



UPPER PROVIDENCE TOWNSHIP PARK MASTER PLAN

Adopted April 19, 2021

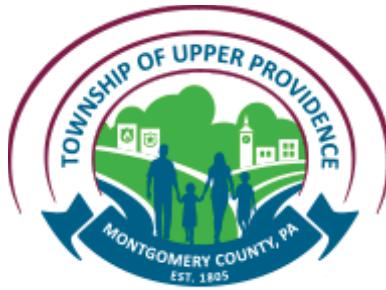
Final Report Prepared
by:



Upper Providence Township, Montgomery County

Park Master Plan

Adopted April 19, 2021



Upper Providence Township Park Master Plan

Prepared for: Upper Providence Township, Montgomery County, PA

Upper Providence Township Board of Supervisors

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Prepared by:



RESOLUTION NO. 2021-26

A RESOLUTION OF THE UPPER PROVIDENCE TOWNSHIP BOARD OF SUPERVISORS,
MONTGOMERY COUNTY, PENNSYLVANIA

ADOPTION OF THE UPPER PROVIDENCE TOWNSHIP PARK MASTER PLAN

WHEREAS, the Township of Upper Providence has prepared the Upper Providence Township Park Master Plan dated January 20, 2021; and

WHEREAS, this plan provides a framework by which the community can come together in working towards a common vision for parks, recreation, and open space; and

WHEREAS, the purpose of this plan is to set forth an action program to enhance and expand existing parks and develop high quality facilities that serve as destinations for community recreation; to expand access to parks and facilities and increase connectivity between parks, nature, and the community; and to inspire and engage the community to grow parks, inform users, and promote Upper Providence Township; and

WHEREAS, this plan is intended to be a living document that will be responsive to changing needs and emerging opportunities; and

WHEREAS, this plan will be used to guide future park, recreation, and open space development and improvement.

NOW, THEREFORE, BE IT HEREBY RESOLVED by the Upper Providence Township Board of Supervisors of the County of Montgomery:

- a. The Plan and related materials are acceptable to the Upper Providence Township Board of Supervisors;
- b. The Plan and materials will be used to guide future decisions relative to recreation, park, open and space development and improvement.

RESOLVED AND APPROVED this 19th day of April, 2021.

ATTEST:

TOWNSHIP OF UPPER PROVIDENCE:



Timothy J. Tieperman
Township Manager/Secretary



Bill Starling, Chairman
Upper Providence Township Board of Supervisors

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EXECUTIVE SUMMARY

Executive Summary

Upper Providence Township is a thriving suburb of the greater Philadelphia region located in southcentral Montgomery County, Pennsylvania. It shares borders with the townships of Limerick, Perkiomen and Lower Providence, and the boroughs of Royersford, Trappe and Collegeville. To the east of the Township runs the Perkiomen Creek and to the south runs the Schuylkill River.

Upper Providence Township has abundant natural resources, recreational areas, agricultural lands, and open spaces; however, population growth and increased development pressures threaten these features.

This Plan is an update to the 2006 Upper Providence Township Open Space and Environmental Resource Protection Plan. The Plan is organized around master plans for six (6) of the Township's seven (7) existing parks: Taylor Farm Park, Anderson Farm Park, Black Rock Park, MacFarlan Park, Longford Park/Reynold's Dog Park, and Port Providence Road Park. In conjunction with the park master plans are policy recommendations that support future development and improvements to recreation in the Township.

Trends in Upper Providence Township

Topography of the Township varies with a majority of the Township within areas of 0-8% slopes followed by steep slopes of 8-15% grade, with 15-25% steep slopes mainly located along the Perkiomen Creek and Schuylkill River. The Township is bisected by Route 422 (Pottstown Expressway) which is the major traffic corridor within Upper Providence. Secondary transportation corridors include Routes 113 and 29.

Development within Upper Providence continues to impact the community. Active farmland has decreased within the Township due to development pressures, and, as of January 2021, there were twenty-four (24) development projects proposed, pending or approved. This new



Taylor Farm

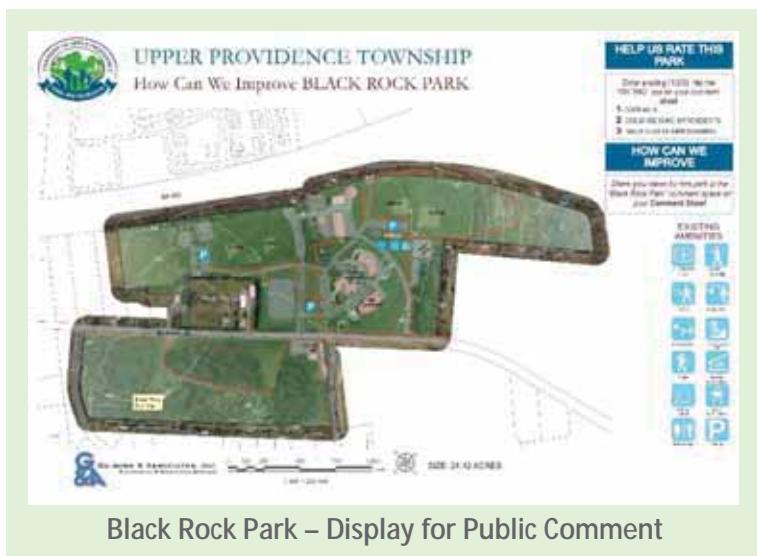
development will bring more people into the Township which needs to be accounted for when planning the future of the Township parks. The current population of Upper Providence Township is approximately 23,589 and continued growth is anticipated as nearly 7,583 new residents are predicted by the year 2040.¹

Process Summary

The process used to develop this plan consisted of a physical inventory and analysis conducted by the consultants, and a public engagement process where data was collected from residents and recreation participants using a variety of methods.

A detailed inventory of the six focus parks was conducted. The inventory collected data on the number, size, and condition of recreation facilities that are owned by the Township. Specific issues were also identified that should be addressed. Many of these issues are addressed in the Park Master Plans.

The inventory indicated that Upper Providence has a wealth of park and natural land, with many positive improvements under development. Highlights of Upper Providence's park system include the recently renovated Recreation Community Center at Anderson Farm Park, trail opportunities and numerous playing fields at several of the Township's parks, and the dog runs at Longford Park/Reynold's Dog Park (refer to Chapter 4: Inventory and Analysis).



The public engagement process was essential to determining the unique recreation needs and values of the residents and park users of Upper Providence Township. In addition to conferring with a project steering committee, this process included public workshops, focus group meetings, key person interviews and a public opinion survey.

¹ Delaware Valley Regional Planning Commission. 2045 Population Forecasts.

Resident input indicated a need for more trails, community areas, outdoor education features, water access, open space and playground spaces that are accessible to all (refer to Chapter 2: Support for the Plan).

Guiding Principles

Through the planning processes described above, goals and objectives were determined for the Township's park system. These provided the foundation and evaluation criteria for each park master plan. With the input of the Steering Committee, a concept was developed for each park. The concept plans are meant to support and further the following overarching goals:

- Enhance and expand existing parks and develop high quality facilities that serve as destinations for community recreation.
- Expand access to parks and facilities and increase connectivity between parks, nature, and the community.
- Inspire and engage the community to grow parks, inform users, and promote Upper Providence Township.



Pump Track

INTRODUCTION



Introduction

This plan is the result of a collaboration between the public, project stakeholders, the Township project steering committee (the Committee), Township staff, project consultants, and the Upper Providence Township Board of Supervisors. This document outlines the planning process and provides a vision for the future improvement of each park; with additional consideration given to the Parkhouse Tract, in Upper Providence.



Black Rock Park

Master Planning Process

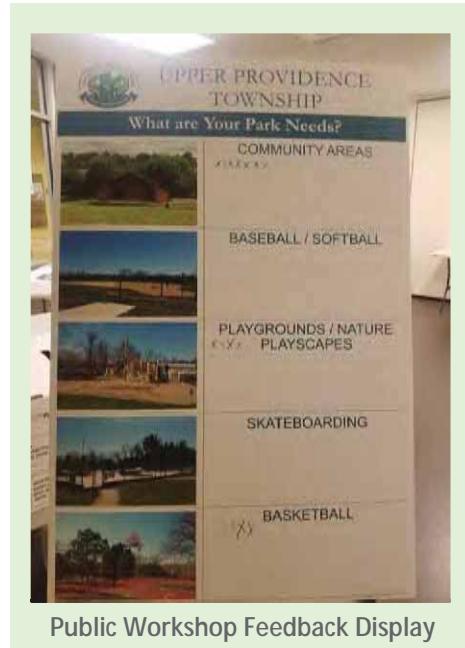
The master plan is an early step in the improvement process that develops a consensus for improvements and facilities to be included at each individual park within the Township. The master plan provides estimates of probable costs of development; and outlines a strategy for phasing improvements and for securing funding from a variety of potential sources. The master plan is a guidance document and is intended to be flexible enough to adapt to the future desires and needs of the community.

Following the completion of this master park plan, the next step toward implementation is to identify and acquire funding for improvements. Once funding is obtained, detailed design and engineering will commence to develop construction documents. Construction documents will be publicly bid and a contract awarded for construction. A master plan is typically implemented through a series of phases, dependent on funding, over a period of years.

Public Participation

Community input is a critical component of all successful master plans. The consultants worked with the Committee to tailor the public participation process to the project. It was important for the project team to hear citizens' observations, needs, and ideas for the Park, and to incorporate this input into the master plan.

The public participation process included two public workshops, one focus group meeting, five project steering committee meetings, nineteen key person interviews, and a public opinion survey. Meeting notes for each meeting can be found in appendix 2.A of this report.



Public Workshop Feedback Display

Public Workshops

The public workshops consisted of two outreach methods. The first public workshop was an input station that ran from August 24th through the 29th at the Upper Providence Township Recreation Center where local residents could meet with the project team to discuss park and recreation topics, as well as provide opinions through the Upper Providence Township Master Park Plan Update Public Survey.

The second public workshop was a public meeting held on November 17th. The meeting was hosted virtually with the concept plans available for review at the Recreation Center for an extended period of time (November 10th through the 24th). This was another opportunity for residents to ask questions and provide opinions on park and recreation issues within the Township.

Focus Group Meeting

The Taylor Farm Park Historic Preservation and Open Space Focus Group Meeting for the Upper Providence Township Master Park Plan was held at 12:30PM on Tuesday, October 20, 2020 via Township Zoom Conference Call. There were ten (10) individuals in attendance.

The focus of the meeting was to identify activities and provide guidance for the Township regarding what would best suit the barn and farmhouse structures at the Taylor Farm. Items discussed at the focus group meeting included the historic significance of the structures on the property and the potential options for future use of the site.

Steering Committee

The Steering Committee initially consisted of the members of the Park and Recreation Board. Additional members of the Steering Committee include Township staff and a representative from the Board of Supervisors. Meetings were held on May 20th, June 17th, July 15th, September 16th, and October 21st of 2020. The subcommittee was established to provide an opportunity for Township residents, property owners, elected officials and volunteer board members to voice their opinions and help develop a framework for this Plan.

Key Person Interviews

Approximately nineteen (19) key person interviews were conducted. These included representatives from neighboring municipalities, local conservancies, athletic leagues, emergency services providers, Ursinus College, Collegeville Economic Development Corporation, and Simplex Health.



Taylor Farm Park

**Upper Providence Township
Master Park Plan Update
Stakeholder Status**



| Stakeholder | Initial Contact | | Next Steps |
|--|-----------------|-----------|---|
| | Format | Date | |
| 1 Upper Providence Township | email | 6/29/2020 | Interview Completed 7/20/2020 |
| 2 Royersford Borough | email | 6/29/2020 | Interview Completed 7/7/2020 |
| 3 Limerick Township | email | 6/29/2020 | Interview Completed 7/13/2020 |
| 4 Perkiomen Township | email | 6/29/2020 | Coordinating date for Interview |
| 5 Trappe Borough | email | 6/29/2020 | Interview Completed 7/16/2020 |
| 6 Historic Trappe | email | 7/7/2020 | Interview Completed 7/20/2020 |
| 7 Collegeville Borough | email | 6/29/2020 | No Response |
| 8 Lower Providence Township | email | 6/29/2020 | Interview Completed 7/9/2020 |
| 9 Pottstown Area Regional Recreation (PARR) | email | 6/29/2020 | Unable to provide interview at this time. |
| 10 Schuylkill Highlands | call | 6/29/2020 | Interview Completed 7/9/2020 |
| 11 Perkiomen Creek Watershed Conservancy | email | 6/29/2020 | Interview Completed 7/10/2020 |
| 12 Phoenixville Borough | email | 6/29/2020 | Interview completed 7/9/2020 |
| 13 Schuylkill Township | email | 6/29/2020 | Interview Completed 7/8/2020 |
| 14 East Pikeland Township | email | 6/29/2020 | Interview Completed 7/8/2020 |
| 15 Spring City Borough | call/email | 6/29/2020 | Interview Completed 7/10/2020 |
| 16 Valley Forge National Historical Park | call | 6/29/2020 | No Response |
| 17 Schuylkill River Greenways NHA | email | 6/29/2020 | Interview Completed 7/8/2020 |
| 18 Upper Providence Little League | email | 6/29/2020 | Questionnaire Complete 9/14/2020 |
| 19 L.L. Bean | email | 6/29/2020 | Interview 50% Complete |
| 20 REI | email | 6/29/2020 | Unable to provide interview at this time. |
| 21 Ursinus College | email | 6/29/2020 | Interview Completed 7/16/2020 |
| 22 Collegeville Economic Development Corporation | email | 6/29/2020 | Interview Completed 7/10/2020 |
| 23 Upper Providence Chief of Fire and Emergency Services | email | 7/7/2020 | Interview Completed 7/24/2020 |
| 24 Simplex Health | email | 7/15/2020 | Interview Completed 7/22/2020 |



Public Opinion Survey

The Upper Providence Township Master Park Plan Update Public Survey was provided in both paper and electronic format, and was made available to residents at numerous times. The survey was available at all public workshops/meetings, it was provided to all interviewees, and it was made available online. The survey was tailored to gather information regarding park usage,

recreational activity preferences, and facility needs. Approximately 120 survey responses were received. Full results of the public opinion survey can be found in appendix 2.B.

Project Goals and Objectives

The following goals and objectives will guide the operations, improvements, and services in parks and recreation in Upper Providence over the next several years.

Goal 1: Great Parks and Enhanced Facilities

Enhance and expand existing parks and develop high quality facilities that serve as destinations for community recreation.

Gathering Spaces: Offer attractive and welcoming amenities that promote a sense of community and attract visitors.

Sports: Provide modern venues for team and individual sports.

Overall recreation: Focus on increasing the recreation potential of existing sites, adding strategic opportunities and recreation features that fill gaps in service, and enhancing neighborhood livability.

Goal 2: Improved Accessibility

Expand access to parks and facilities and increase connectivity between parks, nature, and the community.

Inclusion: Develop accessible and enticing park features in response to community desires.

Connectivity: Develop safe trails to encourage community connectivity, fitness, and recreation.

Support: Ensure availability of amenities that ensure equal access needed for extended enjoyment of parks.

Goal 3: Effective Engagement

Inspire and engage the community to grow parks, inform users, and promote Upper Providence Township.

Engagement: Engage the community to determine needs and identify barriers to park experiences.

Promotion: Raise awareness of parks and programs to increase participation and attract investment in the Township.

Collaboration: Foster partnerships to meet the current and future needs of parks, recreation, and culture.

Education: Create opportunities for interaction with the environment and develop an outdoor classroom program/experience.

The Action Plan, included as part of this Master Park Plan, makes recommendations to improve the Township's park system which support and implement these goals and objectives.



MacFarlan Park Playground



Port Providence Road Park



**SUPPORT
FOR THIS PLAN**



Support for this Plan

Input from residents, local recreation groups, neighboring municipalities, and regional recreation and conservation organizations shaped the underlying goals and resulting recommendations of the Upper Providence Township **Master Park Plan**. Upper Providence's multiple Township parks, County parks, and access to major regional waterway and trail corridors resulted in an extensive influx of input from within and beyond the Township's borders. This plan was one of several Township planning efforts that took place between 2019-2020, and benefitted from the joint public input gathered through the Comprehensive Plan, Active Transportation Plan, and the Township Complete Streets Policy. The priorities and needs of residents and the community were collected through the plan's steering committee, stakeholder interviews, a focus group, and several forms of public outreach including surveys and hybridized public workshops. These methods have culminated in the identification of relevant issues along with solutions in the form of realistic goals and objectives.

Public Participation

The Upper Providence Township Master Park Plan **Steering Committee** began with the Park Board, staff members, and supervisors, and evolved to include eight (8) members. In total, the committee met five (5) times throughout the plan preparation process and helped to shape the report goals, identify existing and upcoming planning and recreation efforts, and navigated the challenges of hybridizing public input collecting during the Coronavirus pandemic. Questionnaires allowed the committee to share information, while online meetings, park tours, and group email chains promoted continuous contact with the planning team. See appendices 2A-B for more information on the public participation process.

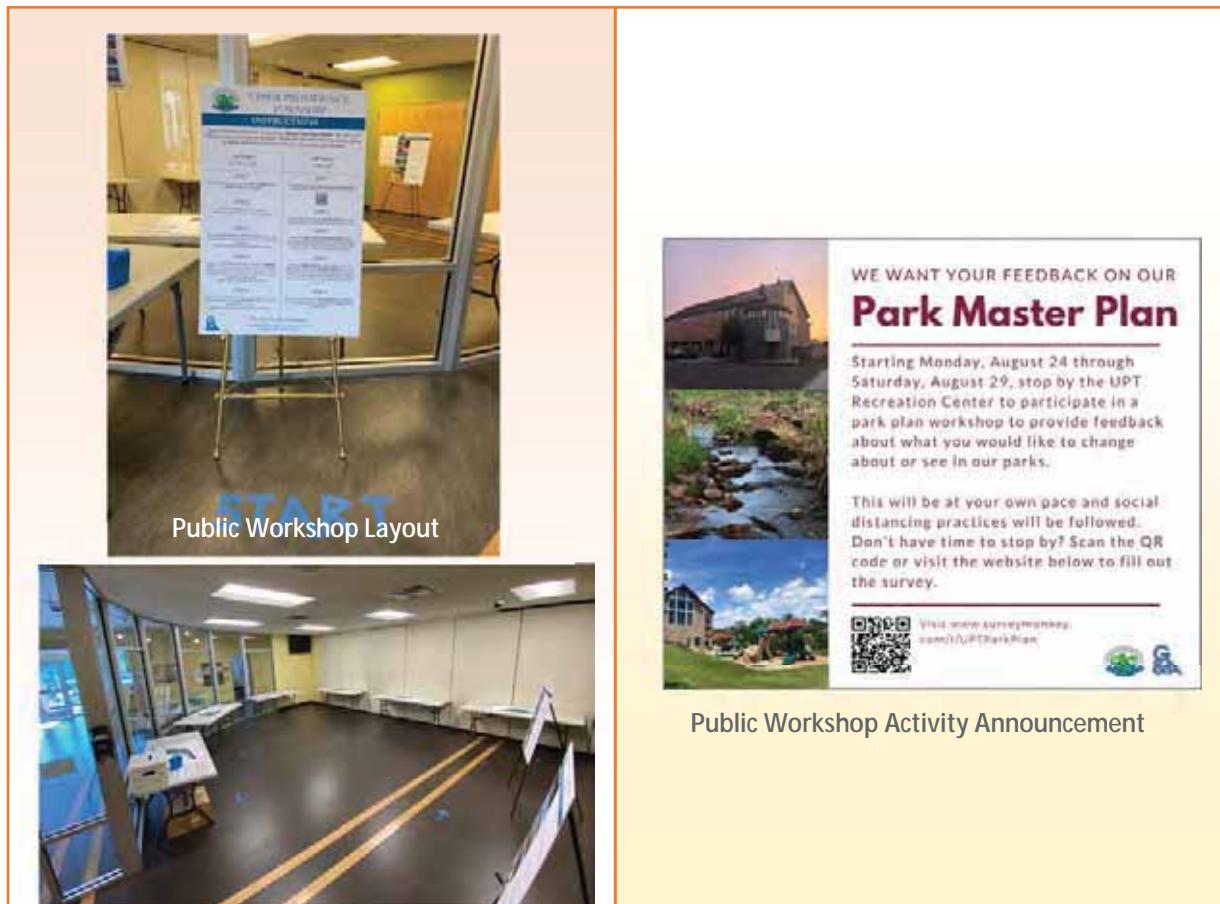
Master Park Plan Steering Committee

*Sailaja Adluru
Kathleen Drennan
Lynn Corrigan
Wendy Earle
Taylor Green
Susan Hoffman
Sarah Sato
Maria Jones-Sadler*

Public Workshops- two (2) public workshops were held for the plan, including a self-guided workshop at the Recreation Center in Anderson Farm Park and a public Zoom presentation and workshop.

- Self-Guided Workshop at the Recreation Center, Monday, August 24 – Saturday, August 29, 2020
- Zoom Presentation and Workshop: November 17, 2020

The workshops provided residents with an opportunity to share their thoughts on Upper Providence's existing facilities and to voice their future park needs. Public input was gathered through in person and online versions of a survey, interactive display boards, and mapping activities, with a socially distanced layout for in-person participants. The workshop activities were advertised on the Township's two (2) electronic signs, the website, Facebook page, and via an email blast to all account holders. The consultants encouraged residents to continue sharing their thoughts throughout the project.

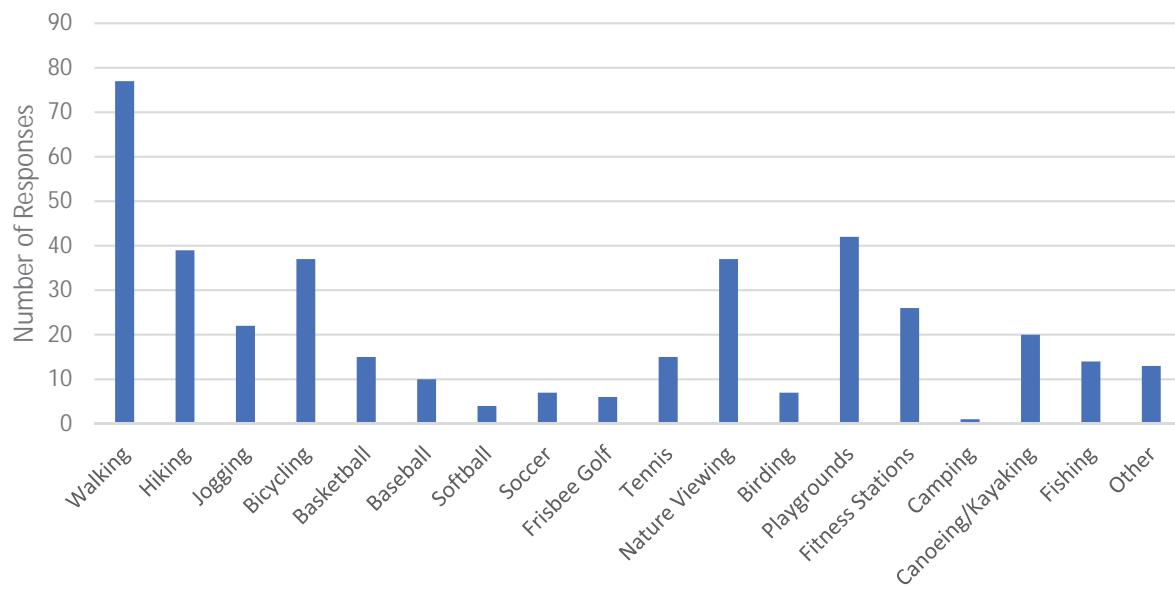


The image consists of two side-by-side photographs. The left photograph shows a room with a long table and a large informational poster on a stand. The poster has the text 'UPPER PROVIDENCE PARKS & RECREATION' and 'WE WANT YOUR FEEDBACK ON OUR PARK MASTER PLAN'. The text 'START Public Workshop Layout' is overlaid at the bottom. The right photograph is a digital graphic with a yellow background. It features a photo of a building and a stream, the text 'WE WANT YOUR FEEDBACK ON OUR Park Master Plan', and a QR code. The text 'Starting Monday, August 24 through Saturday, August 29, stop by the UPT Recreation Center to participate in a park plan workshop to provide feedback about what you would like to change about or see in our parks.' and 'This will be at your own pace and social distancing practices will be followed. Don't have time to stop by? Scan the QR code or visit the website below to fill out the survey.' is included.

