannot exceed $250,000 and require a 15% matching funds. Applications are due in June 30th for consideration in September.

More information on this program can be found at the DCED website: http://community.newpa.com/programs/greenways-trails-and-recreation-program-gtrp/

Watershed Restoration and Protection Program (WRPP)

DCED Watershed Restoration and Protection Program is a funding program to restore, and maintain restored stream reaches impaired by the uncontrolled discharge of nonpoint source polluted runoff. Funds may be used for construction, improvement, expansion, repair, maintenance or rehabilitation of new or existing watershed protection BMPs; stream bank bio-engineering; and design services. Grant applications cannot exceed $300,000 and require a 15% matching funds. Applications are due in June 30th for consideration in September.

More information on this program can be found at the DCED website: http://community.newpa.com/programs/watershed-restoration-protection-program-wrpp/

PENNVEST

Pennvest oversees the administration and finance of the Clean Water State Revolving Fund (CWSRF) and

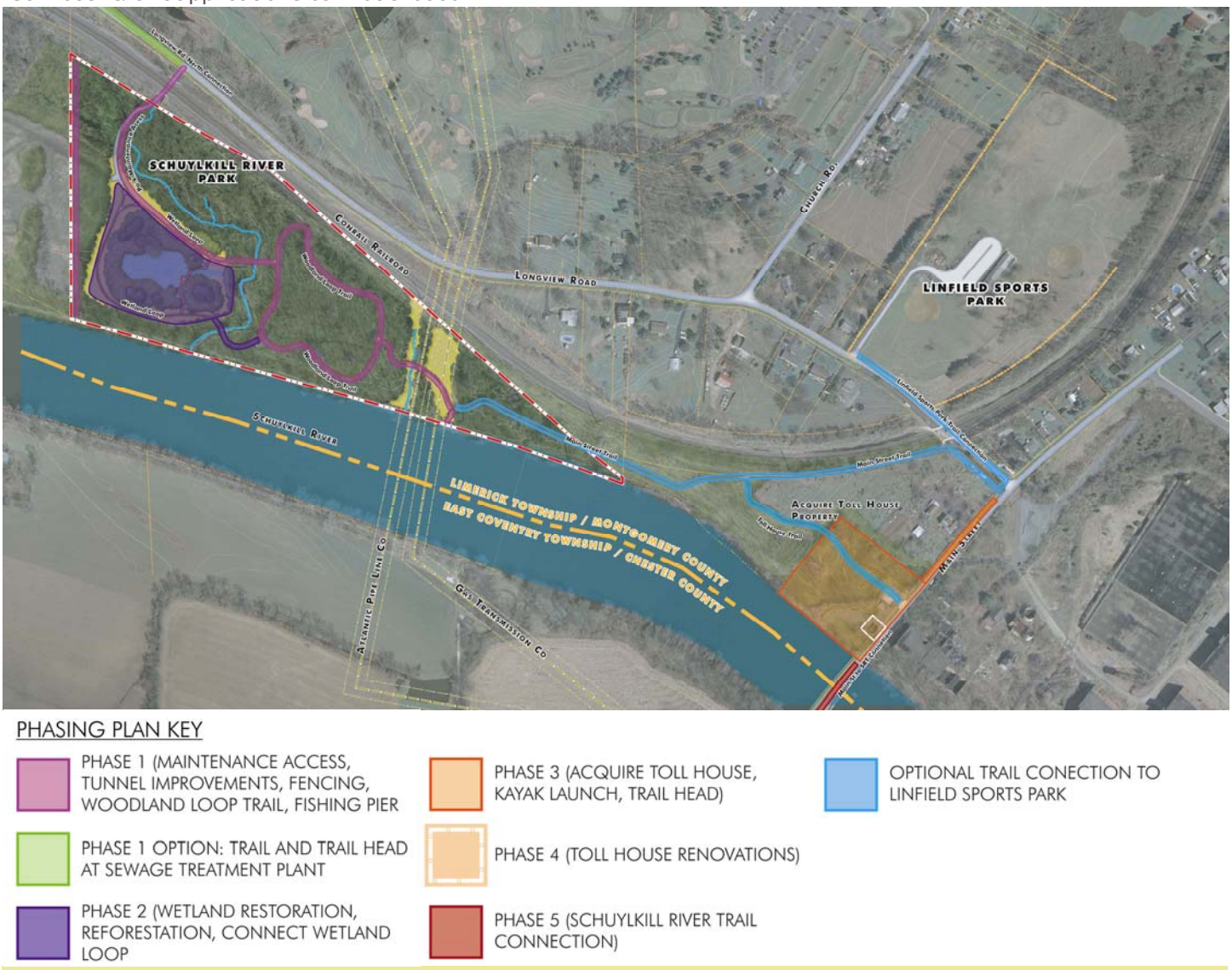

Figure 4.2 Improvements Phasing Plan

the Drinking Water State Revolving Fund (DWSRF) for the state of Pennsylvania. The CWSRF program provides funding to projects throughout Pennsylvania for the construction and maintenance of wastewater treatment facilities, storm water management projects, nonpoint source pollution controls, and watershed and estuary management. The program offers low interest loans with flexible terms to assist a variety of borrowers that include local governments, municipalities, and privately owned entities and to establish partnerships to leverage other funding sources. Watershed and estuary management might be an eligible project for Schuylkill River Park.

Additional information is available at: http://www.pennvest.pa.gov/Pages/default.aspx#.Vcux3WfbJ9A

Schuylkill River Restoration Fund

Administered by the Schuylkill River national and State Heritage Area the Schuylkill River Restoration Fund is a Watershed Restoration grant program for implementation projects that will improve the quality and quantity of water in the Schuylkill River and its tributaries. In 2015 special consideration was given to the Perkiomen Watershed for may include stormwater management, agricultural runoff mitigation, and pathogen remediation. Grant applications can range from $5,000 to $100,000 and require 25% matching funds. Applications are due in May and awarded in September.

Additional information is available at: http://www.schuylkillriver.org/Grant_Information.aspx

Schuylkill Highlands Grant Program

The Schuylkill Highlands Grant Program is a reimbursement grant program funded by the PA Department of Conservation and Natural Resources (DCNR) and administered by Natural Lands Trust and the Schuylkill River Heritage Area. The program has the dual priorities of natural resource- based conservation and nature-based tourism. The Nature base resource conservation focus is to promote and implement projects that advance conserving and protecting the natural, cultural, historic and recreational resource areas while promoting sustainable development. Grant requests for the priorities above are not to exceed $15,000 and require and 50% match.

Additional information is available at: http://www.schuylkillhighlands.org/partners_grants.php