Public Survey & Workshop Findings

Despite the challenges of social distancing, the public workshop at the Recreation Center in Anderson Farm Park brought in dozens of hard copy surveys, park need responses, and map comments. Additionally, advertisements raised awareness and helped bring in one hundred and eight (108) online survey and public workshop responses. The summation of the public input materials showed that 63% of respondents were "very satisfied" with the existing park and recreation facilities in Upper Providence and over 30% were "somewhat satisfied". Top activities enjoyed by residents and visitors include walking, playgrounds, hiking, bicycling and nature viewing.

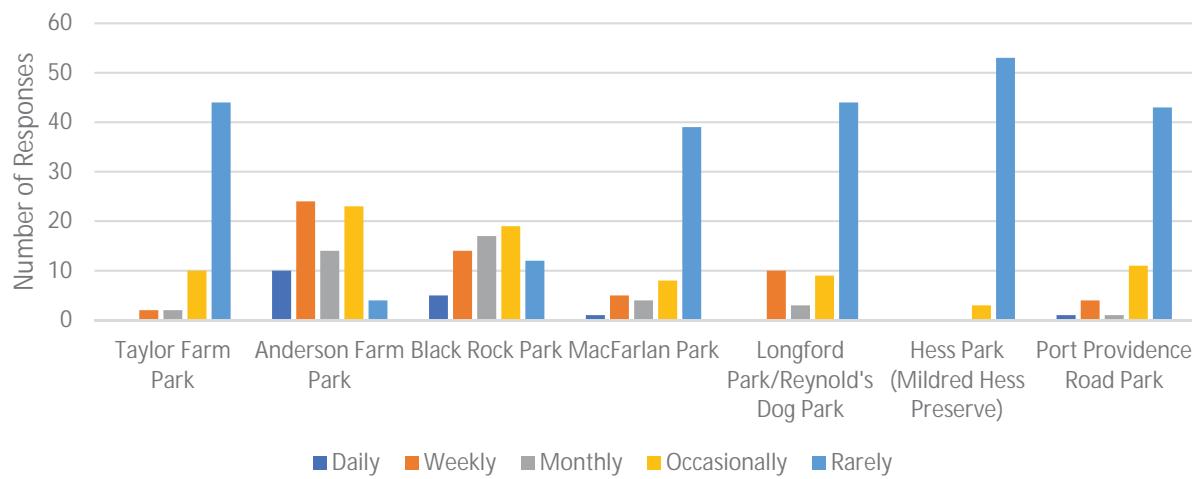
FIGURE 1. WHAT ACTIVITIES DO YOU CURRENTLY PREFER?



Over 89% of residents felt the parks were frequently well maintained. Similarly, when asked about safety, 83% said they "always" feel safe in the parks, with 9% feeling safe "sometimes", and 8% feeling safe "only during the day".

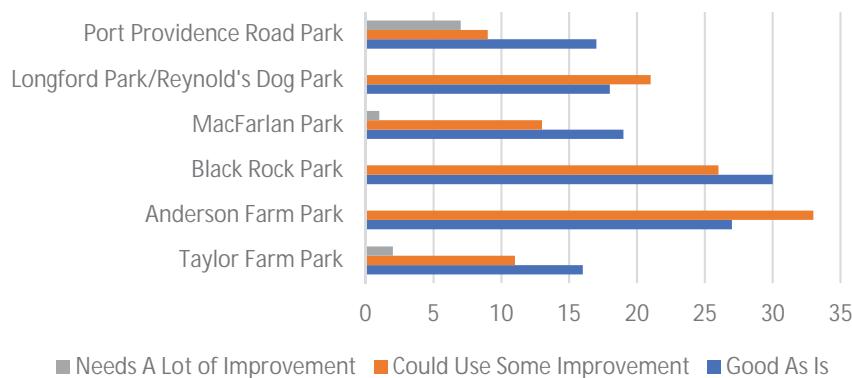
Findings showed that Anderson Farm Park and Black Rock Park were the most frequented parks on a daily and weekly basis. Hess Park and Longford Park/Reynold's Dog Park were ranked as the least visited. Over 50% of respondents rated the facilities at each park as being "good", followed by "excellent", with only a few "poor" facilities identified in each park.

FIGURE 2. HOW OFTEN DO YOU USE THE PARKS?



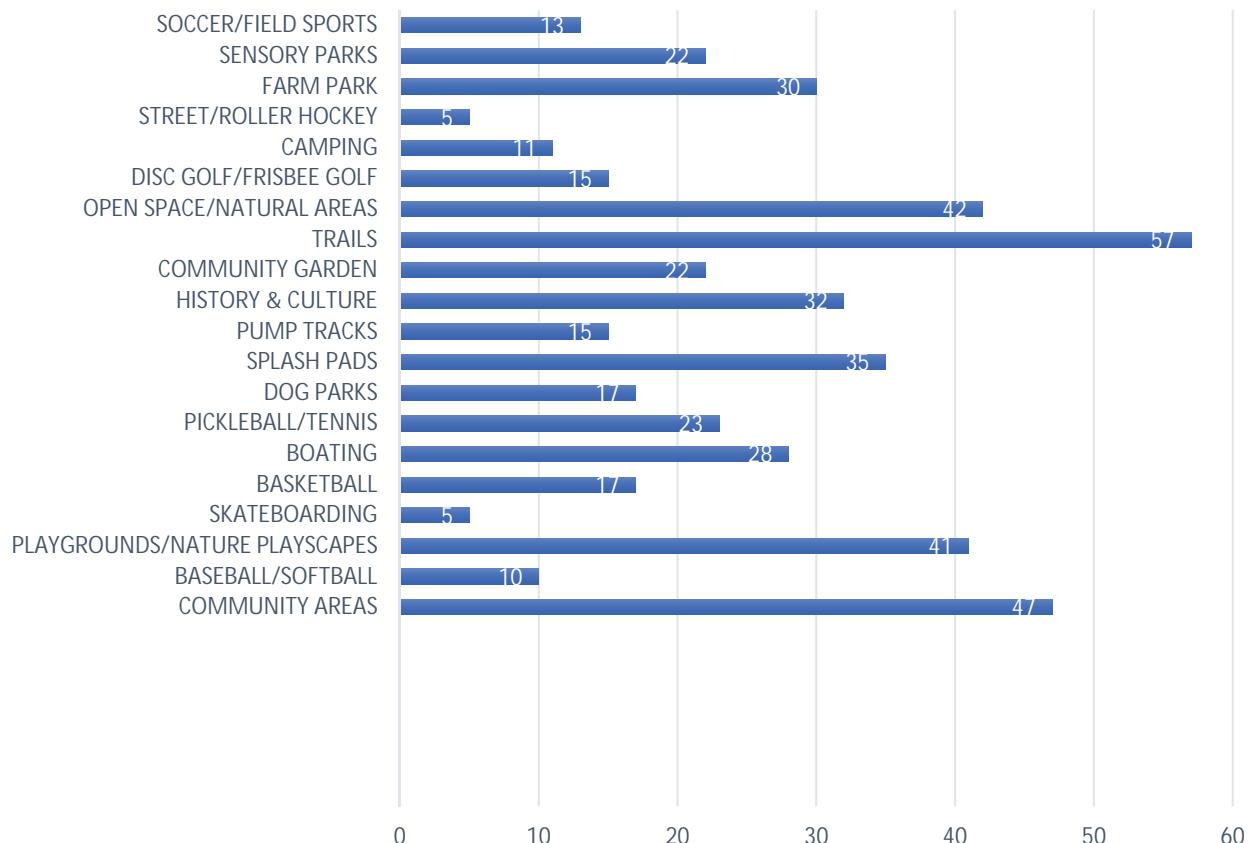
When asked to provide an overall rating for the six focus municipal parks during the mapping activity, residents responded that a majority of the parks are "good as is" or "could use some improvement". Longford Park/Reynold's Dog Park and Anderson Farm Park were identified as primarily "could use some improvement". Of all the focus parks, Port Providence Road Park was the park that received the most responses for "needs a lot of improvement."

FIGURE 3. HELP US RATE THESE PARKS



The Park Needs display revealed that trails, community areas, open space and playgrounds are the top park facilities needed within the Township.

FIG 4. WHAT ARE YOUR PARK NEEDS?



The most frequent comments from the public workshop and online surveys supported these findings and echoed a desire for trails, natural areas and wildlife habitat. Other comments expressed a need for more parking and additional amenities at Taylor Farm Park, including trails, restrooms, parking, pavilions and sport courts.

When asked if they would be a community advocate for the Township's parks, nearly 80% of respondents answered "No". This may indicate a need for enhanced promotion of Township parks as a community space in order to increase a sense of ownership and pride for residents. Please see the Public Input Appendices for more detailed Public Meeting and Online Survey responses.

Stakeholder Findings

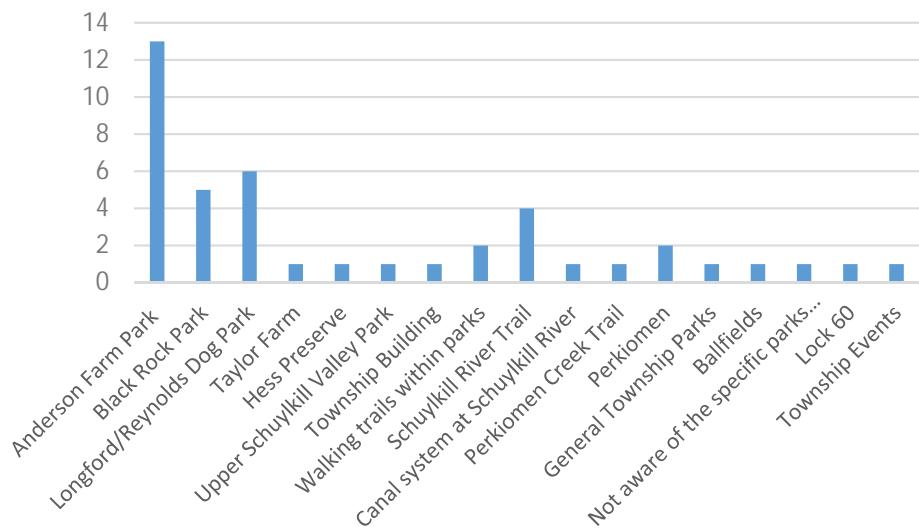
The Upper Providence Township Master Park Plan Steering Committee selected 24 Stakeholders with strong ties to the community and the region. Of those identified, 17 shared essential input regarding the condition of existing park and recreation facilities and opportunities and constraints via interviews and questionnaires. Stakeholders included staff members, park board members, neighboring municipalities, local and regional recreation groups, multiple Schuylkill River and Perkiomen Creek organizations, nearby educational institutions, and historical organizations. A list of the stakeholders and their interviews can be found in the Public Input appendices.

Top findings from these interviews revealed that over 70% of stakeholders were *Very Satisfied* with the existing park and recreation facilities available in Upper Providence. Of the Township's seven (7) parks, Anderson Farm Park was identified as the park they visit most, followed by Longford Park/Reynolds Dog Park and Black Rock Park. Beyond Township owned facilities, the Schuylkill River and Perkiomen Creek land and water trails were identified as important areas within the Township.

Figure 5. Which park and recreation facilities do you frequent most?

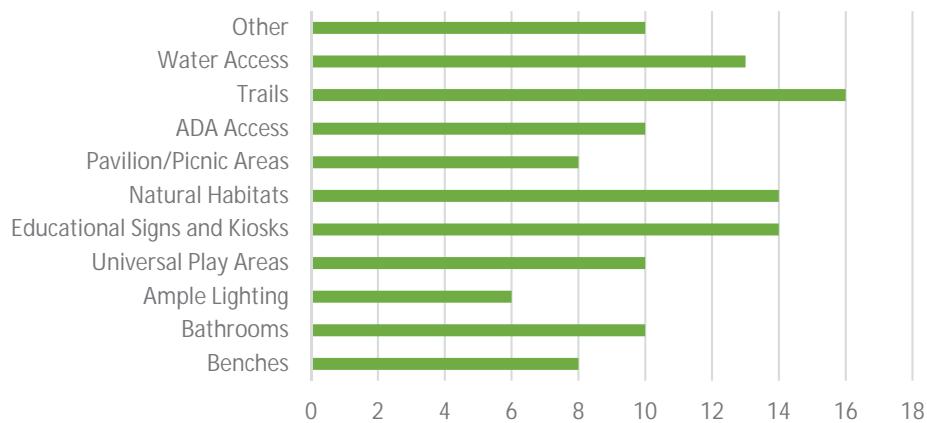


*Anderson Farm Park
Community Center*



Generally, the Stakeholders preferred walking, bicycling, hiking, canoeing/kayaking, nature viewing, and birding regionally. When discussing Upper Providence, Stakeholders identified trails, natural habitats, and educational signs and kiosks as top local needs. The stakeholder results also recognized the need for water access, ADA access, universal play areas and bathrooms. Top “other” needs included historical preservation, pump tracks, boat launches, programming for seniors and teens, and park mapping and wayfinding.

Figure 6. What kind of park, recreation and trail facilities does the Township need?



Top Opportunities

- Regional trail connections
- Partnerships
- Internal park trails
- Natural area and open space enhancements
- Implementing popular recreational trends
- Embracing the historical and agricultural history of the Township

Top Challenges

- Funding
- Staff limitations
- Long-term implementation
- Educating residents
- Gaining public support for certain improvement
- Public promotion for existing programs and facilities
- Managing effects of the COVID Pandemic
 - higher use
 - more trail users
 - The need for social distancing in parks

Overall, the Stakeholders shared an excitement for the Township. Multiple neighboring municipalities, recreational and environmental groups are looking forward to partnering with Upper Providence to provide project support, funding support, and to working towards achieving regional goals.

Focus Group Findings

A Focus Group meeting was held to examine the potential for historic preservation and open space at the Taylor Farm Park. This focus group meeting had ten (10) attendees. Over Zoom, the group discussed the historical significance and potential value of the existing house and barn located on the Taylor Farm Park property. During the meeting this focus group discussed potential uses for the barn and house, what repairs may be required, and next steps in assessing the structures.

Other Plans & Studies

In order to gain a full picture of Township and Regional planning efforts and goals to date, numerous plans, studies, and projects were reviewed. From these plan reviews the following themes and ideas emerged:

- Improving and adding to trail infrastructure for pedestrians and cyclist as an alternative transportation priority.
- Take advantage of existing and proposed County-wide (and beyond) trail connections by partnering with neighboring municipalities to develop and enhance trail networks.
- Preserving open space and environmentally sensitive areas with a broader goal of protecting and creating open space networks (greenways, trail systems, viewsheds, interconnected natural areas etc.).
- Design and plan parks and open space with the needs and desires of all ages and abilities in mind (In particular groups like seniors and teens who are not typically prioritized).
- Parks improvements should focus on both active and passive amenities.
- Gathering spaces, both indoor and outdoor, are a strong desire for the community.

The following studies and projects were reviewed:

Local

- ❖ Upper Providence Township Open Space and Environmental Resource Protection Plan (2006)
- ❖ Upper Providence Township Zoning Map (2008)
- ❖ Upper Providence Township Comprehensive Plan Update (2010)
- ❖ Upper Providence Township Sidewalk & Trails Map (2016)
- ❖ Upper Providence Township Park, Open Space, and Trail Master Plan (2017)
- ❖ Anderson Farm Masterplan (2008)
- ❖ Upper Providence Township Needs Analysis and Recommendation of Potential Library Services (2020)

County

- ❖ Montgomery County Open Space Plan (2005)
- ❖ Montco 2040 Comprehensive Plan (2015)
- ❖ Walk Montco (2016)
- ❖ Bike Montco (2018)

Regional

- ❖ DVRPC's Connections 2045 (2017)
- ❖ DVRPC's Pedestrian Bicycle Friendly Policies, Practices, and Ordinances (2011)
- ❖ DVRPC's Aging in Place-Municipal Implementation Tool #12 (2007)
- ❖ DVRPC's Age Friendly Communities-Municipal Implementation Tool #30 (2017)
- ❖ Perkiomen Trail Brochure & Map
- ❖ (Re)Turn to the River- Schuylkill River 2017-2026 Strategic Plan
- ❖ Schuylkill River Trail Brochure & Map

Neighboring Municipalities

- ❖ Central Perkiomen Valley Comprehensive Plan (2014)
- ❖ Lower Providence Township Comprehensive Plan (2000)
- ❖ Lower Providence Township Open Space Preservation Plan (2005)
- ❖ Collegeville Revitalization Plan (2010)
- ❖ Collegeville Borough Open Space Plan (2006)
- ❖ Perkiomen Township Open Space Plan (2006)
- ❖ Limerick Township Comprehensive Plan (2009)
- ❖ Limerick Township Open Space Plan (2006)
- ❖ Limerick Township Greenways Trail Plan (2013)
- ❖ Royersford Borough Comprehensive Plan (2017)
- ❖ Royersford Borough Open Space Plan (2005 Draft)
- ❖ Phoenixville Regional Comprehensive Plan (2019)

COMMUNITY BACKGROUND

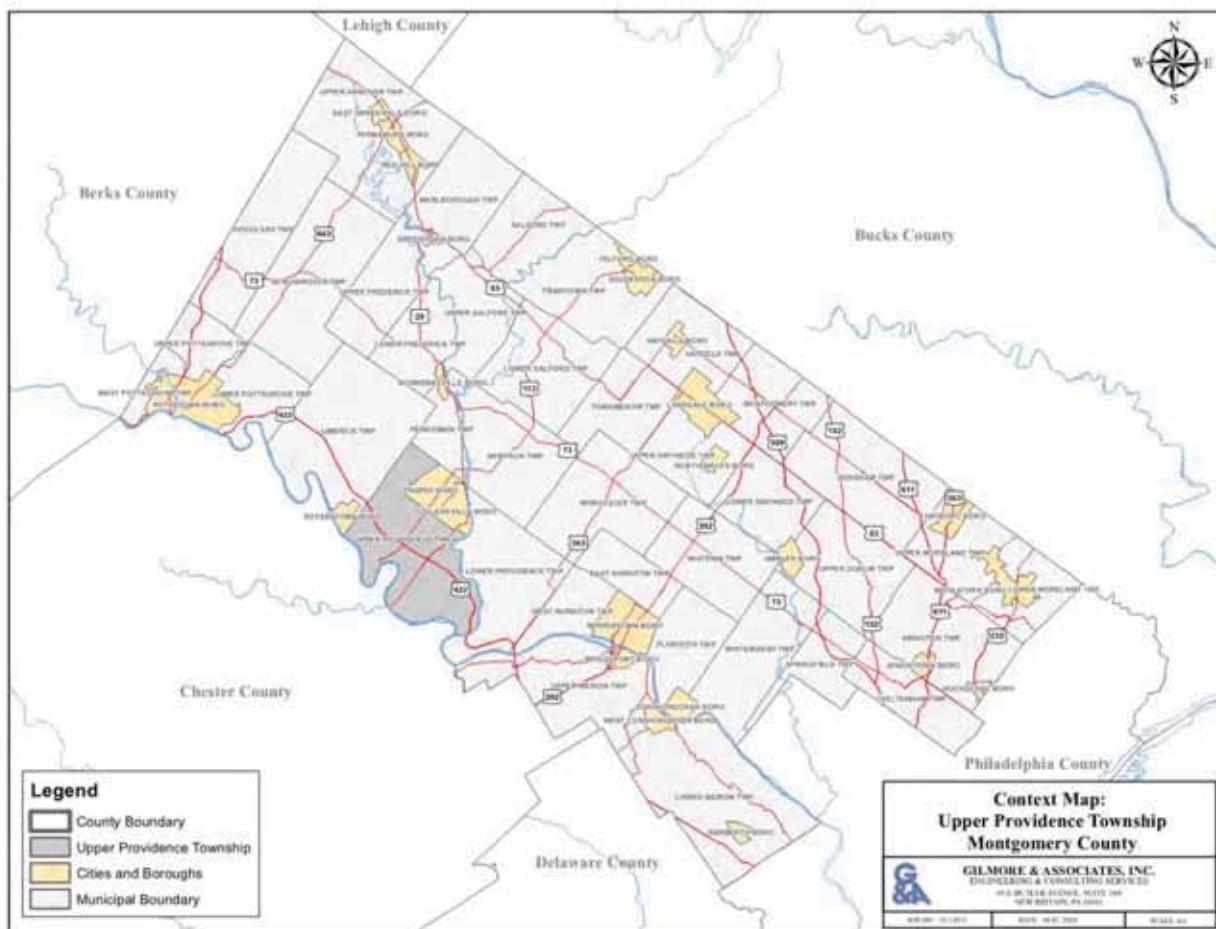


Community Background

Location

Upper Providence Township is located in Montgomery County at the confluence of the Perkiomen Creek and the Schuylkill River. The Township itself is approximately 17.8 square miles and is bordered to the northwest by Royersford Borough and Limerick Township; to the northeast by Perkiomen Township, Trappe Borough, and Collegeville Borough; to the southeast, separated by the Perkiomen Creek, is Lower Providence Township; and to the southwest, separated by the Schuylkill River, is Chester County.

Map 1. Context Map



History

Originally a major village for the Lenni Lenape Indians, the land that is now Upper Providence became part of William Penn's Manor of Gilberts in the mid 1600's. In 1725, Providence Township was formed, eighty years later it was divided into Upper and Lower Providence, and nearly a century after that the boroughs of Collegeville and Trappe were formed to create the communities we know today. Six unincorporated communities are located within the Township, including: Arcola, Mingo, Mont Clare, Oaks, Port Providence and Yerkes. Population growth in the area can be attributed to the construction of the Schuylkill Canal during the 1800's and by its replacement, the railroad, in the late 1800's. The canal still serves as a lasting recreational resource. Despite the changing times, the spirit of Upper Providence is much the same, with open spaces and the recreational resources of the Schuylkill and Perkiomen Creeks attracting visitors from miles around.

Demographic Trends

The socio-economic characteristics of a community have a direct effect on its parks and recreation services. Age, income, education, and family relationships are associated with recreation preferences. By looking at these characteristics, we can begin to forecast the demand that will be placed on parks and recreation facilities and services in the future. When examining the park opportunities within Upper Providence, it is important to understand changes to demographics can have lasting impacts on the municipality's ability to acquire and maintain parks and connections to the community.



Population

Approximately 23,589 people live within Upper Providence Township as of 2018, which has experienced continued population growth over the past sixty years. Population growth is only starting to plateau within the Township. Population growth in the Township spiked between 1990

and 2010 with a 75% increase. Growth between 2010 and 2018 has slowed to approximately 11%.

Figure 7: Population Trends in Upper Providence Township



Source: U.S. Census Bureau

The Delaware Valley Regional Planning Commission predicts the region will continue to grow, and add nearly 7,583 new residents to the Township by the year 2040.

Table 1. Population Projections, 2020-2040

| Community | U.S. Census | | Projected Population Change | | | Change 2010-2040 |
|----------------------|-------------|--------|-----------------------------|-------|-------|---------------------|
| | 2000 | 2010 | 2020 | 2030 | 2040 | |
| Upper Providence Twp | 15,398 | 21,219 | 3,403 | 5,732 | 7,583 | 36% |
| Lower Providence Twp | 22,390 | 25,436 | 1,243 | 2,228 | 3,012 | 12% |
| Collegeville Boro | 4,628 | 5,089 | 271 | 417 | 533 | 10% |
| Trappe Boro | 3,210 | 3,509 | 147 | 353 | 517 | 15% |
| Limerick Township | 13,534 | 18,074 | 1,780 | 3,896 | 5,579 | 31% |

Source: U.S. Census; Delaware Valley Regional Planning Commission 2045 Population Forecasts

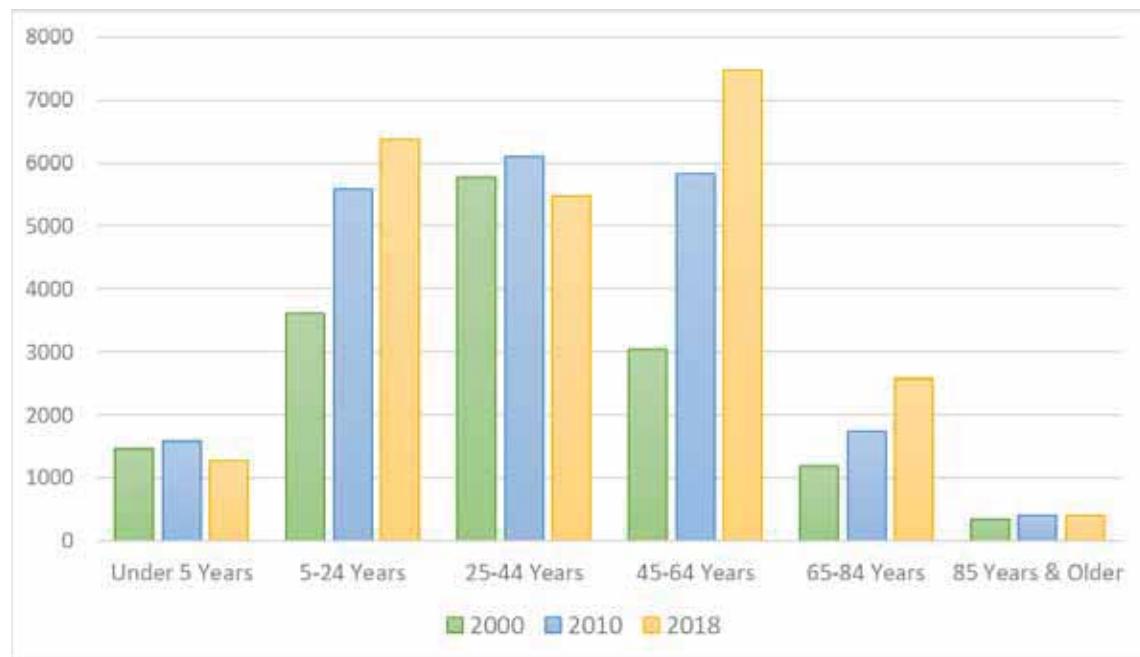
Age

Age groups in a community are an important component of the parks and recreation planning process. Interests, abilities, and activities change throughout a lifetime, and affect the

recreational and lifestyle needs of the community. It is important to look at the percentage of individuals in a major age grouping in order to know how to target services.

As shown in Figure 2, the Township is experiencing consistent growth in the following age categories: 5-24 years of age; 45-64 years of age; and 65-84 years of age. The greatest proportion of Township residents are aged 5-64 years. From this information we can speculate that the Township is composed largely of families with school-aged children and young adults.

Figure 8. Comparison of Age Cohorts in Upper Providence Township, 2000-2018

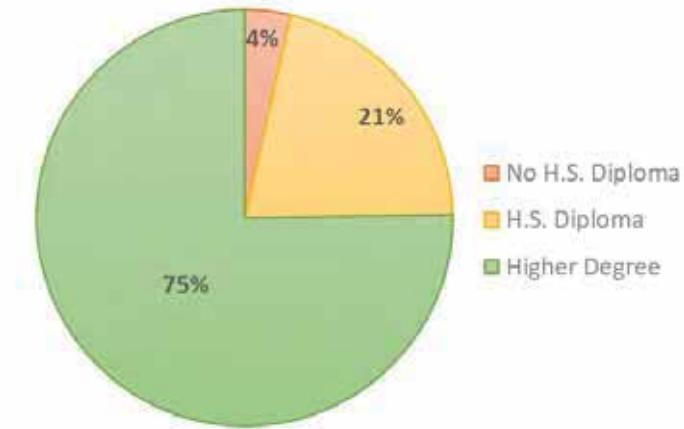


Source: U.S. Census Bureau, 2000 and 2010 Decennial Census, 5-Year ACS 2018

Education and Income

Upper Providence residents have relatively high levels of educational attainment. Census data shows that of those over 25 years of age, three quarters earned a degree higher than a High School Diploma. Of those with a higher degree, nearly 39% have a graduate or professional degree.

Figure 9. Educational Attainment (25 Yrs & Up)



Source: U.S. Census Bureau, 2018 5 Year ACS Estimates (2014-2018)

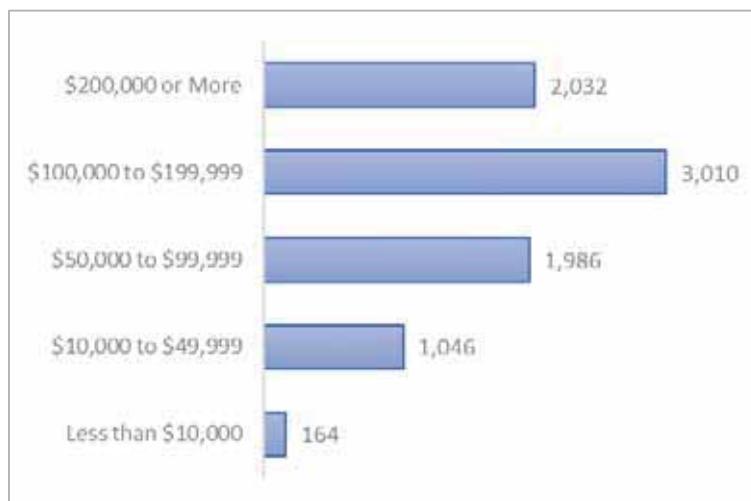
Table 2. Persons 25 Yrs and Up with Higher Degrees

| | |
|---------------------------------|-------|
| Associates & Starters | 3,364 |
| Bachelor's | 5,130 |
| Graduate or Professional Degree | 4,030 |

Source: U.S. Census Bureau, 2018 5 Year ACS Estimates (2014-2018)

According to U.S. Census estimates, the majority of Upper Providence households obtain annual earnings of \$100,000-\$199,999. The same estimates reveal that over half of the population over 16 years of age are employed in Management, Business, Science or Arts related occupations.

Figure 10. Annual Earnings per Households



Source: U.S. Census Bureau, 2018 5 Year ACS Estimates (2014-2018)

Table 3. Occupations of Employed Persons 16 Yrs and Up

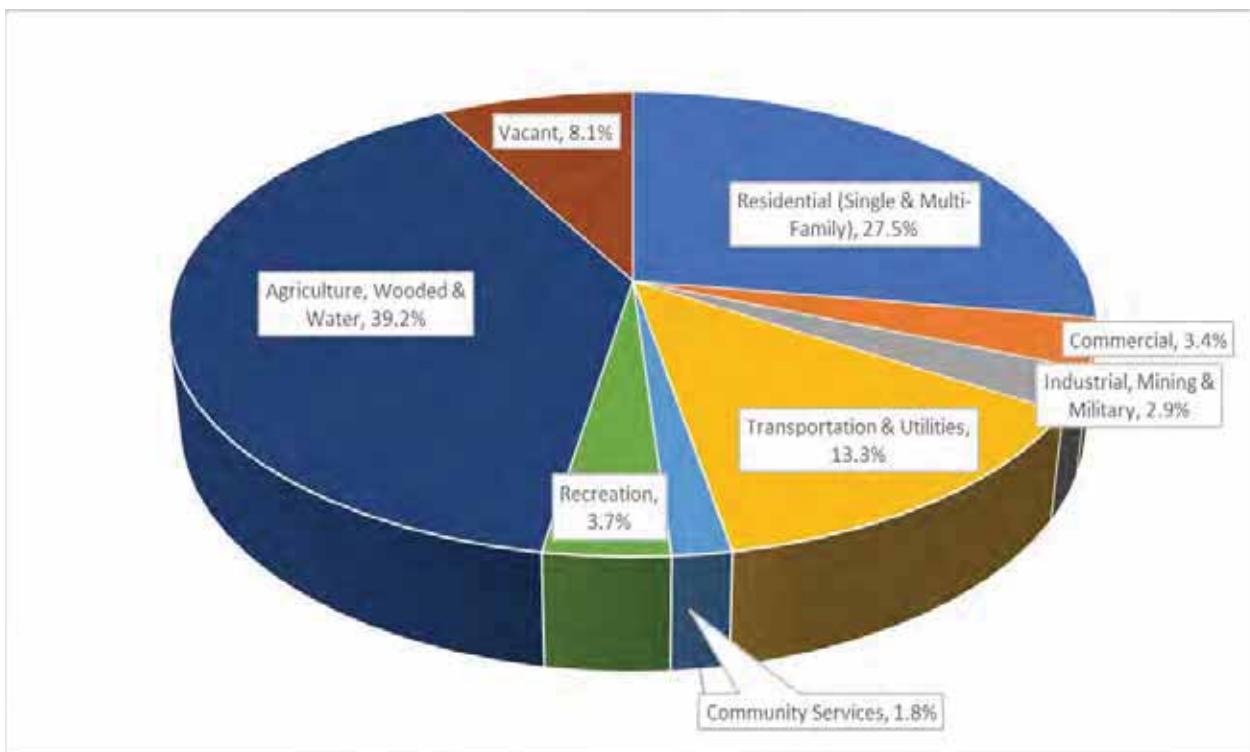
| | |
|---|-------|
| Management, Business, Science & Arts | 7,472 |
| Service | 1,270 |
| Sales & Office | 2,851 |
| Natural Resources, Construction & Maintenance | 655 |
| Production, Transportation & Material Moving | 754 |

Source: U.S. Census Bureau, 2018 5 Year ACS Estimates (2014-2018)

Land Use

A study of the land use categories of Upper Providence shows a majority of the Township lies within the Agriculture, Wooded & Water and Residential uses. This suggests there is a large percentage of land within the Agriculture, Wooded & Water category from which the Township could expand park and recreational areas and preserve the farming heritage of the region. The acreage within this category is the primary focus of developers and is now subject to review of submitted development plans.

Figure 11. Land Use 2010



Data compiled from the Delaware Valley Regional Planning Commission & United States Census Bureau

Upper Providence Township has seven (7) municipally owned parks and is home to three (3) County owned park and recreation areas. These spaces represent just 3.7% of the community's total land use.

Proposed Land Development

Upper Providence Township is undergoing multiple development projects across the municipality. As of the March 11, 2020 Upper Providence Township Planning Commission Meeting, there were thirty-one (31) separate development projects either proposed, pending, or approved within the Township.

Zoning Classifications

Within Pennsylvania, the Municipalities Planning Code gives municipalities the authority to plan and regulate their own land use through zoning, subdivision and land development (SALDO), and

official map ordinances. The Township of Upper Providence currently has 25 zoning districts that each regulate the development of all types of residential and non-residential land uses, existing and proposed. When it comes to parks and recreation, open space and conservation districts will be a priority for maintaining the appropriate recreational areas needed to provide adequate and accessible resources for residents.

Table 4. Zoning Districts of Upper Providence Township

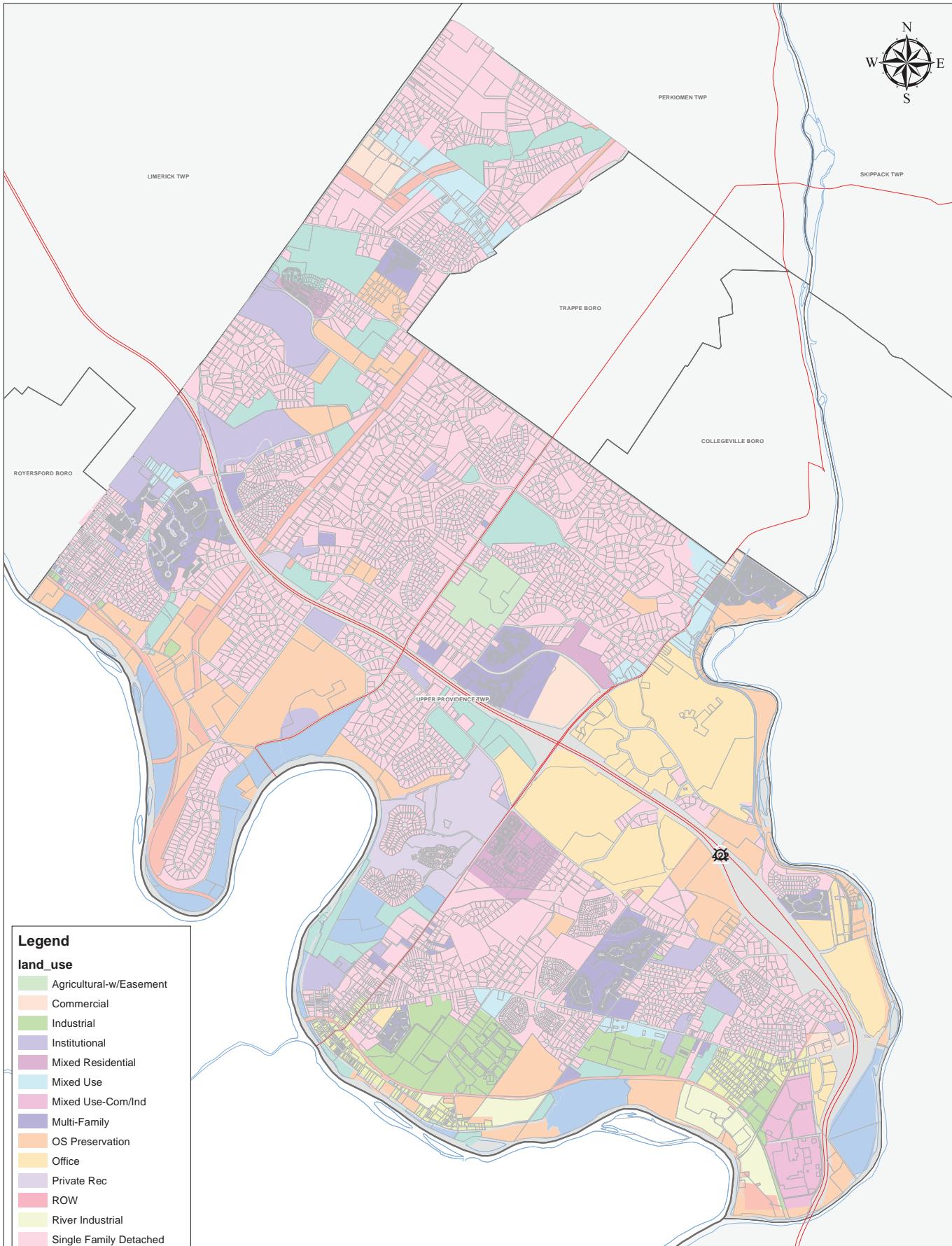
| Zoning District | | Zoning District | |
|-----------------|---|-----------------|---|
| FP | Floodplain Conservation District | NC | Neighborhood-Convenience Commercial District |
| R-1 | Residential-Agricultural District | CRSC | Community and Regional Shopping Center District |
| R-2 | Residential District | PBO | Professional and Business Office District |
| R-3 | Residential District | M-1 | Office and Limited Industrial District |
| R-4 | Residential District | IO | Interchange Office District |
| OSR | Open Space Residential Community District | IO-2 | Interchange Office Support District |
| OSR-2 | Open Space Residential Community - 2 | IO-3 | Interchange Office, Retail, Service and Recreation District |
| VP | Village Preservation District | M-2 | Manufacturing Industrial District |
| GCR | Golf Course Residential Community District | SS | Steep Slope Conservation District |
| ARR | Age-Restricted Residential Community District | OSC | Open Space Conservation District |
| CL | Cluster Development District | TDR | Transfer of Development Rights District |
| MH | Mobile Home Development District | VCO | Village Commercial and Office District |
| IN | Institutional District | | |

Source: Online Resources of Upper Providence Township

Analysis

Demographic changes and trends affect planning for recreation facilities, services, and programs. Open space, parks and recreational facilities are an important part of the Township's identity and forms an integral part of the community by providing residents with a place to interact and socialize. Continued maintenance and improvement of the Township's open space, parks, and recreational facilities is therefore necessary not only for the obvious health benefits, but also for continued community cohesion.

Noting demographic changes allows the Township to anticipate future conditions and plan accordingly. With a steadily increasing population, improvements to, and maintenance of facilities are needed to keep pace with use, to ensure safety, and to maximize efficiency and economy of resources.

**Legend**

| land_use |
|---------------------------|
| Agricultural-w/Easement |
| Commercial |
| Industrial |
| Institutional |
| Mixed Residential |
| Mixed Use |
| Mixed Use-Com/Ind |
| Multi-Family |
| OS Preservation |
| Office |
| Private Rec |
| ROW |
| River Industrial |
| Single Family Detached |
| Twp Open Space |
| Utility |
| Village Mix |
| other govt |
| zTBD |
| County Boundary |
| Municipal Boundary |
| Upper Providence Township |
| Municipal Boundary |

**Map 2. Land Use Map:
Upper Providence Township
Montgomery County**

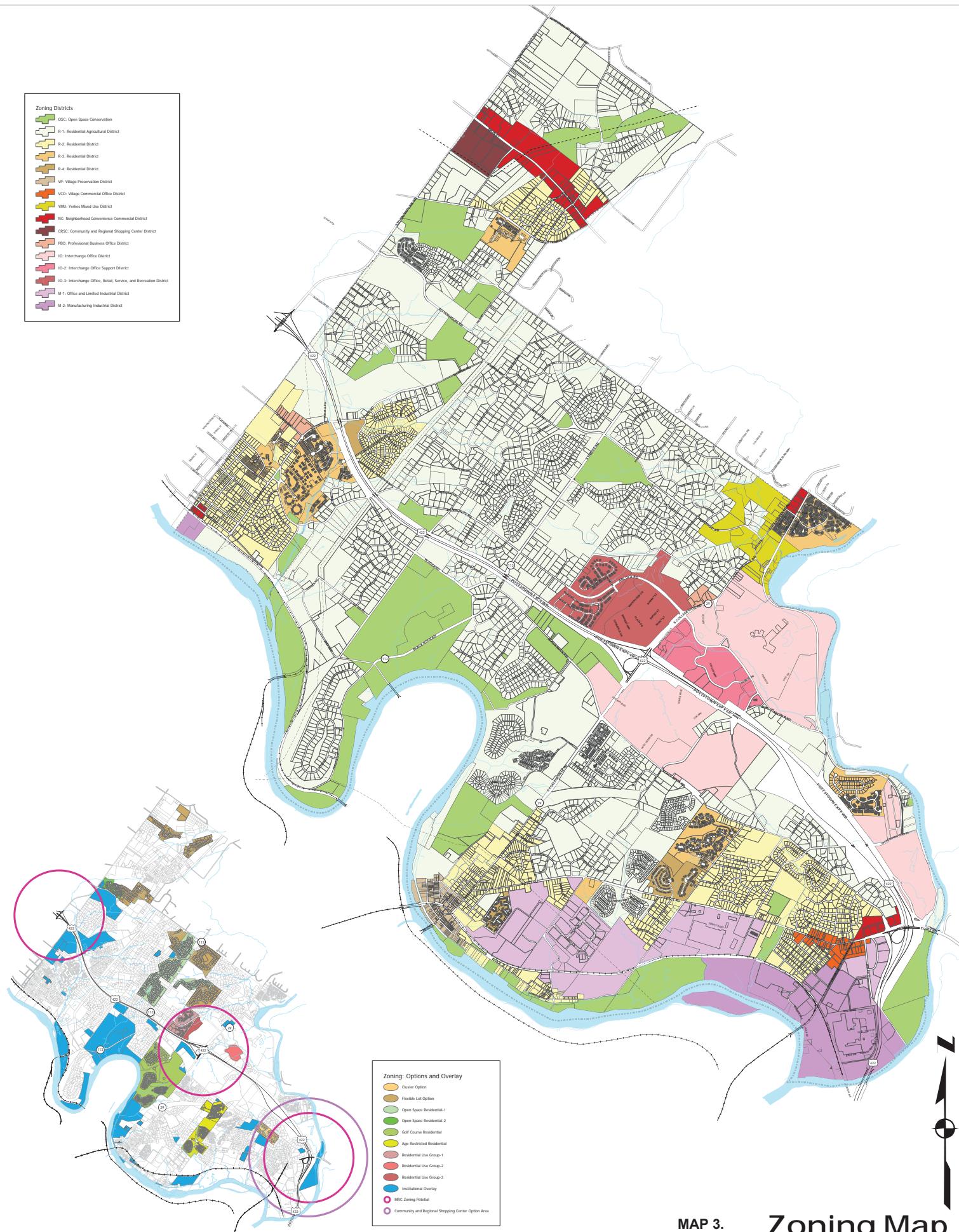
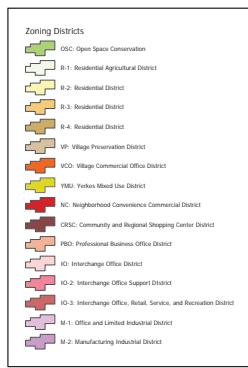


GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES
65 E BUTLER AVENUE, SUITE 100
NEW BRITAIN, PA 18901

JOB NO: 19-12015

DATE: MAY, 2020

SCALE: n/a



MAP 3.

Zoning Map

Notes:

Dated adopted: November 4, 2019
 This zoning map is current up to and including map amendments made by Ordinance #581 dated November 4, 2019. Changes to the Zoning District boundaries include those changes due to the adoption of the Yerkes Mixed Use District (YM). Other changes include updates to base parcels, street names, and other background information.

- Certain uses and development options permitted in the Zoning Ordinance may be applied to specific properties. Consult the Zoning Ordinance text and/or the Township Planning and Zoning Administrator to determine if any have been applied to a specific property.
- The Perkeson Trail is delineated on this map with a (---) and is merely representational. The Trail and associated amenities are under the jurisdiction of the Perkeson Trail Corporation.
- Map prepared by Grace Planning Associates and CartagoGeo, in consultation with Upper Providence Township Officials. Base map created from read G.P.S. data, USGS Digital Aerial Photography and Montgomery County tax maps of Upper Providence Township.

A scenic landscape featuring a large, white, two-story building with a prominent yellow roof and a balcony. The building is surrounded by lush green trees and a body of water in the background. The sky is clear and blue.

INVENTORY & ANALYSIS

Inventory & Analysis

Existing Conditions

The existing environmental and land use conditions within the Township reveal the community's potential opportunities and constraints for establishing and expanding parks and recreational areas, protecting open space and habitat, and connecting people and wildlife.

Geology, Topography, and Soils

Montgomery County is located within the Triassic Lowland and Piedmont Upland sections of the Piedmont Province with sedimentary, igneous, and metamorphic bedrocks beneath its soil surface. Upper Providence Township is divided geologically, from north to south, into the Brunswick Formation (Trb), the Lockatong (Trl), and the Stockton Formation (TrS) where the Perkiomen Creek and the Schuylkill River meet.

Brunswick Formation—the youngest of the sedimentary bedrocks in this area, this reddish-brown shale, mudstone and siltstone covers a majority of Upper Providence and contributes to rolling topography and broad, shallow valleys.