Green Region PECO Open Space Program

Green Region grants are funded by PECO and administered by Natural Lands Trust. 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. Funding is available to municipalities in amounts up to $10,000 and may cover up to 50% of the project cost. Grant deadlines are in March.

Environmental Education

The Pennsylvania Environmental Education Grants Program awards funding to schools, nonprofit groups and county conservation districts to develop new or expanded current environmental education programming. The funds are administered through the Pennsylvania Department of Environmental Protection for projects ranging from creative, hands-on lessons for students and teacher training programs to ecological education for community residents. Educational Resources, including exhibits, educational signage, and demonstration projects,

also qualify for funding. Grant applications cannot exceed $3,000 and require a no match is require however it is recommended. Applications are due in Dec and awarded in April.

Legislative Funding

State and federal elected officials can sometimes include items into legislation for worthy projects in their districts. A conversation between county and municipal officials and legislators is the way to begin this process. This type of funding should be targeted toward capital improvement projects.

Limerick Township

Some grant programs allow official services to count as a local match. It is suggested that the Township keep a record of municipal staff and/or volunteer time spent on Schuylkill River Park. Occasionally, grantors may allow time spent to date to count as part of the in-kind match for funds. This record will also demonstrate a continuing commitment by the municipality to the successful implementation of the master plan. The Township may in some cases choose to invest municipal funds in specific aspects of the park development to "leverage" funding from other partners.

Grant programs that require matching funds present an opportunity for the Township to engage in targeted fundraising efforts and to partner with other organizations.

Private Foundations

There may be regional corporations and foundations that support public works such as park development. Competition for these funds is usually brisk, but opportunities should be researched. Funding is often to non-profit organizations.

Foundations and institutions represent another potential source of funding for education-related site improvements and programming. Grants are available to support student field trips, provide teacher training in science, and provide other educational opportunities. Education tied to research can increase the pool of potential funds. The science community and research institutions are the logical starting points for solicitation foundation funds.

Schools and Local Organizations

Local schools and sports organizations may also be of assistance in several ways. These groups might get involved with club, fundraising events, and park cleanup days. The school faculty might incorporate the park into various curricula with students helping to develop and possibly maintain the park as part of a classroom assignment or after school club. While the amount of funds raised may be relatively small, this process builds constituents and support that is critical to the long-term success of the park.