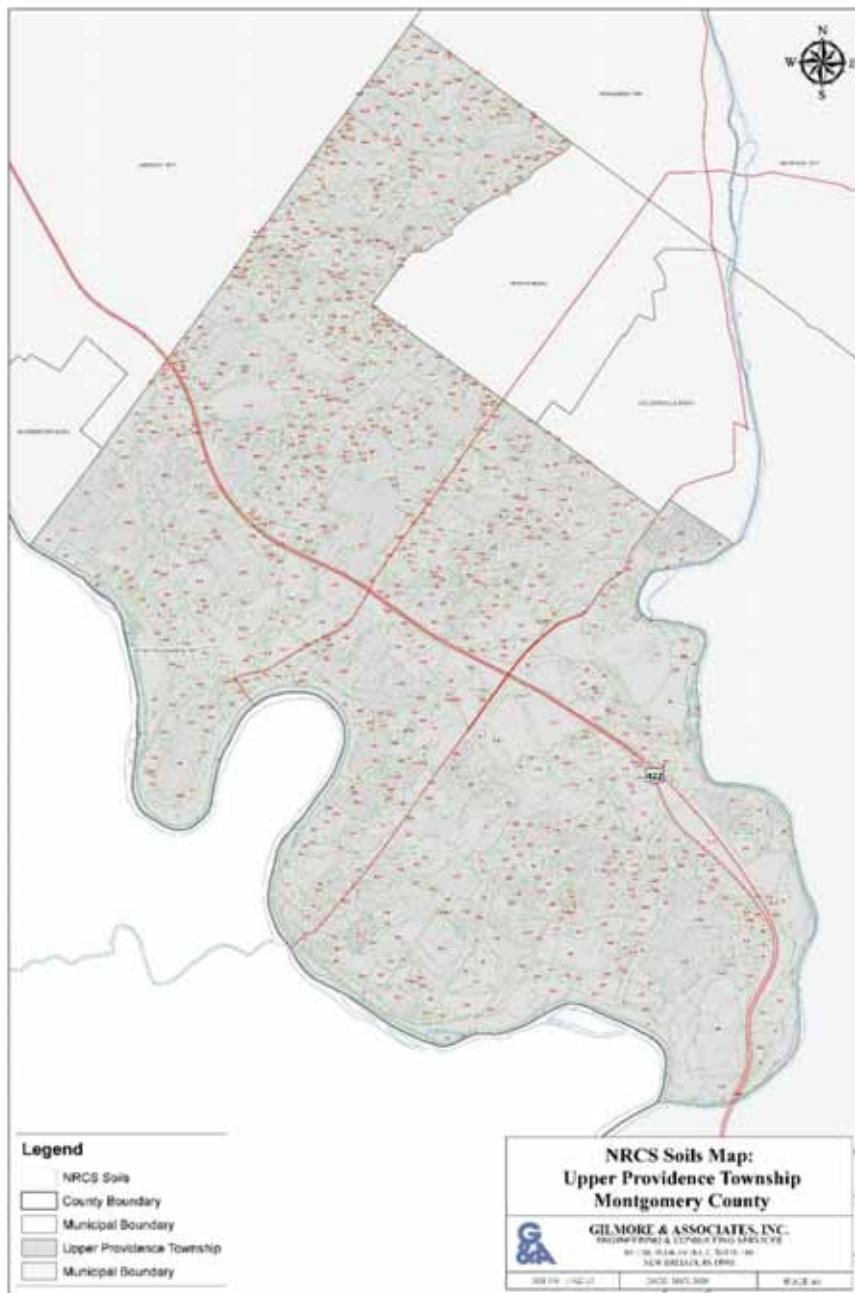
Lockatong Formation—located in the southern portions of the Township, between the Perkiomen Creek and Schuylkill River, this dark, thick-bedded argillite, or hard clay stone/siltstone contains occasional layers of shale, limestone and limy argillites. Its low susceptibility to weathering contributes to prominent ridges.

Stockton Formation—a very fine to coarse-grained arkosic sandstone and conglomerate with siltstone, mudstone, and shale interbeds.



Hess Preserve

A majority of Upper Providence Township is within areas of 0-8% slopes followed by steep slopes of 8-15% grade, with 15-25% steep slopes mainly located along the Perkiomen Creek and Schuylkill River. Steep slopes can increase rates of erosion and when disturbed can damage unique habitats and contribute to flood destruction. Slopes in Upper Providence that consist of shale bedrock can become unstable when weathered shales lead to clay rich soils. Clay rich soils



Township Soil Map

are associated with landslides and when overloaded, which may be caused by development or excavation, can result in slope failure.

Soil composition and structure determine the resilience, use, and productivity of land. Soils also help determine topography, habitat, hydrology, and rate of groundwater recharge. Within Upper Providence, the primary soil types are urban soils, which cover over 18% of the Township and consist of soils that have been developed in the last 20 years with a slope of 0-8%. Readington silt loam is the second most common type, covering over 10% of the Township. It is a Primary Agricultural Soil that is often found on concave and nearly level to sloping lower hillsides, upland flats, drainage ways, and stream heads. Readington Silt Loams often feature 3-8% slopes and are moderately well drained with slow permeability. A smaller portion of the Township contains soils that are considered to be of Statewide Importance, which require more diligent crop management. These soils include Penn silt loam, which covers over 6% of the Township and contains moderate slopes that erode easily when used for cropland.

Alluvial and hydric soils, which tend to flood and often host wetlands, are also present in the Township. Alluvial soils are deposited by water and frequently lie on a floodplain. Their composition and textures lack stability. Hydric soils are formed under periodically wet conditions and can support wetland vegetation. These soils are considered sensitive and development in these areas should be avoided.

Hydrology

Upper Providence Township contains two primary waterways: the Schuylkill River, which contributes to the Schuylkill River Watershed, and the Perkiomen Creek, which contributes to the Perkiomen Watershed. This area is also identified as the Middle Schuylkill River Conservation Landscape, which is characterized by the confluence of the Perkiomen Creek and the Schuylkill River, as identified in the Montgomery County Open Space Plan.



Perkiomen Creek—this waterway makes up the Township’s eastern border and extends three main tributaries into Upper Providence: Donny Brook, Doe Run, and Schoolhouse Run. The Perkiomen and all three of its tributaries in Upper Providence Township are designated as Warm Water Fishery and Stocked Trout Waters.

Schuylkill River— this major river forms Upper Providence’s southwestern border and separates the Township from Chester County. Three tributaries branch from the river into the Township: Mingo Creek, Tinney Run, and Crossmans Run. These waterways are designated as Warm Water Fishery and Migratory Fishery waters.

Floodplains extend along both major Township waterways and their tributaries, and provide important riparian buffer habitat. Wetlands are also present along the Perkiomen Creek and in the floodplain of the Schuylkill River.

Given the important waterways and corresponding floodplains and wetlands within the Township, consideration must be given to protecting and limiting development within and near these resources. However, they also provide an important opportunity for recreational and educational opportunities with parks and open space.



Schuylkill River

Groundwater is a crucial water source however; the replenishment process is very slow. Open space within parks and undeveloped land is essential for providing groundwater recharge areas. Similarly, vegetation helps to slow surface water flows and assists with infiltration to groundwater aquifers. On the other hand, developed and impervious surfaces prevent such infiltration and increase runoff and flooding hazards. The portion of the Stockton geological Formation located within the Township is an important groundwater resource. Therefore, consideration should be given to limiting development and increasing open space and passive park uses on the land underlain by this formation.

Woodlands

The environmental benefits of protected woodlands cannot be overstated. Woodlands prevent the erosion of soils and in result reduce non-point sources of pollution while providing areas for water to infiltrate into the groundwater system. They also provide wildlife habitat, buffers for waterways, recreational and educational opportunities, and scenic views. Woodlands in Upper Providence are primarily clustered along the Schuylkill River and the Perkiomen Creek, as



Hess Preserve

well as steeper slopes, and rocky regions. Woodlands on north-facing slopes often include pine, hemlock, beech and black walnut trees. Woodlands on south-facing slopes often consist of tulip poplar, ash and oak species. Most woodland areas within the Township are oak-hickory mixed hardwoods, while a smaller portion consists of mixed hardwood forests dominated by oaks. Consideration

should be given to limiting development and increasing open space and passive park uses to protect Township woodlands and take advantage of their recreational and educational benefits.

Invasive species are also a common occurrence and constant problem within Township woodlands. Common invasive species include, but are not limited to, Autumn olive (*Elaeagnus umbellata*), Morrow's honeysuckle (*Lonicera morrowii*), Oriental bittersweet (*Celastrus orbiculatus*), English ivy (*Hedera Helix*), and Japanese silt grass (*Microstegium vimineum*). Due to their aggressive nature and tendency to outcompete ecologically beneficial native species, invasive species control strategies should be considered for all Township woodlands that are located within current and future parks and open space.

Wildlife Habitat

The woodlands and waterways within the Township provide important wildlife habitat for various plant and animal species. Some improvements are already being made to protect and enhance habitat within the Township. In 2018, the community planned a fish ladder at the Black Rock Dam to further facilitate the upstream movement of migrating shad, which have been detected in the water after several years of absence.



Anderson Farm Meadow

The Montgomery County 2007 Natural Areas Inventory Update identifies three important natural areas within Upper Providence Township. All are within the Middle Schuylkill River Conservation Landscape which surrounds portions of the Schuylkill River and the Perkiomen Creek as well as the confluence of the two waterways within Upper and Lower Providence and Upper Merion Townships:

1. Mont Clare Cliffs & Ravines—located off of Black Rock Road, this site consists of steep slopes, outcrops, and wooded ravines along the Schuylkill River. Species at this site include 128 native plant species and 37 introduced, along with salamanders, frogs, toads, turtles, snakes, and several mammals typical of the area. It is partially managed by the Upper Schuylkill Valley County Park

2. Schuylkill Canal– located downstream from the Mont Clare site, this area is comprised of 32.2 acres of Township-owned and protected upland forest which is situated near the county owned Schuylkill Canal Park and Lock 60.
3. Andruss Island– owned by the Natural Lands Trust, this 26.9-acre island is located within the Township and was deeded to the trust in 1975 specifically as a natural area. It is almost entirely forested and is not actively managed at the present time.

Protection and enhancements for Township wildlife habitat should be a priority in park and open space management. In addition to hosting much needed space for many plant and animal species, these areas provide unique opportunities for wildlife viewing and environmental education, close to home.

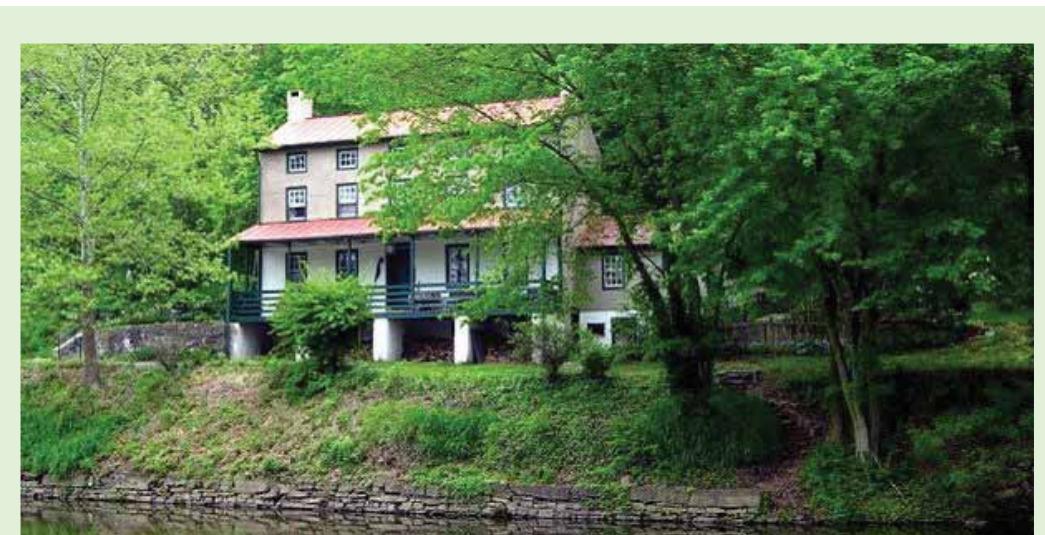
Farmland

Due to its characteristic flat and well-drained landscapes, Montgomery County farmland is under constant threat for development. Farmers often find that they make more money from selling their land than from farming (Chapter 5 Farm Preservation Montgomery County Open Space Plan 2005). As a result, farmland and farming in the county have decreased significantly over the past half century. This trend is reflected in Upper Providence Township. At the present time, The Township contains very little active farm or agricultural land. Significant efforts have been made, particularly through parks like Anderson Farm and Taylor farm parks to preserve historic farmland through parks and open space.

Historic and Cultural Resources

Over 498 historic properties were surveyed in the villages of Oaks, Mont Clare and Port Providence. These locations, along with the Schuylkill Canal Area, a National Historic Landmark, are important historical resources within Upper Providence Township. The preservation and reuse of these historic homes, farmhouses, barns and other structures will help to protect a piece of Upper Providence's history as a farming community, strategically bound by the Schuylkill River and Canal.

A community's historic resources play an important role in creating its unique 'sense of place'. The Schuylkill Canal Park site holds many pieces of historical interest, including a fully restored working lock on the Schuylkill Canal. Lock 60 was originally part of the Schuylkill Navigation system and is demonstrated for groups during special events. This lock was one of 72 originally built on the canal and was constructed in the 1820's as part of the Oakes Reach section. The site includes the original Locktender's house (exterior restoration) as well as canal information and memorabilia.



Locktender's House

Recognizing and working to preserve historic resources, whether through state and national designations or other means has been an ongoing priority for the Township. The ongoing efforts to study and preserve the barn at Taylor Farm is just one example of an ongoing commitment to save historic structures within parks and open space.

Current and Future Land Development

Upper Providence Township is undergoing several development projects across the municipality. As of the scheduled February 2021 Upper Providence Township Planning Commission Meeting, there were twenty-four (24) separate development projects either proposed, pending, or approved within the Township. With multiple new business buildings and residential units

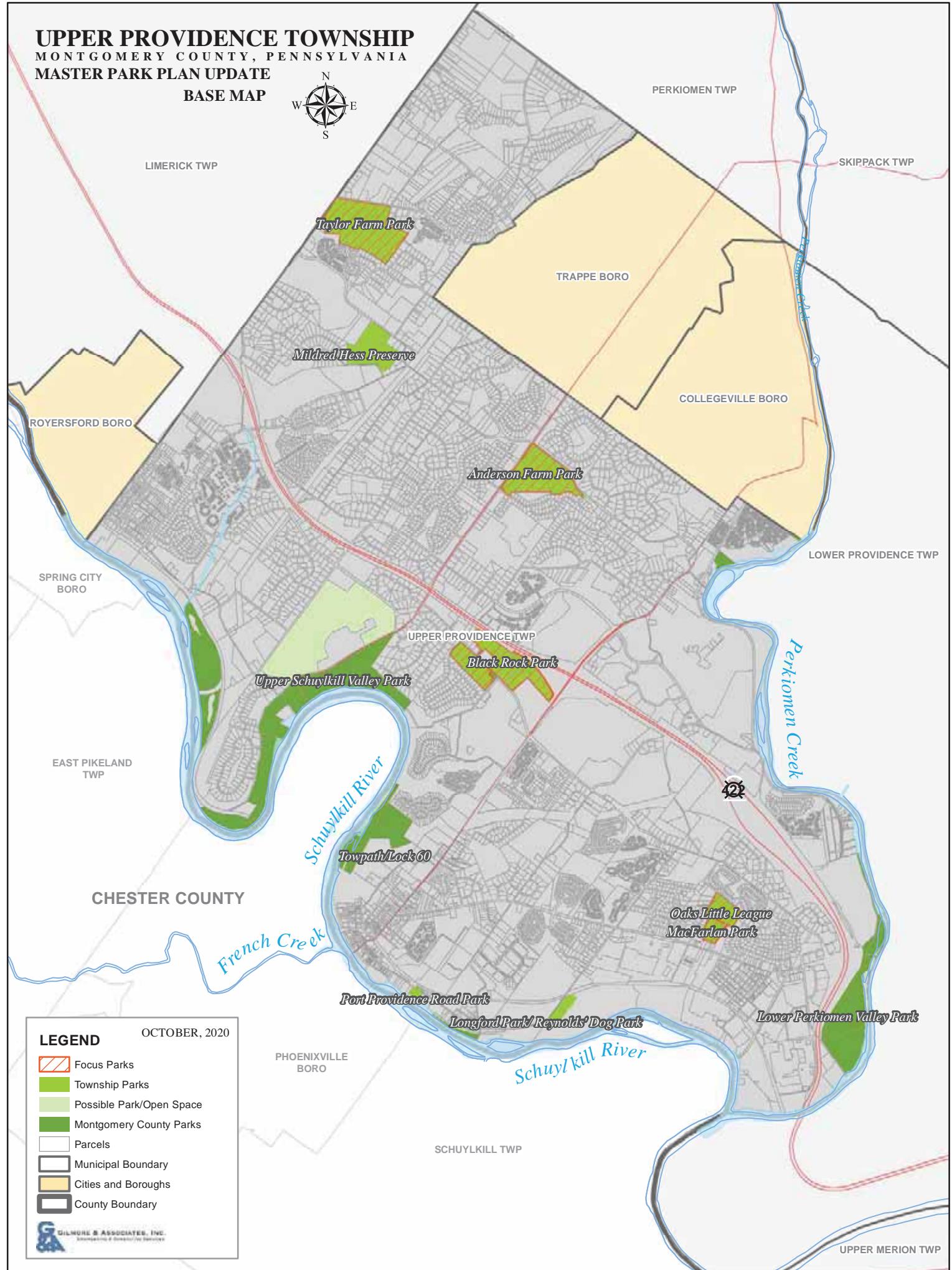
proposed, the Township will see an influx of new residents in the coming years. This will certainly place additional strain on the existing park and recreation facilities. These new residents and employees should be considered when planning the future of the Township Parks. In particular, consideration should be given to park accessibility for residents and users of new developments as well as the amount of available parks and open spaces. A list of the active, pending, and proposed land developments within the Township can be found in appendix 4.A.



MacFarlan Park - Adjacent Development

UPPER PROVIDENCE TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA
MASTER PARK PLAN UPDATE

BASE MAP



Existing Parks & Recreation Facilities

Public Parks and Recreation

The parkland resources available for public use in Upper Providence Township consists of seven (7) Township owned parks, three (3) County parks, and seven (7) school properties. These facilities provide a variety of active and passive recreation opportunities with access to natural resources including the Schuylkill River, Perkiomen Creek, woodlands and meadow habitats. While this report focuses on examining, analyzing, and developing recommendations for Township-owned parks, it's important to acknowledge the space and resources available to residents through county and school-owned parks and recreation areas.

Table 5. Public Parkland Resources Owned by Upper Providence Township

| Public Park | Location | Acreage | Type of Recreation |
|-----------------------------------|----------------------------|-------------|--------------------|
| Taylor Farm Park | 432 E Linfield Trappe Road | 77.5 acres | Currently Passive |
| Anderson Farm Park | 499 Hopwood Road | 60.49 acres | Active & Passive |
| Black Rock Park | 1286 Black Rock Road | 24.42 acres | Active & Passive |
| MacFarlan Park | 250 Greentree Road | 10.28 acres | Active & Passive |
| Longford Park/Reynold's Dog Park | 100 Longford Road | 5.62 acres | Passive |
| Hess Park (Mildred Hess Preserve) | 275 Rittenhouse Road | 42.65 acres | Passive |
| Port Providence Road Park | 300 Walnut Street | 3.91 acres | Active & Passive |

Table 6. Public Parkland Resources in Upper Providence Township

| Public Resource | Location | Acreage | Type of Recreation |
|---|----------------------|-------------|--------------------|
| Lower Perkiomen Valley Park | 101 New Mill Road | 107 Acres | Active & Passive |
| Upper Schuylkill Valley Park | 1615 Black Rock Road | 70.08 Acres | Passive |
| Lock 60 Schuylkill Valley Park | 400 Towpath Road | 1.55 Acres | Active & Passive |
| Saint Michaels Park | 400 Jacobs Street | 17.25 Acres | Passive |
| Upper Providence Elementary School | 833 South Lewis Road | 21.75 Acres | Active & Passive |
| Oaks Elementary School | 325 Oaks School Dr. | 25 Acres | Active & Passive |
| Pope John Paul II High School | 118 Rittenhouse Road | 77.97 Acres | Active & Passive |
| Spring-Ford Area High School 10-12 Grade Center | 350 S Lewis Road | 66.66 Acres | Active & Passive |
| Spring-Ford Middle School 8th Grade Center and Senior High School 9th Grade Center | 400 South Lewis Road | 41 Acres | Active & Passive |
| Spring-Ford Intermediate School 5th/6th Grade Center and Middle School 7th Grade Center | 833 South Lewis Road | 79.65 Acres | Active & Passive |

Upper Providence residents are fortunate to have access to a robust system of local and regional trails. Two major regional pedestrian and water trails run through the Township and provide connections to neighboring municipalities. Five (5) Township and County-owned parks also feature internal trails which can be used for walking or running. Two (2) separate trails provide

links within the Township between parks and the Schuylkill River. Finally, roughly 19 trail links provide neighborhood connections within the Township.

Table 7. Existing Trails for Public Use in Upper Providence Township

| Trail Name | Location | Length | Type of Recreation |
|--|--|--|------------------------------|
| Schuylkill River Trail | Along the Schuylkill River | 71.7 miles (total) ± 9 miles (in UPT) | Multi-Use |
| Perkiomen Trail | Along the Perkiomen Creek | 19 miles | Multi-Use |
| Black Rock Park Trail | 1286 Black Rock Road | ± 2 Miles | Passive-Walking/Running Only |
| Anderson Farm Park Trail | 499 Hopwood Road | ± 1.5 miles | Passive-Walking/Running Only |
| MacFarlan Park Trail | 250 Greentree Road | ± .3 miles | Passive-Walking/Running Only |
| Longford Park/Reynolds' Dog Park Trail | 100 Longford Road | ± .15 miles | Passive-Walking/Running Only |
| Upper Schuylkill River Trail | 1615 Black Rock Road | 7.4 miles | Multi-Use |
| Lower Perkiomen Valley Park | 101 New Mill Road | .62 miles -.85 miles of the Perkiomen Trail | Multi-Use |
| Township Trail | Montgomery Avenue to Schuylkill River | 0.34 miles | Multi-Use |
| Neighborhood Trails | Approximately 19 Links throughout the Township | ± 10 miles | Multi-Use |

Private Parks and Recreation and Open Space

Private park and open space areas within the Township are owned by members-only clubs as well as homeowners' and commercial development associations. These areas are generally considered to be restricted to the public. However, it is possible to make arrangements with private owners, to allow access for local athletic groups and trail easements.

Table 8. Private Parkland Resources in Upper Providence Township

| Private | Location | Acreage | Type of Recreation |
|-----------------------------------|---------------------|--------------|--------------------|
| Rivercrest Golf Club and Preserve | 100 Golf Club Drive | 96.48 Acres | Active |
| Nine Oaks Swim and Tennis Club | 777 Mennonite Road | 8.95 Acres | Active/Passive |
| All Sports Center | 1511 W. Main Street | 49,441 SF | Active |
| Private HOA's | Township-wide | 676.87 Acres | Active/Passive |

Public and Private Recreational Facilities

Upper Providence Township's municipal parks provide residents with numerous active and passive recreation facilities including open spaces, playing fields, and community gathering areas. Recreation facilities and usage are managed by the Township's Park and Recreation Department. Additional support for the management of the Township Recreation Center is provided by Simplex Health.

Table 9. Recreation Facilities Owned by Upper Providence Township

| Public Park | Facilities & Amenities | |
|-----------------------------------|---|---|
| Taylor Farm Park | Parking Area Farmland | Farmhouse Natural Areas |
| Anderson Farm Park | Natural Meadow Walking Trail Playground Soccer fields(2) Raingarden Parking Areas Basketball Courts Educational Signage All Purpose Field Skate Park Baseball Fields Walking Trail Basketball Courts Tennis Courts | Recreation Center Interpretation Areas Outdoor Hockey Rink Softball Fields (2) Picnic Pavilion Amphitheater Restrooms Playgrounds(2) Nature Viewing Picnic Pavilion Grills/horseshoe box Parking Area Restrooms |
| Black Rock Park | Playground Pavilion Baseball/Softball Fields | Parking Area Restrooms Walking Trail |
| MacFarlan Park | Small Gated Dog Run Medium Gated Dog Run Large Gated Dog Run | Trail Access Parking Area Restrooms & Benches |
| Longford Park/Reynold's Dog Park | Open Space Picnic Areas Pull-Off Parking | Access Road Nearby Trail |
| Hess Park (Mildred Hess Preserve) | | |
| Port Providence Road Park | | |

The recreation facilities available in County parks provide a significant benefit for residents and the Township alike. These facilities provide trail access and recreation amenities close to home that do not require Township management or maintenance. School recreational facilities within the Township include open space and multi-use fields, ball fields, and playground equipment. Unfortunately, these facilities are not always open to the public, nor are they consistently universal in their design. However, their availability does help satisfy some of the recreation needs of the township.

Table 10. Recreation Facilities In Upper Providence Township

| Public Park | Facilities & Amenities | |
|---|---|---|
| Lower Perkiomen Valley Park | Pavilions Picnic Areas & Grills Playground Basketball Court Volleyball Nets Sports Fields Tether Ball & Horseshoe Pit | Fitness Stations Creek Access Parking Areas Restrooms Walking Trails Major Trail Hub |
| Upper Schuylkill Valley Park | Wildlife Center Fishing Pier Open Fields Picnic Areas | Butterfly Garden/ Turtle Pond Parking Areas Walking Trails Major Trail Hub |
| Lock 60 at the Schuylkill Canal Park | Historic Lock 60 Locktenders House Boat Launch Picnic Areas Wildflower Walk | Birding Paths Parking Areas Water Trails Major Trail Hub |
| Saint Michaels Park | Pavilion Restroom Open Fields | Boat Launch Walking Trail Access Parking Areas |
| Upper Providence Elementary School | Playgrounds Multi-Use Fields | Community Garden Neighborhood Walking Trail Link |
| Oaks Elementary School | Playgrounds Baseball/Softball | Soccer Fields Multi-Use Fields |
| Pope John Paul II High School | Football Field Track Soccer Fields Multi-Use Fields | Baseball/Softball Tennis Courts Neighborhood Walking Trail Link |
| Spring-Ford Area High School 10-12 Grade Center | Tennis Courts Baseball/Softball Multi-Use Fields | Soccer Fields Walking Trails |
| Spring-Ford Middle School 8th Grade Center and Senior High School 9th Grade Center | Football Field Track | Tennis Courts Baseball/Softball |
| Spring-Ford Intermediate School 5th/6th Grade Center and Middle School 7th Grade Center | Playgrounds Football Field Track | Baseball/Softball Multi-Use Fields |

Private recreational facilities within Upper Providence are mainly comprised of members-only club facilities and HOA-controlled parkland and open space. Similar to school-owned recreation resources, these facilities do satisfy recreational needs for some residents. However, they are not universally designed, or consistently available to all Township Residents.

Table 11. Private Recreation in Upper Providence Township

| Private | Facilities & Amenities | |
|-----------------------------------|--|--|
| Rivercrest Golf Club and Preserve | 18 Hole Golf Course Pool | Fitness Center Wellness Programs |
| Nine Oaks Swim and Tennis Club | Pool | Tennis Courts (3) |
| All Sports Center | Multi-Purpose Outdoor Field (1) <i>Soccer</i> <i>Lacrosse</i> <i>Batting Tunnel</i> | Indoor Turf Fields (2) <i>Field Hockey</i> <i>Baseball/Softball</i> <i>Community Events</i> |
| Private HOA's | Open Space Playgrounds | Walking Trails Tennis/Pool Facilities |

Regional Parks and Open Space

Upper Providence residents are fortunate to have access to such a robust park system, both within and surrounding the Township. Valley Forge National Historical Park, located just South of the Township, is perhaps the largest and most regionally significant neighboring park. Featuring numerous historical sites, trails, and access to the Schuylkill River, the park is a wealth of historical, educational and recreational opportunities. The park is also connected to the Township via the Schuylkill and Perkiomen Trails. Evansburg State Park is another regional destination park, featuring historic structures and sites, trails for pedestrians and equestrians, as well as picnic facilities. Black Rock Sanctuary, managed and owned by Chester County, is located directly across the Schuylkill River from the Township in Phoenixville, and features an interpretive nature trail and numerous natural features including wetlands, meadows, vistas, and a lake.

There are numerous active neighborhood and community-scale parks located in the municipalities surrounding the Township. In Phoenixville, residents can take advantage of Veterans Park, Friendship Field, Joe Rowan Park, Brown Street Neighborhood Park, Reeves Park, Virginia Avenue Park, and Manavon Street Park for playgrounds and athletic facilities. Linfield Sports Park, Victory Park in Royersford, Limerick Community Park, Hilltop Farm Soccer Complex, Collegeville Community Park, Evansburg Point Park, and Eagleville park also feature athletic fields, tennis, basketball, playgrounds, trails, and gathering spaces and more.

In addition to the large regionally-significant parks and preserves mentioned above, the Township's neighboring municipalities offer several passive park options. Hoy Park, Central Perkiomen Park, Central Perkiomen Valley Park, Sanatoga County Preserve, Linfield Preserve, State Game Lands Number 234, French Creek Heritage Park, and Schuylkill Township Park are all within a short drive of the Township. These parks offer trails, opportunities for wildlife viewing, and often creek or river access within passive natural environments.

While not fully public, neighboring municipalities also host several school and college campuses which have athletic facilities and gathering spaces that are sometimes available for public use. Perkiomen Valley School Complex, Ursinus College, and Spring City Elementary School are just a few examples of nearby school and campus recreation facilities.

The Spring Valley YMCA, located just over the border in Limerick Township, also deserves a mention for its services to Township residents. While these facilities utilize a membership structure, they do offer an outdoor pool, playground complex, sand volleyball court, and an indoor gym, pool, track, recreation facilities, and programming for those who chose to become members.

This examination of regional park and recreation facilities helps to contextualize Upper Providence's parks and facilities. In the Township park inventory and analysis that follows, it will help to clarify where Township parks are excelling and offering unique opportunities. It will also highlight where there are redundancies and areas for growth in future park recommendations.

Inventory & Analysis of Township Focus Parks

From the seven (7) Township-owned parks and open spaces, this report will focus on the six (6) parks that have been improved for recreational uses, or have proposed plans for future improvements. Anderson Farm Park, Black Rock Park, Longford/Reynold's Dog Park, MacFarlan Park, Port Providence Road Park, and Taylor Farm Park have all been designated as focus parks for this master planning process. All focus parks were visited and their existing features and amenities were inventoried and analyzed to determine what opportunities and constraints exist for each park.

ANDERSON FARM PARK

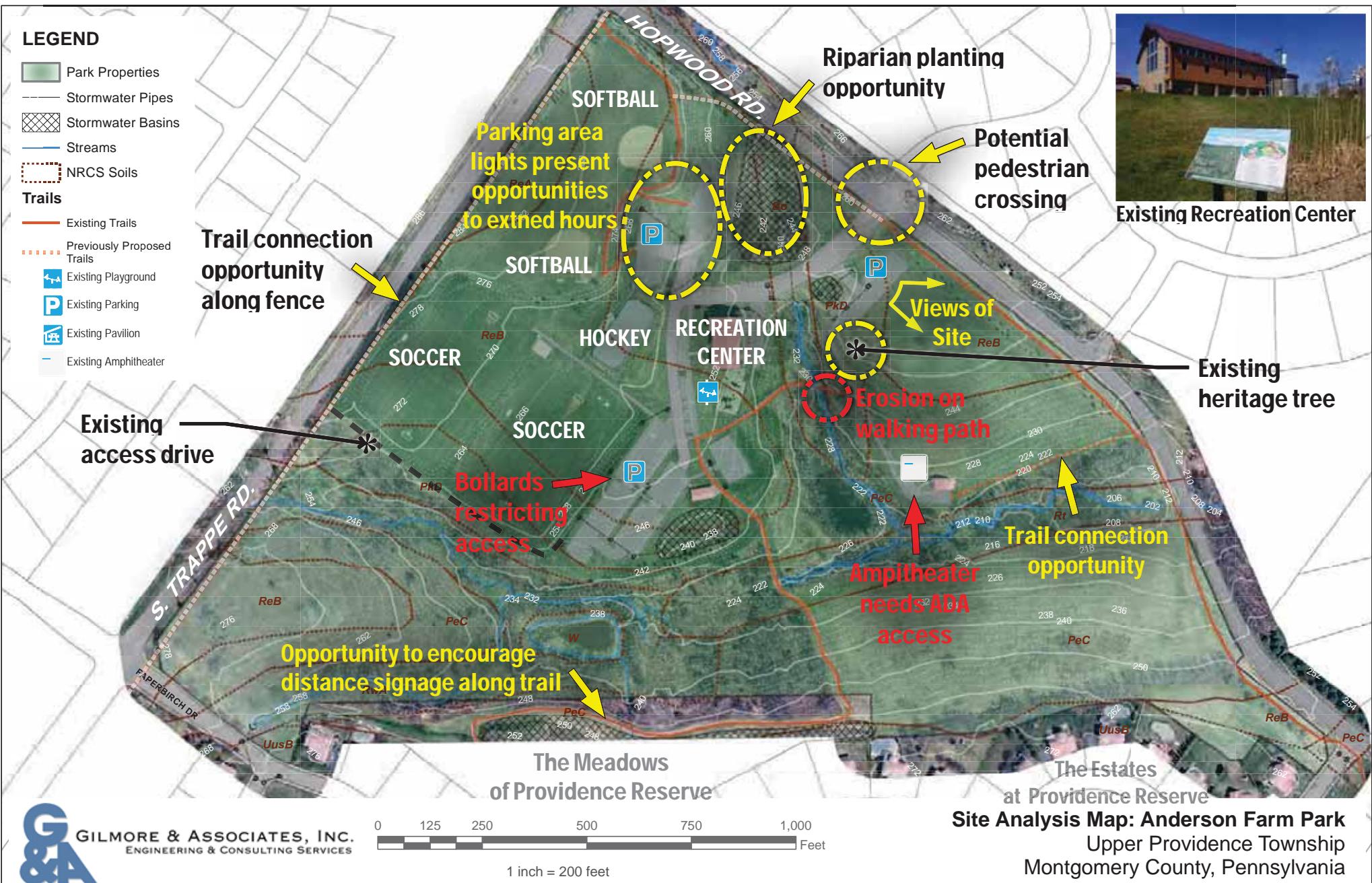


EXISTING CONDITIONS

Anderson Farm Park is the primary recreation destination and consists of 60.54 acres with a variety of active and passive recreation, including the 13,000 SF Recreation Community Center completed in 2011 and recently renovated February 2021. There is an outdoor amphitheater/bandshell for scheduled events, recreation programs, indoor rock wall and restrooms on the first floor. The park currently has a playground, two soccer fields, 1 basketball court, 2 baseball/softball fields, a picnic pavilion and restrooms, a deck hockey rink, walking track, rules & regulations signage and several parking areas with lighting.

Analysis of Existing Features:

- ✓ Entry parking area is missing signage
- ✓ No pedestrian access to neighboring developments (Faraway Farm development)
- ✓ Bandshell is not currently ADA accessible
- ✓ Distance/wayfinding signage needed for existing walking track
- ✓ Programming and activities at recreation center would benefit from increased promotion and community awareness
- ✓ No identification of existing heritage tree
- ✓ No identification of existing riparian buffer and environmental features
- ✓ Existing community center recreation space is not currently used to capacity -



BLACK ROCK PARK

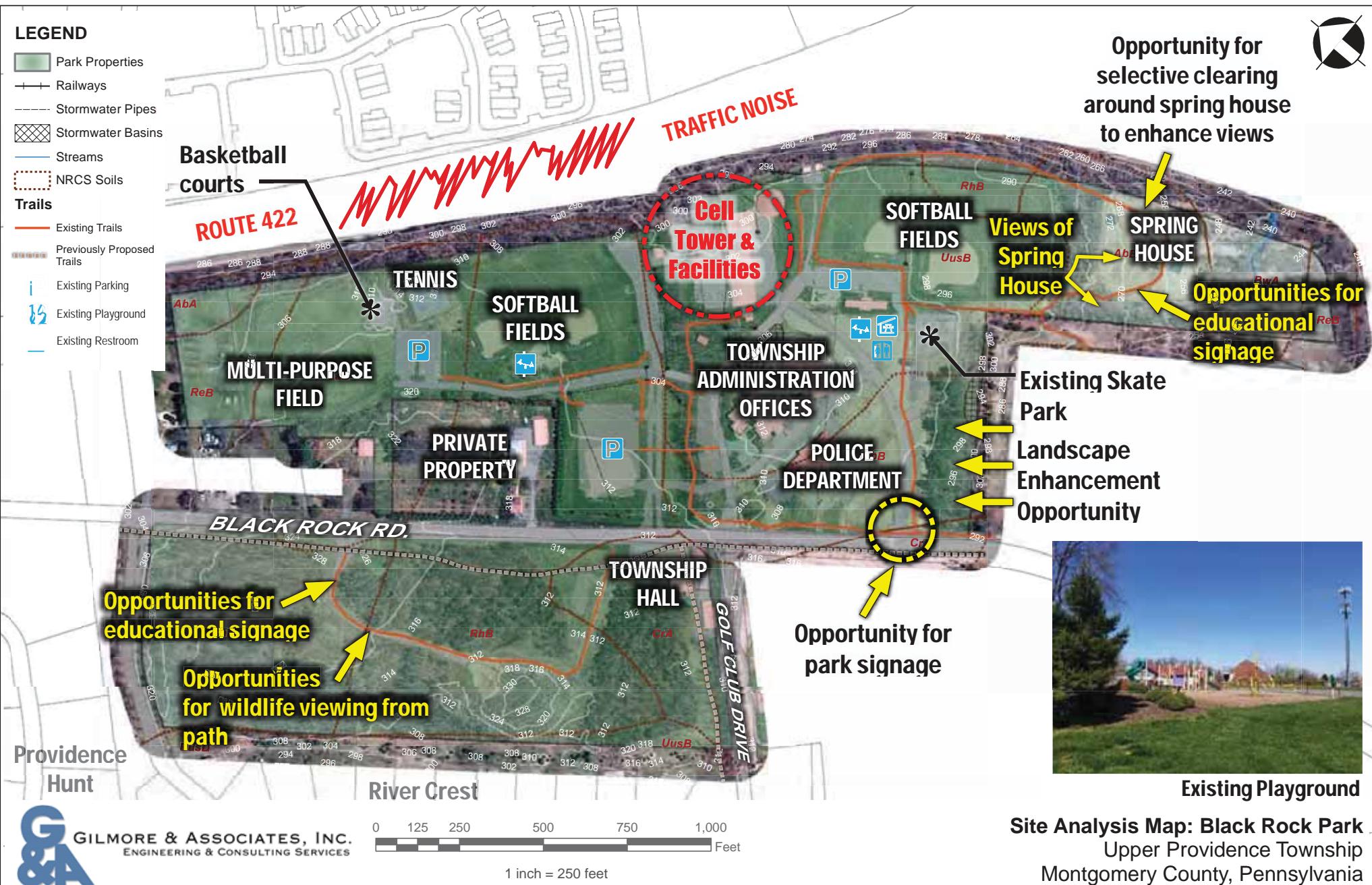


EXISTING CONDITIONS

Black Rock Park includes 49.91 acres of passive and active recreation, with open field nature viewing, a skate park, half mile walking track, 2 playgrounds, rules & regulation signage, 4 baseball/softball fields, a tennis courts, basketball courts, picnic tables, picnic shelters, pavilion with grills & quoits, restrooms and several parking areas. Black Rock Park is located at the Upper Providence Township Police Department and Maintenance grounds and Municipal Building.

Analysis of Existing Features:

- Maintenance facilities visible from playground/pavilion area
- Vegetation around spring house is overgrown
- Entrance drive, skate park, pavilion, playground, and perimeter of parking lot are lacking shade during the summer months
- Internal park is a good length and allows for wildlife viewing
- No pedestrian access to neighboring developments
- Identified in plans as a potential future location for EMS building and host for library services
- Skate park and playgrounds not currently used to capacity
- Bicycles are not allowed in skate park; cyclists are lacking opportunities within the park



LONGFORD PARK/ REYNOLDS' DOG PARK



EXISTING CONDITIONS

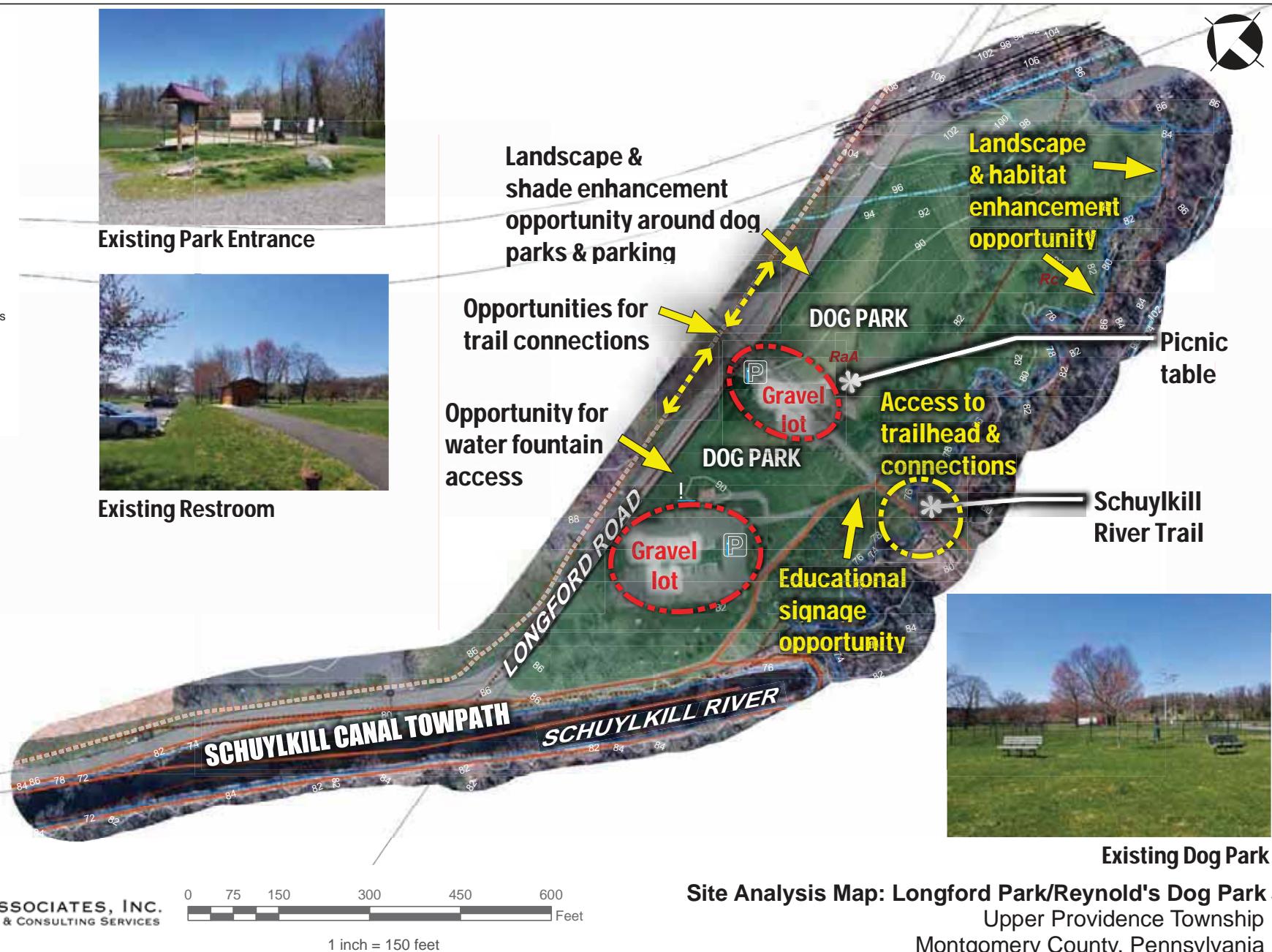
Reynold's Dog Park includes 3 gated dog fields with parking and Schuylkill River Trail access situated along Longford Road next to Port Providence Trailhead. Located within the Monocacy Creek greenway, this 6.7-acre park is available for passive recreation and consists of gated dog runs for small, medium and large dogs, restrooms, Schuylkill River Trail Access, gravel parking lot, rules & regulations signage, PECO ROW and information kiosk.

Analysis of Existing Features:

- No ADA parking
- Paths are not currently accessible
- Gravel parking lot can be challenging for some users
- Parking lot and fenced dog run areas are lacking shade
- Currently there are few, if any, amenities within each dog run area

LEGEND

- Park Properties
- Railways
- Stormwater Pipes
- Stormwater Basins
- Streams
- 100 Year Floodplain
- NRCS Soils
- Trails
- Existing Trails
- Potential/Proposed Trails
- Existing Parking
- Existing Restroom

**Existing Park Entrance****Existing Restroom**

MACFARLAN PARK



EXISTING CONDITIONS

MacFarlan Park consists of 10.28 acres of multi-use fields, baseball/softball fields, generous parking, playground, pavilion and walking track. There is a steep hill for drills, and the park backs up to residential properties. The baseball fields are home to the Upper Providence Little League.

Analysis of Existing Features:

- Internal park path is missing signage
- Dumpster is visible at park entrance
- Currently no pedestrian connections or access to nearby neighborhoods
- Utility box visible at field entrance
- Gravel parking area can be challenging for some users
- Playground and entrance drive are currently lacking shade during the summer months
- ADA accessibility is an issue for certain fields
- No safe pedestrian access to existing sidewalks along the opposite side of Green Tree Road
- Existing play equipment is aging
- Existing play surfacing (mulch/wood chips) requires extensive upkeep for accessibility
- Existing Hill is an opportunity for outdoor fitness drills
- High concentration of baseball/softball fields is a good opportunity for leagues and tournaments



LEGEND

- Park Properties
- Stormwater Pipes
- Stormwater Basins
- Streams
- 100 Year Floodplain
- NRCS Soils
- Trails
 - Existing Trails
 - Previously Proposed Trails
- Existing Parking
- Existing Playground



Existing Baseball Field



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0 75 150 300 450 600
1 inch = 150 feet



Easy park access
for neighbors

Unsightly
dumpster
& utility box
at entrance

Landscape
enhancement
opportunity

Opportunity for
playground upgrades

SOFTBALL

SOFTBALL

SOFTBALL

BASEBALL

SOFTBALL

BASEBALL

Ravenwood

Opportunity for connection
to sidewalk

Trail connection opportunity

Steep slope area is an
opportunity for athletic drills

Gravel lot should be
improved

Black Rock
Volunteer Fire
Co.

Greentrees

Site Analysis Map: MacFarlan Park
Upper Providence Township
Montgomery County, Pennsylvania

POR T PROVIDENCE ROAD PARK



EXISTING CONDITIONS

Port Providence Road Park is a hidden neighborhood park set between the Schuylkill River and Walnut Street and includes largely passive recreation. The park includes walking trails, a parking area, and nearby access to the Schuylkill River Trail with the park located in the riparian buffer of the Schuylkill River. There was also some dilapidated playground equipment on the site that, as of 2021, had been removed.

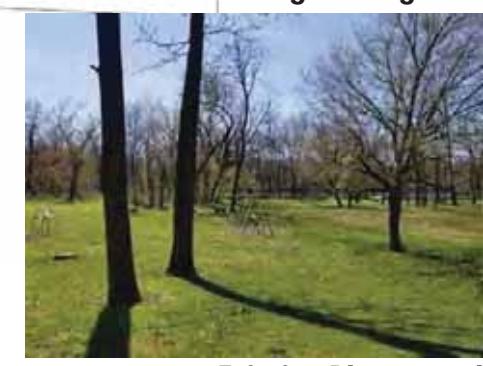
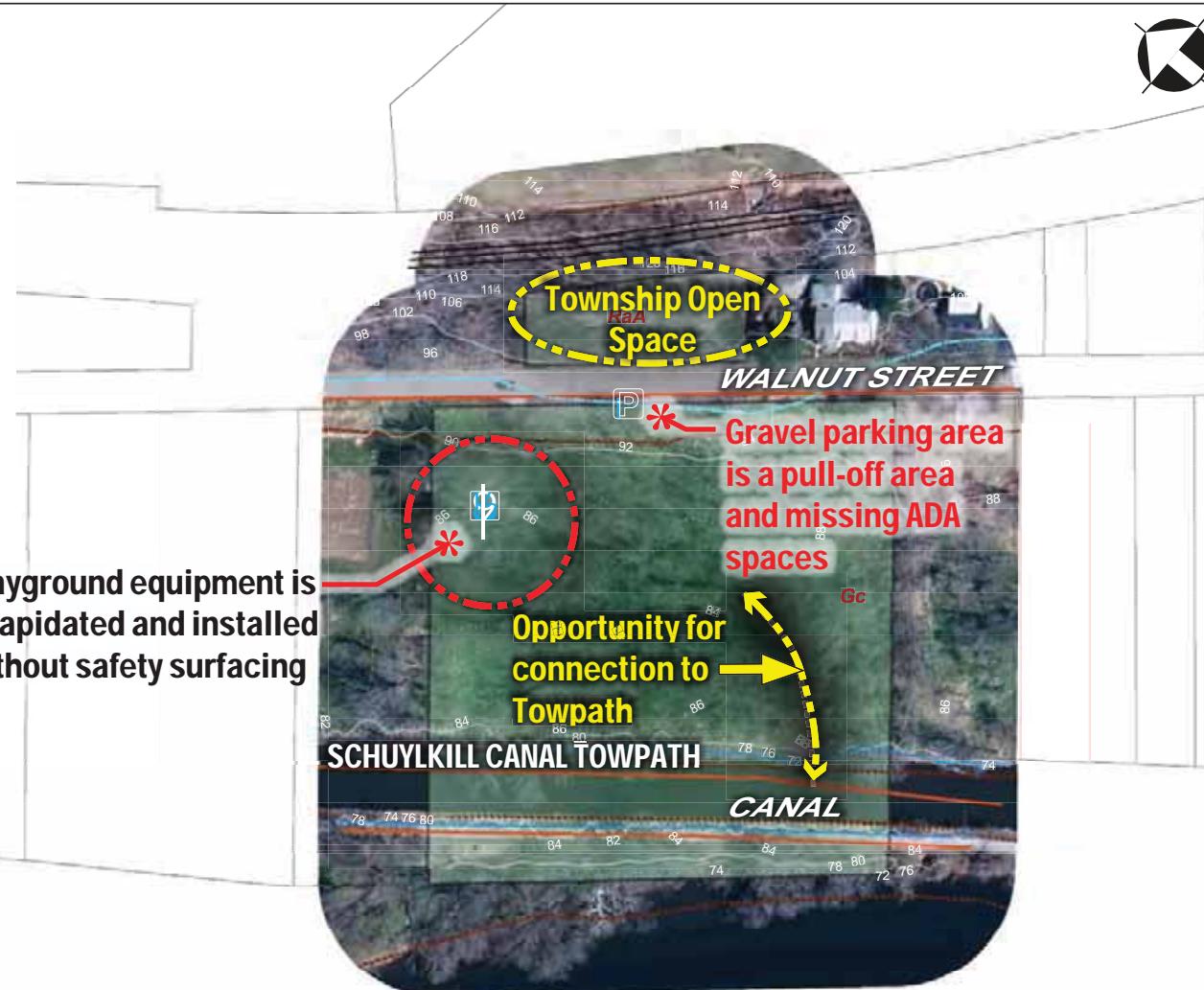
- Rules & Regulation Signage
- Parking
- Nearby Trail

Analysis of Existing Features:

- No park features are currently ADA accessible
- Park location is a good opportunity for canal access
- Existing woodlands are an opportunity for public recreational access and environmental education
- Invasive species are in issue in the woodland and riparian area
- The only available parking is currently a pull-off area along Walnut street
- Site floods often

LEGEND

- Park Properties
- Railways
- Stormwater Pipes
- Stormwater Basins
- Streams
- 100 Year Floodplain
- NRCS Soils
- Trails**
- Existing Trails
- Potential/Proposed Trails
- Existing Parking
- Existing Playground



Site Analysis: Port Providence Road Park
Upper Providence Township
Montgomery County, Pennsylvania

TAYLOR FARM PARK



EXISTING CONDITIONS

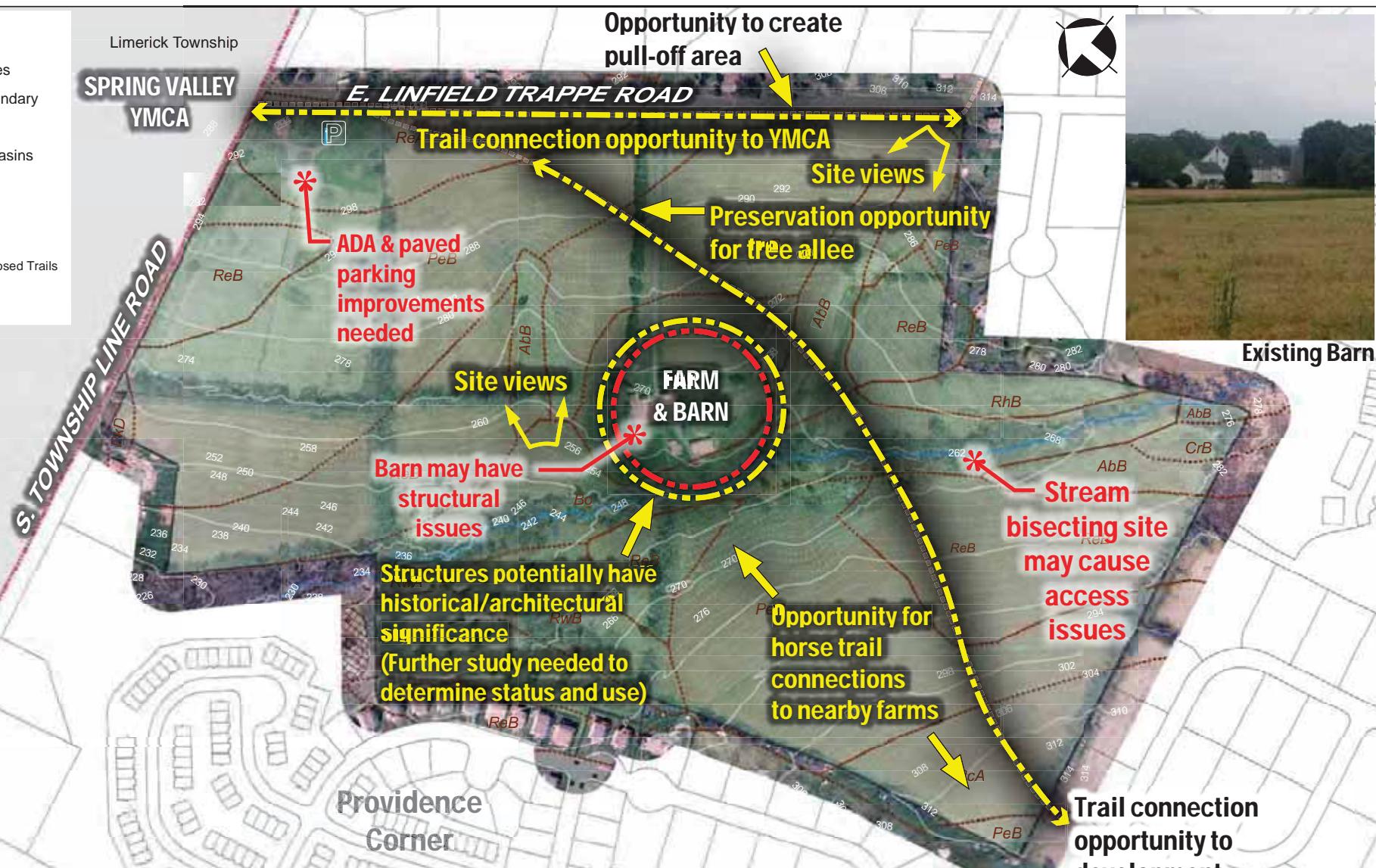
Taylor Farm open space located on Linfield Trappe Road is owned by Upper Providence Township as part of the Parks and Open Space System. The 60.5-acre property contains the farm building and barn, deemed eligible for determination (DOE) to be listed on the National Registration of Historic Places. Also on site are out buildings fenced for animals, open fields, views from E. Linfield Trappe Road, and a stream bisecting the property. The property is surrounded by residential developments and the Spring Valley YMCA to the northwest.

Analysis of Existing Features:

- ✓ Existing meadow and stream provide good opportunities for habitat and environmental education
- ✓ Currently there is no pedestrian access to residential developments and YMCA facility
- ✓ Homestead and barn (potentially historically significant) are good opportunities for preservation and programming
- ✓ No ADA parking or accessible routes to site features
- ✓ Several existing vistas
- ✓ Invasive species are an issue in old field areas

LEGEND

- Park Properties
- Township Boundary
- Streams
- Stormwater Basins
- NRCS Soils
- Trails**
 - Existing Trails
 - Previously Proposed Trails
- Existing Parking



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Site Analysis Map: Taylor Farm Park
Upper Providence Township
Montgomery County, Pennsylvania

Township Recreation Programming

Numerous local sports associations operate in the Township and serve local residents. These leagues include Jump Start Sports (Youth Basketball) and the Upper Providence Little League (Baseball and Softball, ages 4-22). These organizations represent a vital group of users and are often interested and invested in the park and recreation facilities which they use.

The Township runs a robust summer camp program for children of a variety of ages. The traditional summer camp programs are centered around Anderson Farm Park and Black Rock Park with various field trips and outings built into the schedule. The Township also runs specialty camps for ages ranging from 3-15 including Bricks 4 Kidz, Jump Start Sports, Mad Science, Photography, Chess, Theater, and a Preschool camp program.

The Township typically hosts numerous special events and activities throughout the year. These commonly include Community Day, Spook-tacular, Breakfast with Santa, Golf Outing, a 'Woodland Wonderland' holiday lights display, Music Fest and the Summer Concert Series.

The Community Center is another major source for recreation programming. The Township offers a variety of classes and activities for residents including yoga, meditation, hikes, senior stretch and strength activities, HIIT classes, bootcamp classes, grit and gears cycling group, hooks and needles club and mahjong. While open to residents, the Recreation Center is a members-only facility.



Black Rock Park – Baseball Field



THE FUTURE OF OUR PARKS

The Future of Our Parks

Trends and Design Standards

Over the years, as agriculture, farming, and open space have decreased, a nostalgia has developed for them that seems to be blending into park and recreation trends. Farm parks and nature playscapes are two trending examples of this nostalgia at work in parks across the county. Similarly, there has been a push to move more activities outside as we see with outdoor classrooms and the rise in outdoor recreational programs like dance classes and yoga. With development on the rise both regionally and within the Township, parks and the multitude of functions they serve are becoming increasingly important. Splash pads, pump tracks and bicycle camping are just some of the new and interesting amenities that can help residents reconnect with nature and their local parks.

As parks evolve and increase the recreational opportunities that they offer users, they start to become vital gathering spaces, and sometimes even the cultural heart of a community. Upper Providence Township is already working towards this goal by installing, proposing, and considering new amenities and recreation opportunities at all of their Township parks. The recent renovations at Anderson Farm Park's Community Center (including recording studio, kid's corner, fitness center, community workspace, rock wall, and group exercise space) are one example of this commitment to recreation innovation.



Anderson Farm Park Community Center

Trends: Farm Park

Despite the decline in agricultural activity regionally, farming related tourism has increased. This is, in part, a response to the nostalgia felt for the agricultural history of the area. Agritourism, or agrotourism, is a growing industry that is gaining popularity nation-wide. This form of tourism involves bringing visitors to working farms and can include direct sales from a farmer's market, educational areas, hospitality, outdoor recreation, and entertainment.¹ While most agritourism operations are small farms looking to create a stable income by attracting tourists, farm parks can also fit into this model. There is no strict definition of what a farm park does and does not include. In some cases, a farm park retains the word "farm" because they were once a working farm, while others embrace the meaning of farm park and actively incorporate farming as part of the recreational facility. Generally, a farm park is a mix of working farmland, interactive and educational components, and recreational areas. They can include a combination of:

- Working farmland and gardens (generates income)
- Teaching farmland and gardens
- Historic preservation
- Agricultural museums
- Educational signs, activities and demonstrations
- Petting zoo
- Natural areas (meadows, streams, woodlands and wildlife habitat)
- Passive recreation (trails, benches and picnic areas)
- Active recreation (playgrounds, etc.)

Nearby examples:

-  Agricultural History Farm Park | Montgomery County
-  Upper Schuylkill Valley Park | Upper Providence, Montgomery County
-  Norristown Farm Park | East Norriton, Montgomery County
-  Norview Farm Park | King of Prussia, Montgomery County

Taylor Farm has the potential to be a unique destination as a Farm Park with its scenic views, existing farm structures, meadows, riparian areas, and a centralized location near residential

¹ Chase, L. C et al. "Agritourism: Toward a conceptual framework for industry analysis." *Journal of Agriculture, Food Systems, and Community Development* 8, no. 1, (2018): 13–19.

developments. These opportunities could create a destination park, drawing tourists and visitors to the township, while generating income for the park.

Trends: Nature Playscape

Nature playscapes are currently one of the most popular trends in playground design. Many communities are excited about the opportunity they provide to expand the range of play activities within parks and playgrounds for all users.

Natural playscapes are loosely defined as a play space with as few man-made components as possible. Using native plants, rolling hills, rocks, and lots of trees, these playscapes are designed to represent a more natural landscape and to bring users back to nature. Their design encourages creativity and imagination while boosting social, cooperation, and problem-solving skills. While often promoted as a playground, these areas can also offer spaces for people of all ages and abilities. Additionally, construction and maintenance costs are often low due to the use of natural materials and the ability for communities to build certain features on their own.

These playgrounds take multiple forms and often incorporate numerous natural features. Common nature playscape components include:

- Loose parts play (stones, flowers, twigs, shells, pine cones, logs, balls, ropes, buckets, pots, fabric and boxes)
- Mixed surface materials (grass, sand, mulch/woodchips, stone dust and asphalt)
- Changes in topography
- Shaded and sunny areas
- Water features and bridges
- Climbing areas
- Large logs/stumps for hopping
- Areas for challenge/exploration

Several Township parks could potentially incorporate nature playscapes into their assets. For parks like Port Providence with existing wooded areas, the necessary infrastructure is already in place. See appendix 5.A for more information.

Trends: Splash Pads

Splash pads are an increasingly popular pool alternative that give kids an engaging place to cool off and play within a park. They offer an aquatic play environment packed with features that maximizes cognitive and sensory stimulation for children of all abilities while encouraging group play on the same components. Splash Pad designs can be split into two general categories:

1. Zero Depth Beach Entry - pooled water within the splash pad is used and a reservoir isn't needed.
2. Dry Surfaces - reservoirs are required. These include three groups: Single Pass (potable water drains away), Recirculation (drained water is reused) and Retain and Reuse (water is repurposed by other areas within the park or community).²

The incorporation of multiple play areas, or zones, make a splash pad enjoyable for the entire family. Typical areas include a universal zone (centrally located transitional zone between play areas for the whole family), a zone for ages 2-4 that include gentle features placed near the perimeter for supervision, and a dynamic zone for ages 7+ with highly interactive spray amenities. Within these areas, splash pads can incorporate a variety of play features to support a range of ages and abilities. Some popular features found in splash pads include the following:

| | |
|---|--|
| <ul style="list-style-type: none">• Water tables• Ground spray elements• Bucket dumps• Umbrella features | <ul style="list-style-type: none">• Animal structures• Arches• Hoops• Water cannons |
|---|--|

The design of these spaces should make inclusivity a priority by considering aspects like wheelchair height accessibility and turn radius, variations in gentle and rigorous water play areas, and changes in sight and sound aspects.

The public participation and community engagement process has indicated strong interest and an opportunity for a splash pad within the Township. Anderson Farm Park's established

² Joe Bush, "The Spray's the Thing – the Latest Trends in Splash Play Areas", April 2016, <https://recmanagement.com/feature/201604fe01>

recreational programs and status as a hub within the community make it a strong candidate for this type of amenity. See appendix 5.B for more information.

Trends: Pump Tracks

Pump tracks and bike parks are rapidly increasing in popularity across the nation due to their flexibility in size, material and range of user skill levels that they can cater to. A pump track consists of a looped trail that includes berms, banked turns, and jumps that are designed to be ridden without needing to pedal. Riders are propelled by the momentum created through up and down movements referred to as "pumping".³ These spaces can teach important cycling skills that improve riding abilities outside of the track. Practicing on a pump track improves strength and bike handling abilities and allows users to ride in a safe and traffic free environment where friends and family can watch. They can be enjoyed by cyclists of all ages and skill levels using a range of bicycles including children's bikes, mountain bikes, BMX bikes and even scooter bikes.

A pump track course can be built from a mix of materials including dirt, asphalt and wood and can be constructed on a site as small as 10'x30'. Although most full-size tracks require a roughly 50' x50' area. (Adventure Sports Journal). Some areas that a typical course might feature include:

- Skill Area - space dedicated to basic mountain biking skills (approx. 500 SF of terrain)
- Pump Track - space encouraging propulsion from core and arm muscles instead of legs (approx. 1,000 SF of flat terrain)
- Dirt Jumps- space focused on jumps and air time (approx. ½ acre of flat terrain)
- Freeride Park - space dedicated to advanced mountain biking skills with multiple man-made features (approx. ½ acre with varying topography)

Black Rock Park has a vibrant skate park, but bicycles are not allowed to use it as they would be in conflict with skaters. With this in mind, adding a pump track to this park could expand users'

³ Adventure Sports Journal, "Pumpin': An Introduction to the World of Pump Tracks." October 23, 2009. <https://advancesportsjournal.com/pumpin-an-introduction-to-the-world-of-pump-tracks/>

opportunities to enhance their skills while providing a unique new gathering space for the local cycling community. See appendix 5.C for more information.

Trends: Bicycle Camping

Bicycle camping is a popular overnight trend that is experiencing a steady increase in demand nation-wide. Thousands of people travel by bicycle in the U.S. each year and many find that the slower pace allows a greater connection with communities and landscapes along their journey. According to the Outdoor Industry Association, bicycle tourism accounts for \$83 billion of the \$130 billion spent nationally on bicycling each year. There are over 50,000 nationally designated and state bicycle routes in existence. This major sight-seeing trend is on the rise and will require appropriate camping sites as it continues to grow.

When it comes to camping, cyclists' may need more than then the typical camper due to the unpredictable nature of bike touring and the limited alternatives available to bicycle campers when sites are full. Campsites for cyclists should consider the following:

- provide a hiker/biker site outfitted for non-motorized visitors,
- offer sites that don't require a reservation
- Implement a no-turn-away policy (guarantees space for solo bike travelers or small groups without motorized support)
- Locate sites within 5 miles of local, state, and national bike routes

At a minimum, bicycle camp sites should include a spot to park a bike and enough room to set up a tent. Additional amenities can include:

| | |
|--|---|
| <ul style="list-style-type: none">• Bike parking• Bike repair stations• Lockers• Group picnic areas• Showers | <ul style="list-style-type: none">• Electrical outlet• Low price point (on average, non-reservation campsites charge between \$5-\$10 per night) |
|--|---|

Port Providence Road Park's location between two major trail heads which connect to the Schuylkill River Trail make it an ideal potential location for bicycle camp sites. Furthermore, the

wooded and riparian areas on site could make for a scenic and secluded location to camp. See Appendix 5.D. for more information.

Trends: Kayak Launch

Kayaking has exploded in popularity in recent years due to affordability, ease of transport, and the capacity for users of all abilities to participate. Surveys from the recently completed Pennsylvania Statewide Comprehensive Outdoor Recreation Plan echo this rise with findings showing that kayaking is one of the most commonly identified recreational activities that PA residents would like to try.

Kayak and canoe launch facilities often consist of at least one floating structure connected to land by a ramp. They allow water trail users to easily and safely access waterways with their boat and often also support fishing and nature viewing. The Americans with Disabilities Act (ADA) requires that these facilities be accessible to all users. As a result, a range of launch designs are now available to meet the needs of users for any given water trail corridor.

Typical design features of an ADA accessible kayak/canoe launch include the following:

- Gangway slope with enough length to account for fluctuating water levels
- Handrails along the gangway and near the water
- Ample room for wheelchairs and watercraft
- Step-down bench and plank to ease users into their kayak
- Rollers or underwater saddles to steady and move the watercraft
- A connection to an accessible route like an ADA trail
- Overhead handles and grab bars (to aid in the difficult transfer between land and boat)

This trend could be a good fit for Port Providence Road Park, with its close proximity to the Schuylkill River Trail, the Schuylkill Canal and River, and all of the amenities available nearby in Phoenixville. Port Providence Paddle, a canoe and kayak rental service, is located at 264 Canal Street, less than a mile from Port Providence Park. Clustering these amenities and businesses can help expand the recreational economy already established in this area of the Township. See Appendix 5.E for more information.

Trends: Wayfinding Signage

Wayfinding signage, also known as directional signage, provides important visual cues for identifying amenities, guiding visitors through a space, and directing individuals to nearby destinations. These features help to make parks welcoming and safe and must accommodate user groups of varying abilities. The Americans with Disabilities Act (ADA) requires that wayfinding signage meet certain criteria that enables individuals of all abilities to understand the information displayed. These requirements include factors like height and placement of the sign, the inclusion of braille or tactile letters, and easy to read fonts and colors. In general, wayfinding signs should consider the following:

- Visibility - high contrast for visibility from afar and matte finishes to avoid glare for those that are colorblind
- Tangible - braille or raised letters for the vision impaired
- Location – placement near the facility or amenity and at a level that is visible and accessible for those in a wheel chair

Additional requirements can be found in the 2010 ADA Standards for Accessible Design (www.ada.gov/2010ADASTANDARDS_index.htm).

Signage can also offer branding, and in turn, promotional opportunities. Developing a logo and signage package that shares a unified design can help the public bond with a space. Signage and logo designs often incorporate the history and culture of a community or they showcase a feature of the space that makes it unique. This can be done through the use of colors, images, or the shape of the sign. Personalized design touches like these help visitors connect to and remember a space for years to come.

All Township parks can utilize this signage trend to enhance educational and wayfinding opportunities. Several Township parks could benefit from signage to callout nearby destinations, to better promote amenities in the Township, and to create a welcoming place for people of all ages and abilities. See Appendix 5.F for more information.

Focus Park Recommendations and Conceptual Plans

The conceptual plans and recommendations for the focus parks reflect a combination of stakeholder and public feedback and an analysis of recreation trends, park usage, demographics, regional parks, and standards and best practices. See chapter 6 for an action plan detailing strategic implementation steps for all parks. See Appendix 5.G for cost opinion information for each park.



Anderson Farm Park

Anderson Farm Park is one the Township's largest, most prominent, and most heavily programmed parks. With improvements recently completed at the Park's Recreation Center, it has been firmly established as an all-seasons destination for recreation, athletics, special events, and activities. Public and Stakeholder feedback for the park primarily centered around the need for improvements to the existing, and sometimes aging, infrastructure of the park including parking, lighting, trails, and ADA accessibility throughout. As a result, the concept masterplan for Anderson Farm Park explores how tweaks to the existing layout and additional amenities could better serve the changing desires of Township residents.

General:

- Re-organize the parking to better serve user needs and amenities.
- Replace the basketball court location with a splash pad.
- Re-locate the basketball court closer to the park entrance.
- Grade in tiered walkways and improve accessibility and seating at the existing amphitheater.

Signage/Wayfinding:

- Update and enhance park signage to reflect a revised park layout and to provide clearer wayfinding.
- Add educational signage for the park's existing heritage tree and riparian buffer. See appendix 5.F for more information.

See appendix 5.F for more signage information.

Trails/Connections:

- Create an external loop trail running around the perimeter of the park with connections to existing, internal park trails.
- Link existing park trails to external sidewalks and connections.
- Improve existing (and proposed) park trail connections with wayfinding and distance signage.
- Make accessible upgrades, where needed, to all trails within the park.

See appendix 5.H for more trails information.

Programming:

- Consider increasing the promotion and visibility of the Park (and Recreation Center) and their recreational offerings.
- Consider implementing library services in the recreation center.
- Consider adding showers to the gym at the recreation center.
- Continue to expand activity and event offerings at the recreation center.
- Consider offering extended park hours and evening programming and events.
- Partner with neighboring municipalities to offer more concert events.



Black Rock Park

Black Rock Park is home to the Township Administration Building and will soon host the Fire and EMS Services campus in addition to a new Learning Center with indoor/outdoor components. Furthermore, it hosts a portion of the Township's summer camp program and a skate park that draws a regional base of users. Public and Stakeholder feedback for the park primarily centered around the need for playground, trail and amenity upgrades within the park. With the proposed redesign of the Southwestern portion of the site into an EMS and Learning Center campus along with trails and play spaces, the Township is well on its way to turning Black Rock Park into a destination park for the broader region.

General:

- Construct the proposed Fire/EMS campus. See appendix 5.I for draft plan.
- Construct the proposed Learning Center and Play Space.
- Locate and install a pump track. See appendix 5.C for more information.
- Locate and install a shade structure or pavilion near the proposed pump track. See appendix 5.J for more information.
- Consolidate the two existing playgrounds into one expanded playground with updated play equipment, located near the existing pavilion appendix 5.K.
- Consider using fencing or landscaping to screen the maintenance facilities from the playground and pavilion area.
- Consider selective clearing around the existing spring house to enhance views from the existing path.

Trails/Connections:

- Install a trail extension connecting to the properties located North of the park.
- Install trail connections from the park, using proposed and existing sidewalk and trail along Black Rock Road.

See appendix 5.H for more information on trails.

Signage/Wayfinding:

- Install unified wayfinding signage within the park.
- Design and install educational signage for select locations within the park.

See appendix 5.F for more information.

Programming:

- Consider additional promotion for the skate park and programming/special events that could take advantage of this space.
- Consider implementing library services as part of the proposed learning center improvements within the park.
- Consider adding a temporary synthetic ice skating rink during the winter months to an underutilized parking area. See appendix 5.L for more information.



1 PUMP TRACK

EXTEND TRAIL

2

PUMP TRACK COMPLEX WITH SHADE STRUCTURE

existing basketball courts

existing tennis courts

PLAYGROUND IMPROVEMENTS

ROUTE 422

existing pavilion

existing baseball fields

existing baseball fields

PLAYGROUND IMPROVEMENTS

existing public works

existing skate park

existing administration/police

SEASONAL (WINTER) SYNTHETIC SKATING RINK

parking

BLACK ROCK RD.

TRAIL IMPROVEMENTS/CONNECTIONS

POTENTIAL FUTURE PLAY SPACE

FUTURE EMS/LEARNING CENTER



2 TRAIL CONNECTIONS



3 PLAYGROUND IMPROVEMENTS

CONCEPT PLAN

BLACK ROCK PARK

UPPER PROVIDENCE TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA



GILMORE & ASSOCIATES, INC.

65 East Butler Avenue, Suite 100
New Britain, PA 18901

APRIL 22, 2021

125 0 125 275

Longford Park/ Reynolds' Dog Park

Reynolds' Dog Park is uniquely positioned with access to both the Schuylkill River Trail and the Schuylkill Canal Towpath. Furthermore, as the Township's only dog park, it serves an ever-growing demand. Public and Stakeholder feedback for the park primarily centered around the need for improvements brought on by the heavy use such as parking, path, and fencing upgrades. The concept masterplan focuses on providing an enhanced experience for dogs and humans alike with amenities for shade and play, while taking advantage of the strategic trail connections available on site.

General:

- Install ADA parking and universal access improvements in the existing gravel parking lot. See appendix 5.M for more information.
- Consider replacing the boulders currently being used as parking bumpers.
- Locate and install a shade structure for each section of the dog park. See appendix 5.K for more information.
- Add dog park amenities (obstacles, tunnels, jumps, and play structures) for each section of the dog park. See appendix 5.N for more information.
- Provide accessible routes and other ADA upgrades to existing picnic areas.
- Plant canopy trees around the parking lot and edge of gated dog runs for shade. See appendix 5.O for more information.
- Consider planting native shrubs and perennials to enhance the site's position within a migration corridor for birds and wildlife. See appendix 5.P for more information.
- Consider installing educational signage. See appendix 5.F for more information.

Trails/Connections:

- Locate and install a perimeter trail around the park.
- Install trail connections to existing offsite sidewalks, and trails including the Towpath and the Schuylkill River Trail. See appendix 5.H for more information.
- Upgrade existing walkways for improved ADA access.



1 SHADE STRUCTURE/
PAVILION



2 DOG PARK AMENITIES



3 DOG PARK AMENITIES



CONCEPT PLAN LONGFORD PARK/REYNOLDS DOG PARK

UPPER PROVIDENCE TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA



65 East Butler Avenue, Suite 100
New Britain, PA 18901

JANUARY 29, 2021
75 0 75 225

MacFarlan Park

MacFarlan Park is home to the Black Rock Volunteer Fire Company and the majority of the Township's baseball and softball facilities. Public and Stakeholder feedback for the park primarily centered around the need for playground, parking, and trail and wayfinding improvements. With MacFarlan Park already centered around active recreation, the concept masterplan proposes improvements to the existing play equipment and increased trail accessibility to diversify and provide offerings for the whole family.

General:

- Replace existing playground equipment and expand offerings while making surfacing, ADA, and amenity improvements as needed. See appendix 5.K for more information.
- Add pickleball courts. See appendix 5.Q for more information.
- Install ADA- accessible improvements around the existing softball fields.
- Screen the existing utility box near the park entrance with either fencing or landscaping.
- Improve and stripe the existing gravel parking areas and provide paved ADA spaces.
- Expand parking areas.
- Install static shade structures for spectators and park users.
- Consider planting canopy trees for shade and aesthetic value at the pavilion, the playground, and along the entrance drive. See appendix 5.O for more information.

Trails/Connections:

- Add trail connections to the neighborhoods located East of the park and to existing sidewalks along Green Tree Road. See appendix 5.H for more information.
- Connect the path along the entrance drive to the hill near next to the Fire Company for use in drills.
- Add a pedestrian crossing at Green Tree Road to connect to the existing sidewalk.
- Install benches along the existing park trail.

Signage/Wayfinding:

- Install wayfinding and mileage signage around the internal park paths. See appendix 5.H for more information.

Programming:

- Consider how park usage could be increased by providing additional recreation opportunities and programs at the park.



CONCEPT PLAN

MACFARLAN PARK

UPPER PROVIDENCE TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

APRIL 20, 2021
70 0 70 210



Port Providence Road Park

Currently, Port Providence Road Park sits on a unique piece of underutilized land with access to the Schuylkill Canal as well woodland and riparian habitat. Public and Stakeholder feedback focused on the dilapidated state of the playground equipment (which has since been removed), the lack of usable parking and access, as well as issues with frequent flooding. The concept masterplan takes advantage of the site's rare habitat and water access to explore the option of offering a boat launch and cleared picnic groves in the park.

General:

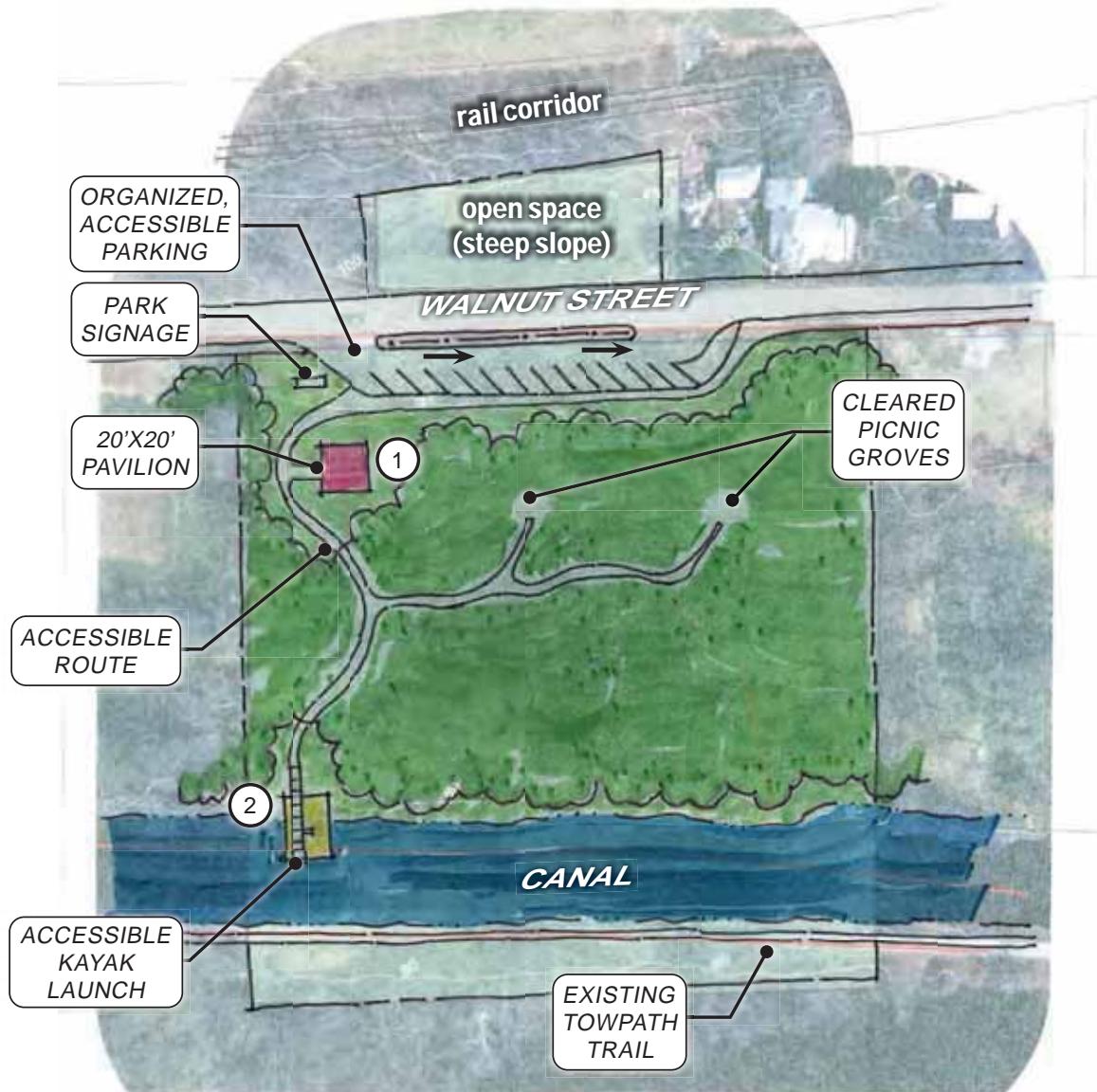
- Improve the existing pull-off parking area to create paved, lined, accessible parking spaces removed from Walnut Street.
- Install a pavilion (approximately 20'x20'). See appendix 5.J for more information.
- Install an accessible kayak launch on the Schuylkill Canal. See appendix 5.E for more information.
- Locate and install several cleared picnic groves and accessible routes that connect to them from the parking area and the kayak launch.

Environmental:

- Consider invasive species management for the woodlands and riparian areas. See appendix 5.R for more information.
- Consider mitigating flooding issues within the park by creating bio-retention or rain garden areas on-site utilizing native plants. See appendix 5.S for more information.

Signage:

- Add wayfinding and directional signage to reflect new park amenities and parking. See appendix 5.F for more information.



CONCEPT PLAN

PORT PROVIDENCE PARK

UPPER PROVIDENCE TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA



1 PAVILION STRUCTURE



2 ACCESSIBLE KAYAK LAUNCH



GILMORE & ASSOCIATES, INC.
65 East Butler Avenue, Suite 100
New Britain, PA 18901

APRIL 20, 2021

35 0 35 105

Taylor Farm Park

Taylor Farm Park currently offers an untapped wealth of open space, passive recreation, and historical preservation opportunities. At the present time, the park features no improvements and naturally, public and stakeholder feedback reflected heavily on this issue. The need for basic infrastructure, preservation of the existing open space, and the potential future uses and programming were all common themes. A focus group was held to review/discuss the structures on site. This resulted in a separate study by the Heritage Conservancy, which determined that the existing Barn may be eligible for inclusion on the National Register of Historic Places. The conceptual masterplan combines these ideas and desires to explore possibilities for community supported agriculture, expanded trail connections, and open space restoration and enhancements.

General:

- Widen the existing driveway for two lanes of travel and access.
- Protect the existing evergreen screen along the access drive.
- Designate and improve an area for community supported agriculture. See appendix 5.T for more information.
- Designate an area for future community supported agriculture development.
- Maintain and enhance the existing vista to and from the farm and barn.
- Add a parking area around the existing farm and barn.
- Install a fence along S. Township Line Road.
- Create a gateway area at the intersection of Linfield Trappe Rd. & S. Township Line Rd. to match the YMCA sign/gateway.

Trails/Connections:

- Install trail connections to adjacent developments. See appendix 5.H for more information.
- Install an internal loop trail on the site.
- Install a stream crossing on-site as part of the internal trail.
- Add a pedestrian crossing across S. Township Line Road to the Spring Valley YMCA.

Environmental:

- Protect and enhance the riparian buffer. See appendix 5.U for more information.
- Implement meadow restoration for the open field in the Northern end of the site. See appendix 5.V for more information.
- Preserve existing hedgerows onsite.
- Consider implementing an invasive species management plan for the site. See appendix 5.R for more information.

Programming:

- Consider potential options for the preservation and adaptive reuse of the existing barn and farmhouse.





PLAN
IMPLEMENTATION

Plan Implementation

Implementation for the recommendations of the Parks Masterplan will be the shared responsibility of Township staff, the parks and recreation board, and elected officials. Each specific recommendation is presented as part of a broader set of objectives and goals that will strategically guide Township parks into the future. The implementation of some recommendations will require strategic partnerships for funding, management, and programming in order to be successful.



Black Rock Park Skate Park

Action Plan

Recommendations are provided in the form of Goals, Objectives and Action Items (A.I.).

Goal: An overarching vision

Objectives: A specific priority under the Goal

Action Items: A specific and achievable action that will help implement your objective

Goal 1: Great Parks and Enhanced Facilities

Objectives:

- Provide unique recreation and athletic amenities in Township parks
- Improve or replace existing park infrastructure

- Provide clear and attractive signage throughout parks
- Protect, restore, and leverage natural features within Township parks
- Install native plants in Township parks for shade, habitat, and beautification

Goal 2: Improved Accessibility

Objectives:

- Upgrade or replace existing park infrastructure to meet or exceed ADA requirements
- Create trail connections to and from Township parks
- Create internal loop trails within Township parks

Goal 3: Effective Engagement, Partnerships, and Programming

Objectives:

- Explore ways to better promote Township parks, programming, and events
- Offer robust recreation programming for Township residents
- Explore opportunities to partner with neighboring municipalities and organizations for programming and special events.

Project Priority Levels are ranked from 1-3, with 1 being a top priority. These are determined based on project difficulty, feasibility, the potential for partnerships and funding, and project magnitude and cost.

Action identifies the party responsible for completing the recommendation and includes the Township and Partnerships.



Upper Providence Township Parks Master Plan

Table 12. Action Plan

Responsibility Key:

| | | | | |
|-----|--|--------------------------------|----|-------------|
| BOS | Board of Supervisors Township Staff | P Partnerships B Businesses | NP | Non-profits |
|-----|--|--------------------------------|----|-------------|

Timeline Key:

| | | |
|---|--|---|
|  Short Range (1-5 Years) |  Mid-Range (5-10 Years) |  Long Range (10 + Years) |
|---|--|---|

Priority Key:

| | | | | | |
|---|-----------|---|--------|---|---------|
| I | Immediate | M | Medium | O | Ongoing |
|---|-----------|---|--------|---|---------|

GOAL 1: Great Parks and Enhanced Facilities

Objective 1A: Provide unique recreation and athletic amenities in Township parks

- Install a splash pad at Anderson Farm Park. I  BOS, TS
- Install a pump track at Black Rock Park. M  BOS, TS
- Locate and install several cleared picnic groves at Port Providence Road Park. I  BOS, TS
- Install an accessible kayak launch at Port Providence Road Park. M  BOS, TS, P, NP
- Install shade structures or pavilions in all parks, where needed. I  BOS, TS
- Install the proposed Learning Center and Play Space at Black Rock Park. M  BOS, TS
- Add a temporary synthetic ice skating rink during the winter months to a parking area in Black Rock Park. M  BOS, TS
- Install pickle ball courts at MacFarlan Park. M  BOS, TS

Objective 1B: Improve or replace existing park infrastructure

- Relocate Basketball Court at Anderson Farm Park. I  BOS, TS
- Provide ample, well-organized, paved off-street parking and circulation in all parks. I  BOS, TS
- Replace aging playground equipment. I  BOS, TS
- Grade in tiered walkways and seating at the Anderson Farm Park Amphitheater. M  BOS, TS

| | | | |
|--|---|--|----------------|
| <ul style="list-style-type: none"> • Add additional amenities, obstacles, and play structures in the dog park. • Consolidate the two existing playgrounds at Black Rock Park into one and upgrade play equipment. • Install fencing or landscaping where needed for screening. | M | | BOS, TS |
| | M | | BOS, TS |
| | I | | BOS, TS |
| Objective 1C: Provide clear and attractive signage throughout parks | | | |
| <ul style="list-style-type: none"> • Install wayfinding signage for all park internal trails and trail connections. • Install distance signage along internal loop trails. • Design and install educational signage for significant environmental and historical park features. • Create gateways and enhanced entry signage for parks. | I | | BOS, TS, P, NP |
| | O | | BOS, TS |
| | O | | BOS, TS, P, NP |
| | M | | BOS, TS, P, NP |
| Objective 1D: Protect, restore, and leverage natural features within Township parks | | | |
| <ul style="list-style-type: none"> • Clear selective areas where needed to enhance views. • Implement invasive species management where needed in all parks. • Install bioretention and rain garden features where needed to mitigate stormwater and flooding issues. • Protect and enhance riparian buffers within native plants in applicable parks. • Implement meadow restoration for open field areas in Taylor Farm Park. | I | | TS |
| | O | | BOS, TS |
| | I | | BOS, TS |
| | O | | BOS, TS, P, NP |
| | M | | BOS, TS, P, NP |
| Objective 1E: Install native plants in Township parks for shade, habitat, and beautification. | | | |
| <ul style="list-style-type: none"> • Plant native canopy trees where shade is needed in all parks. • Plant native shrubs and perennials to at Reynolds' Dog Park to enhance the migration corridor. | I | | BOS, TS, P, NP |
| | O | | BOS, TS, P, NP |
| GOAL 2: Improved Accessibility | | | |
| Objective 2A: Upgrade of replace existing park infrastructure to meet or exceed ADA requirements | | | |
| <ul style="list-style-type: none"> • Make ADA accessible upgrades, as needed, to all playgrounds and surfacing. • Make ADA accessible upgrades, as needed, to all paths and trails. • Add paved ADA accessible parking spaces to all parking areas. | I | | BOS, TS |
| | I | | BOS, TS |
| | I | | BOS, TS |
| Objective 2B: Create trail connections to and from Township parks | | | |
| <ul style="list-style-type: none"> • Locate and install trail connections to neighborhoods and developments surrounding parks. | M | | BOS, TS, P |

| | | | |
|---|---|---|-------------------|
| <ul style="list-style-type: none"> • Add pedestrian crossings where needed to access existing sidewalk and trail connections. • Install stream crossings where needed to provide trail access. | I |  | BOS, TS, P |
| Objective 2C: Create internal loop trails within Township parks | I |  | BOS, TS, P |
| <ul style="list-style-type: none"> • Connect and upgrade existing park trails to create loop systems, where possible. | | | |
| GOAL 3: Effective Engagement, Partnerships, and Programming | | | |
| Objective 3A: Explore ways to better promote Township parks, programming, and events | O |  | TS, P |
| <ul style="list-style-type: none"> • Utilize several forms of social media and email blasts to promote facilities and programs. • Explore options for providing expanded programming at the skate park. • Explore options for adaptive reuse and programming for Taylor farm barn and house. | O |  | TS, P, B, NP |
| | O |  | BOS, TS, P, B, NP |
| Objective 3B: Offer robust recreation programming for Township residents | M |  | TS, P |
| <ul style="list-style-type: none"> • Explore options for providing library services for the Township. • Expand and increase programming offerings through the recreation center. • Explore the option of offering park space for community supported agriculture. | O |  | TS, P, B, NP |
| | M |  | TS, P, NP |
| Objective 3C: Explore opportunities to partner with neighboring municipalities and organizations for programming and special events | O |  | P |
| <ul style="list-style-type: none"> • Partner with neighboring municipalities to increase concert events. | | | |

Partnerships and Funding

Funding Opportunities

There are multiple funding opportunities at the federal, state, regional and local levels to support park priorities in Upper Providence Township. Primary sources of funding include the use of municipal dollars, which are earned from tax revenue, fees, developer concessions, and borrowing. Federal, state, county, and local funding opportunities are also available to help plan, design, and construct the recommendations of this plan. Secondary sources of funds include private foundation monies and contributions from private donors, benefactors and non-profit groups.

Funding sources change from year to year: in some cases, available funds have decreased and in others the variety of funding has expanded; for example, the Commonwealth now provides funding opportunities for trail maintenance and equipment. The recommendations of this plan incorporate recreation facilities, improvements to existing facilities, trail developments, environmental restoration projects, and recreation programming and are therefore eligible for grant support through multiple funding sources.

Note: See Appendix 6.A for a full breakdown of potential grant sources.



Partnership Opportunities

Multiple partnership opportunities were identified during the course of this project through stakeholder interviews, regional plan reviews, and site-specific recommendations. The following groups are potential partners where Upper Providence should consider seeking to develop, or strengthen a relationship. These potential relationships would aim to support the implementation of co-beneficial recommendations made in the Parks Master Plan. Please refer to the Action Plan to see identified partnership projects.

Schuylkill River

Schuylkill River Greenways National Heritage Area

This Pottstown-based non-profit serves the five-county heritage area and is committed to the stewardship of the Schuylkill River watershed and its heritage. This organization could be a prime ally for trail projects that create bike and pedestrian connectivity to and from the Schuylkill River Trail, in addition to programming and events in these spaces.

Information: <https://schuylkillriver.org/>



Natural Lands Trust - Schuylkill Highlands Conservation Landscape

A partnership program with the Natural Lands Trust, The Schuylkill Highlands Partnership aims to protect the natural and cultural resources, encourage economic development that creates a sustainable regional landscape and inspire people to care for, enjoy and explore the Schuylkill Highlands region. Grant funding is available through the Schuylkill highlands mini-grant program as well as Natural Lands' PECO Green Region Open Space Program.

Information: <http://www.schuylkillhighlands.org/>



Perkiomen Creek

Perkiomen Watershed Conservancy

The Perkiomen Watershed Conservancy works to conserve and protect the natural resources of the watershed, which encompasses 55 municipalities in 4 Pennsylvania counties, through education and inspiration, tools for action, engaging the watershed community, and increasing organizational stability. The watershed conservancy is particularly interested in partnering on projects that expand access for paddling and recreation to the Perkiomen Creek and other water trails.

Information: <https://www.perkiomenwatershed.org/>



Montgomery County

The County's support for parks, recreation, and trails as well as their management of other parks within the Township make them a natural partner for this plan. Funding is available through the MONTCO 2040 Implementation Grant Program, which is intended to assist communities in making direct physical improvements that achieve real targets toward the goals of Montgomery County's Comprehensive Plan (MONTCO 2040).

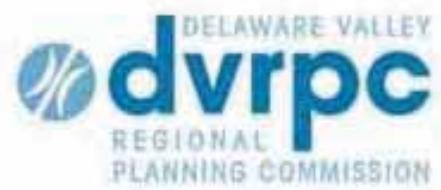
Information: <https://www.montcopa.org/>



Delaware Valley Planning Commission

DVRPC is the metropolitan planning organization for the greater Philadelphia region and aims to engage all possible partners to increase mobility choices, protect natural resources, and create healthy communities throughout the region. Funding is available through the Commission's TCDI grant program which supports trail and bicycle infrastructure development.

Information: <https://www.dvRPC.org/>



Neighboring Municipalities

Many neighboring municipalities rely heavily on the park and recreation facilities of Upper Providence. These communities are important partners for pursuing funding, making park improvements, and spreading awareness about the available facilities and hosting community events.

- *Spring City Borough*
- *East Pikeland Township*
- *Schuylkill Township*
- *Phoenixville Borough*
- *Lower Providence Township*
- *Collegeville Borough*
- *Trappe Borough*
- *Perkiomen Township*
- *Limerick Township*
- *Royersford Borough*

Local Business Partners

Through the planning process multiple partnership opportunities for local businesses presented themselves, including the potential for advertising in parks and inclusion in wayfinding signage in exchange for financial support. Similarly, the engagement of businesses near existing park and trail facilities, such as Kona Ice KOP near the Station Avenue SRT Trailhead, provides an important opportunity to support resident desires and local businesses simultaneously.

L.L. Bean Outdoor Discovery School

The L.L Bean Outdoor Discovery School partners with the Township to offer programming. Currently this is primarily archery at Anderson Farm Park.

Information: <https://www.llbean.com/lhb/shop/509115>

REI

REI offers outdoor recreation programming throughout the greater region and could be a potential partner for the Township in hosting events and utilizing facilities.

Information: <https://www.rei.com/stores/king-of-prussia.html>

Other Partnerships

Ursinus College

A growing number of Ursinus college students take advantage of Township parks and recreation resources. There is potential to partner with the college, particularly to offer more passive recreation to serve this young adult population.

Information: <https://www.ursinus.edu/>



Collegeville Economic Development Corporation

The Collegeville Economic Development Corporation aims to promote the Collegeville Borough business district and Ursinus College campus as a destination. The Township's existing connection into Collegeville via the Perkiomen Trail make it a natural partner for this local business community.

Information: <https://www.collegevilledevelopment.org/>



Pottstown Area Regional Recreation

This organization is comprised of representatives from seven municipalities in the Pottstown Metropolitan Region including the Pottstown Area Health and Wellness Foundation (PAHWF), the Schuylkill River Greenway Association (SRGA) and a full-time Regional Recreation Coordinator committed to improving the regional parks, recreational opportunities and open spaces. The efforts of this organization would fit well with facility development and programming for Township parks.

Information: <https://www.parrc.net/about>

Simplex Health

Simplex Health currently partners with the Township to provide and manage fitness equipment at the Anderson Farm Park Recreation Center. Simplex could be a strong partner in expanding and promoting fitness and recreation programming both in and out of the Recreation Center.

Information: <https://www.simplexhealth.com/>

Upper Providence Little League

Upper Providence Little League is a recreational softball and baseball league for children ages 4-16 that offers programs in the spring, summer, and fall. This organization primarily utilizes MacFarlan park and is a natural partner for any projects or improvements there, particularly as they relate to fields and amenities.

Information: <https://www.up-littleleague.org/>



Valley Forge National Historical Park

Valley Forge National Historical Park is comprised of 3,500 acres of monuments, meadows, and woodlands that commemorate Revolutionary War history. With access to the park from the Township via the Schuylkill River Trail and the Perkiomen Trail, a partnership with the park could be beneficial to the greater community.

Information: <https://www.nps.gov/vafo/index.htm>

Upper Providence Township

Master Park Plan

Appendices

- Appendix 2.A – Meeting Minutes
- Appendix 2.B – Public Input
- Appendix 4.A – Upper Providence Township Land Development List
- Appendix 5.A – Inclusive & Nature Play Example Sheets
- Appendix 5.B – Splash Pads
- Appendix 5.C – Pump Tracks
- Appendix 5.D – Bicycle Camping
- Appendix 5.E – Kayak Launch
- Appendix 5.F – Wayfinding and Educational Signage
- Appendix 5.G – Cost Opinions
- Appendix 5.H - Trails
- Appendix 5.I – DRAFT Fire-EMS Campus Plan
- Appendix 5.J – Shade Structures
- Appendix 5.K – Playgrounds
- Appendix 5.L – ADA Parking
- Appendix 5.M – Temporary Skating Rink
- Appendix 5.N – Dog Park Amenities
- Appendix 5.O – Tree Planting Detail
- Appendix 5.P – Native Plants
- Appendix 5.Q – Pickleball Court Layout – USA Pickleball
- Appendix 5.R – Invasive Plants from DCNR
- Appendix 5.S – Rain Gardens
- Appendix 5.T – Community Supported Agriculture
- Appendix 5.U – Riparian Buffer Plantings
- Appendix 5.V – Landscape Restoration
- Appendix 6.A – Funding Opportunities

Appendix 2.A - Meeting Minutes

- Steering Committee Meeting #1
- Steering Committee Meeting #2
- Steering Committee Meeting #3
- Steering Committee Meeting #4
- Steering Committee Meeting #5
- Focus Group Meeting: Taylor Farm



IN-HOUSE MEMORANDUM

Date: May 20, 2020

To: Susan Hoffman, Director of Parks & Recreation, Upper Providence Twp.

From: Kent Baird, AICP, Community Planner

CC: Timothy Tieperman, Upper Providence Twp. Manager
Geoffrey Grace, AICP

Sarah Sato

Reference: Upper Providence Township Master Park Plan
Steering Committee Meeting #1—Minutes

Summary

The first Steering Committee Meeting for the Upper Providence Township Master Park Plan was held at 6:00PM on Wednesday, May 20, 2020 via Township Zoom Conference Call, and as part of the regularly planned Parks & Recreation Board meeting. There were eleven (11) individuals in attendance. The following is a summary of the meeting and steering committee comments.

Meeting Minutes

Parks & Recreation Board meeting led by Timothy Tieperman, Susan Hoffman, and Sarah Sato, with Sarah as chief moderator. The Park Plan discussion was led by Kent Baird using a shared Power Point presentation.

- ❖ Sign in Sheet (not in-person meeting but meeting recorded); Agenda (Park Board agenda used)

I. Introductions

Mr. Baird introduced the plan as a primary support document of the Comprehensive Plan update; alongside the soon to be prepared Active Transportation Plan. The Park Master Plan is best described as a document to reveal the opportunities and constraints of existing parks and the community need for ever changing recreation and new parks.

II. Power Point Presentation

Mr. Baird shared a presentation with the Steering Committee members to briefly introduce the project, the Committee responsibilities, initial goals prepared by the township, and base mapping and photographic inventory used to date.

A. Committee Responsibilities

1. Set the Vision of the Plan
2. Refine the Goals and Objectives of the Plan
3. Identify the Stakeholder names and contacts for outreach
4. Complete a Stakeholder Questionnaire as well
5. Review Plan Deliverables
6. NOTE: this plan is not a master site development plan with construction drawings, nor is it a master trail plan to duplicate the ongoing work of the Active Transportation Plan. Internal park trails and connections to regional and local trails are vitally important and discussed however.

B. The Committee reviewed base mapping, photos and early opportunities and constraints of existing parks, and identified areas for mapping updates and additional information.

1. Early Goals:
 - Refine a Park & Recreation Vision for Upper Providence Township's park system
 - Identify active & passive uses for Taylor Farm
 - Prepare plans for Anderson Farm, Black Rock and MacFarlan parks
 - Identify partnership/leasing options for the Parkhouse Tract
 - Identify trail connections
2. Sarah Sato updated the Board on the status of new Bluebird boxes, and that proposed playground improvements are postponed for the moment, and she will provide schematic plans and location mapping to the G&A planners, for the park plan;
3. Kathy Drennan found some parcels at Lower Perkiomen Valley Park could use some ownership/signage clarity both on the map, and on the ground for the plan and the public;
4. Laurie Higgins suggested that Fitzwater Restaurant, and its watercraft rentals be looked at carefully for its trail-destination opportunities, and for its parks and recreation synergies;

5. Wendy Earle echoed Laurie's comments and remarked that trail use is more enjoyable with a destination, including food and beverage places;
6. Laurie Higgins identified some changes and trail completion may have occurred at Lock 60 recently that would benefit the plan. She further added that internal park trails and trail loops would be very well received

C. The Board opened regular discussion regarding all Park & Recreation matters, to update that summer camp and event cancellations are being offset, from a morale standpoint, by social media and crafting kits prepared by the township and shared with families. So far, the crafting kits are really well received.

The Meeting was adjourned around 7:20 PM.

NEXT MEETING: JUNE 17th at 6:00PM with presentations uploaded at 5:30PM



IN-HOUSE MEMORANDUM

Date: June 19, 2020

To: Susan Hoffman, Director of Parks & Recreation, Upper Providence Twp.

From: Kent Baird, AICP, Community Planner

CC: Timothy Tieperman, Upper Providence Twp. Manager
Geoffrey Grace, AICP

Sarah Sato

Reference: Upper Providence Township Master Park Plan
Steering Committee Meeting #2—Minutes

Summary

The second Steering Committee Meeting for the Upper Providence Township Master Park Plan was held at 6:00PM on Wednesday, June 17, 2020 via Township Zoom Conference Call, and as part of the regularly planned Parks & Recreation Board meeting. There were eight (8) individuals in attendance. The following is a summary of the meeting and steering committee comments.

Meeting Minutes

Parks & Recreation Board meeting led by, Susan Hoffman. The Park Plan discussion was led by Kent Baird using a shared Power Point presentation.

- ❖ Sign in Sheet (not in-person meeting but meeting recorded); Suggested Agenda provided in Power Point

I. Introductions

Mr. Baird re-introduced the plan as a stand-alone document that serves as: 1) a primary support document of the Comprehensive Plan update, and 2) a public planning exercise alongside the soon to be prepared Active Transportation Plan. The Park Master Plan is best described as a document to reveal the opportunities and constraints of existing parks and the community need for ever changing recreation and new parks.

II. Power Point Presentation

Mr. Baird shared a presentation (also emailed in PDF post-mtg) with the Steering Committee members to:

- describe the early findings of the Community Background analysis of the township and regional demographics;
- discuss Land Use categories;
- report on the existing plans reviewed and under review;
- discuss the parks visited, inventoried, and re-mapped, per the previous steering committee meeting;
- discuss current park and recreation trends, even as of COVID 19 outbreak; and,
- review an example/suggested list of Stakeholders (for interview), the questionnaire, and remind members to complete their questionnaires.

A. The Committee spent significant time reviewing the updated mapping of each park, including test mapping for regional trails and county-owned parks that influence recreation in the township.

a. Taylor Farm Park

- i. Map edits—stream bisecting area is very wet, swampy and marshy
- ii. Map edits—add the historic ice house to the map
- iii. Use—Geoff C. and Susan H. suggest the township hasn't defined the use yet and don't yet want people to use it

b. Anderson Farm Park

- i. Use—Lynn remarked one entry-driveway leads to issues and that includes parking overflow along the driveway. The committee concurred that parking tends to be at a premium certain times and during overlapping activities
- ii. Use—Kent asked if fishing in the pond was a possible use or camping---Susan said in fact LLBean was engaged to boost the fishing opportunities and Kathleen suggested camping could be interesting around the pond. Wendy asked to make sure the liabilities of camping be investigated

c. Black Rock Park

- i. Use—to encourage free flow of ideas, Kent suggested the first issue for a visitor might be the non-existent restrooms. Wendy concurred. Geoff C. suggested the municipal engineer might have an update regarding the Firehouse and other plans. Kathleen and Susan added that this park was the subject of a new trail and new grant funding recently.

d. MacFarlan Park

- i. Use—Kent noted that a first review of the park could leave a visitor feeling pretty restricted, given the predominance of baseball and softball. One way to free up some of that use could be to add a ‘Hall of Fame’ for young local athletes, add a splash pad, or add other small uses. He additionally noted that a full townshipwide park map could allow non-ball players to head out to explore other parks.
- ii. Use—Maria asked if the township had ever considered basketball courts or other ball courts. Susan remarked that previous park planning and park development could be looked at. Much of park planning in earlier decades was limited to a select number of uses.
- iii. Use—Kathleen noted that there really was only one small playground as another use for siblings and family members and friends of baseball and softball [enthusiasts].

e. Hess Park/Mildred Hess Preserve

- i. Use—the committee shared that this property was difficult to access and not well defined yet. Kent remarked that the property likely needed additional review of any deed restrictions, conservation easements, or restrictions of use and development, if the township is allowed at all; ie. if no parking is allowed—the township could acquire an adjacent parcel to develop parking

f. Longford Park/Reynolds Dog Park

- i. Use—Lynn noted that these parks tend to receive a lot of complaints for the conditions of the grounds, the parking, and the scheduling. Susan added that this was still the case for the fields that are organized for large breeds (2 fields) and small breeds (1 field). The committee explored the idea of moving the small breed dog area to another park.
- ii. Use—as a trail head this park could use some additional design elements

g. Port Providence Park

- i. Use—this park has the least amount of usage, the most weather/micro-climate impacted playground equipment (along the canal) and the least parking
- ii. Use—the committee explored the idea of making this an additional Schuylkill River Trail trailhead. Kent explored the idea of a

pedestrian bridge with the committee. And, using the example of the Wy-Hit-Park and the D&L Trail, there might be room to explore bike camping registration with the Schuylkill River Greenways.

- iii. Use—Susan suggested this park could be a good community garden destination. The committee agreed that use was yet unexplored.

- h. Montgomery County

- i. Lower Perkiomen Valley Park

- 1. Use—Kathleen offered that this park has at different times seemed a good boat launch, with cement blocks and boat ramps oddly defined and that it should include fishing. Lynn added there might be additional newer boat ramp facilities nearby, if not already on this site
 - 2. Map Edits—Kathleen suggested there were restrooms that mapping could label
 - 3. Use—Sarah added this county owned park is well liked, and there are plans to expand the trails. Both Lynn and Sarah noted that this is a great link to Phoenixville. Lynn suggested future uses should encourage people to come from Phoenixville to visit the park; such as festivals, concerts, etc.

- ii. Lock 60 at the Schuylkill River Park

- 1. Use—this park is well known, well used, and has had some improvements over the years. Kathleen added that it could serve as an example of or a destination for a ‘Historic Trail’ theme in Up Providence. This idea was well liked, and given the high number of historic sites it could be a good starting and ending point for a self-guided tour of the township.

- iii. Upper Schuylkill Valley Park

- 1. Use—this park is one of the few accessible parks for wildlife and environmental education. Sarah has volunteered here and notes that it is well used and could serve as a recreation destination and partner for the township.

B. Stakeholders and Stakeholder Questionnaires

- a. The Committee spent some time reviewing the suggested list of stakeholders provided by Kent. And, to the list, excellent

recommendations were made for the Athletic Leagues, the Ursinus Environmental Education, Springsford School District, High School groups, and anyone seeking outdoor classrooms. Committee added that they would like to reach out to REI, LLBEAN, historical groups and societies, youth leagues, and especially the bike shops in Phoenixville and Schwenksville

- b. Definitions—Kent repeated that while different from the Stakeholder List, the list of members participating in the Steering Committee meetings can include groups such as PaDCNR, and others who would also complete the questionnaire.
- c. Reminder—Kent reminded the group and staff to complete their copy of the questionnaire.

III. Next Meeting

- a. The next meeting was discussed as a possible field visit or parks tour. Susan and Kent would coordinate and get in touch.

The Meeting was adjourned around 8:30 PM.

NEXT MEETING: TBD as In-the-Field Steering Committee Meeting Only



GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

MEMORANDUM

Date: July 16, 2020

To: Susan Hoffman, Director of Parks & Recreation, Upper Providence Twp.

From: Elizabeth Rosencrans, Junior Planner

cc: Kent Baird, AICP, Community Planner
Timothy Tieperman, Upper Providence Twp. Manager
Geoffrey Grace, AICP
Sarah Sato

Reference: Upper Providence Township Master Park Plan
Steering Committee Meeting #3—Minutes

Summary

The third Steering Committee Meeting for the Upper Providence Township Master Park Plan was held at 6:00PM on Wednesday, July 15, 2020 via Township Zoom Conference Call, and as part of the regularly planned Parks & Recreation Board meeting. There were nine (9) individuals in attendance. The following is a summary of the meeting and steering committee comments.

Minutes

Parks & Recreation Board meeting led by Susan Hoffman. The Park Plan discussion was led by Susan and Elizabeth Rosencrans using a shared Power Point presentation (attached)

- Sign in Sheet (not in-person meeting, but meeting recorded); Suggested Agenda provided in Power Point

I. Introductions

Ms. Rosencrans attended the committee meeting on behalf of Mr. Baird and provided a brief introduction regarding her relationship to the plan.

II. Steering Committee Discussion

Thus far the Park & Recreation Board has served as the Steering Committee for the Master Park Plan. Per previous discussion, the Steering Committee meetings will be separated from the Board meetings and include additional attendees from the Township.

- Susan and Sarah will attend the meetings as staff members
- Lynn Corrigan volunteered to attend as a representative of the Board
- There will likely be 3-4 committee meetings that will consist of plan discussion, status updates, and recommendation input.(Please refer to park plan budget for number of meetings held and yet to be held)

III. Park Tour

The park tour will be held Monday, July 20th at 1PM. The tour will give the Board a chance to get familiar with the Township's parks.

- Kent and Liz will provide maps of the parks with space to record comments/notes to discuss at the next committee meeting.
- Attendees will drive separately via a caravan approach from park to park, beginning at the Township building. The first four parks are those prioritized in the park plan proposal.
- The tour will likely take 2 hours depending on the amount of discussion at each park.

IV. Questionnaire Discussion

The group discussed their completion of the two (2) questionnaires Susan provided via email in June. So far, only two committee members have completed the forms.

- General Questionnaire- committee members will work to complete
- Park & Recreation Focused Questionnaire- because most committee members are new, they don't have the required knowledge to complete this form. Susan and Sarah will work to complete this questionnaire
 - Geoff Grace listed the past recreation and park plans completed and has/will share all documents with Kent.

V. Power Point Presentation

Ms. Rosencrans shared a brief presentation (attached) with the Steering Committee members to provide an update on the Stakeholder Interview process. Key points included:

- What is a Stakeholder- an individual that represents a larger, influential group of people in the community that can impact, or will be impacted by the project.
- 24 Stakeholders identified
 - 11 Interviews completed
 - 6 Interviews either scheduled or being coordinated
 - 7 Stakeholders still trying to be contacted- Susan will help with outreach to these individuals if needed.
- Top findings
 - Stakeholders Very Satisfied with Upper Providence facilities
 - Top activities: walking, bicycling, canoeing/kayaking
 - Top needs: trails, water access, signage, historic preservation
 - Top opportunities: partnerships, connectivity, preservation
 - Top challenges: funding, timing, safety, COVID adaption

VI. Next Steps/To-Do's

- a. Kent and Liz to prepare park maps with a space for questions and comments for the Park Tour. They will print and share the maps at the Township building at the beginning of the Tour.
- b. Susan and Sarah to complete the Park & Recreation focused questionnaire.
- c. Geoff Grace to share park documents with Kent
- d. Kent to share an updated timeline of the project with the Park and Recreation Board
- e. Next Steering Committee meeting- TBD, based on identification of, and outreach to additional committee members.



GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

Upper Providence Township Master Park Plan Update

Steering Committee Meeting #3: Wednesday, July 15, 2020

Suggested Agenda

- Stakeholder Update

Stakeholders

1. Upper Providence Township
2. Lower Providence Township
3. Royersford Borough
4. Limerick Township
5. Perkiomen Township
6. Trappe Borough
7. Trappe Borough Historical Society
8. Collegeville Borough
9. Phoenixville Borough
10. Schuylkill Township
11. East Pikeland Township
12. Spring City Borough
13. Upper Providence Little League
14. Upper Providence Chief of Fire & Emergency Services
15. Pottstown Area Regional Recreation
16. Schuylkill Highlands Partnership
17. Perkiomen Creek Watershed Conservancy
18. Valley Forge National Historical Park
19. Schuylkill River Greenways NHA
20. L.L. Bean
21. REI
22. Ursinus College
23. Collegeville Economic Development Corporation
24. Simplex Health

Stakeholders & Questionnaires

Updated: July 15, 2020

**Upper Providence Township
Master Park Plan Update
Stakeholder Status**



| Stakeholder | Initial Contact | | Next Steps |
|--|-----------------|-----------|---|
| | Format | Date | |
| 1 Upper Providence Township | email | 7/15/2020 | Interview scheduled for 7/17/2020 |
| 2 Royersford Borough | email | 6/29/2020 | Interview Completed 7/7/2020 |
| 3 Limerick Township | email | 6/29/2020 | Interview Completed 7/13/2020 |
| 4 Perkiomen Township | email | 6/29/2020 | Coordinating date for Interview |
| 5 Trappe Borough | email | 6/29/2020 | Interview scheduled for 7/16/2020 |
| 6 Trappe Borough Historical Society | email | 7/7/2020 | Interview scheduled for 7/20/2020 |
| 7 Collegeville Borough | email | 6/29/2020 | awaiting response |
| 8 Lower Providence Township | email | 6/29/2020 | Interview Completed 7/9/2020 |
| 9 Pottstown Area Regional Recreation (PARR) | email | 6/29/2020 | Coordinating date for Interview |
| 10 Schuylkill Highlands | call | 6/29/2020 | Interview Completed 7/9/2020 |
| 11 Perkiomen Creek Watershed Conservancy | email | 6/29/2020 | Interview Completed 7/10/2020 |
| 12 Phoenixville Borough | email | 6/29/2020 | Interview completed 7/9/2020 |
| 13 Schuylkill Township | email | 6/29/2020 | Interview Completed 7/8/2020 |
| 14 East Pikeland Township | email | 6/29/2020 | Interview Completed 7/8/2020 |
| 15 Spring City Borough | call/email | 6/29/2020 | Interview Completed 7/10/2020 |
| 16 Valley Forge National Historical Park | call | 6/29/2020 | awaiting response |
| 17 Schuylkill River Greenways NHA | email | 6/29/2020 | Interview Completed 7/8/2020 |
| 18 Upper Providence Little League | email | 6/29/2020 | awaiting response |
| 19 L.L. Bean | email | 6/29/2020 | awaiting response |
| 20 REI | email | 6/29/2020 | Unable to provide interview at this time. G&A to provide weekly outreach to see if availability changes |
| 21 Ursinus College | email | 6/29/2020 | awaiting response |
| 22 Collegeville Economic Development Corporation | email | 6/29/2020 | Interview completed 7/10/2020 |
| 23 Upper Providence Chief of Fire and Emergency Services | email | 7/7/2020 | Coordinating date for Interview |
| 24 Simplex Health | email | 7/15/2020 | awaiting response |

**GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES**

24 TOTAL
STAKEHOLDERS

11 INTERVIEWS
COMPLETE

6 IN THE WORKS

7 CONTINUING
OUTREACH

Stakeholders & Questionnaires

Updated: July 14, 2020

Upper Providence Township Master Park Plan Update Stakeholder Status



Initial Contact

TOP STAKEHOLDER FINDINGS

- 1 Upper Providence Township email 6/29/2020 awaiting response
- 2 Royersford Borough email 6/29/2020 Interview completed 7/7/2020
- 3 Trappe Borough email 6/29/2020 awaiting response
- 4 Anderson Farm Park > Most Stakeholders Very Satisfied with facilities
- 5 Longford Park/Park/Reynolds Dog Park
- 6 Pottstown Area Regional School District > Top activities: Walking, Bicycling, and Canoeing/Kayaking
- 7 Schuylkill Headwaters > Top amenities needed: Trails, Water Access, Educational/Amenity/Wayfinding Signage, Historic Preservation
- 8 Phoenixville Borough > Top Opportunities: Partnerships, Connectivity, Land Protection
- 9 Spring City Borough > Top Challenges: Funding, Timing, Safety, Adapting to COVID
- 10 Valley Forge National Historical Park
- 11 Schuylkill River Greenway, NHA

- 12 Ursinus College
- 13 Collegeville Economic Development Corporation
- 14 Upper Providence Chief of Fire and Emergency Services
- 15 East Pikeland Township
- 16 Spring City Borough
- 17 Valley Forge National Historical Park
- 18 Schuylkill River Greenway, NHA
- 19 Ursinus College
- 20 Collegeville Economic Development Corporation
- 21 Upper Providence Chief of Fire and Emergency Services
- 22 Ursinus College
- 23 Collegeville Economic Development Corporation
- 24 Upper Providence Chief of Fire and Emergency Services

TOP COMMENTS

- ❑ Upper Providence has some of the best facilities in the area
- ❑ Multiple partnership opportunities (neighboring municipalities & non-profits)
- ❑ Potential for enhancing information sharing platforms
- ❑ Planning needed for the future-recreational needs and demand are increasing



Stakeholders & Questionnaires

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--------------------------|--------------------------|--------------|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------|--------------|----------------------|-------|--------------------------|--------------------------|--------------------------|--------------------------|-------------|--------------|--------------|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------|--------------|----------------------|-------|--------------------------|--------------------------|--------------------------|--------------------------|
|  | <p style="text-align: center;">Upper Providence Township Master Park Plan Update Questionnaire</p> <p>On May 20, 2014, the Upper Providence Township Board of Supervisors (the "Board") adopted the Upper Providence Township Master Park Plan ("Master Park Plan"). The Master Park Plan is a long-range planning document that identifies the Township's parks and recreation resources and provides a framework for protecting and enhancing these resources. The Master Park Plan is intended to serve as a guide for the Township's park and recreation activities for the next 20 years.</p> <p>Step 1: Tell us about yourself (check one):</p> <p>Male <input type="checkbox"/> Female <input type="checkbox"/> Prefer not to say <input type="checkbox"/></p> <p>How old are you? _____ Age Group: _____</p> <p>How often do you exercise? _____ Intensity of exercise: _____</p> <p>How many people are in your household? _____</p> <p>Step 2: Do you live near the Upper Providence Township Park & Recreation facilities?</p> <p>Are you a Upper Providence Township park user or visitor to facilities often? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>What facilities do you frequent? _____</p> <p>How often do you use the facilities (check all that apply):</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50px; text-align: center;">Once a week</td> <td style="width: 50px; text-align: center;">Twice a week</td> <td style="width: 50px; text-align: center;">Once a month</td> <td style="width: 50px; text-align: center;">Less than once a month</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td style="text-align: center;">Once a year</td> <td style="text-align: center;">Twice a year</td> <td style="text-align: center;">Once every few years</td> <td style="text-align: center;">Never</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table> <p>Step 3: Are you a park user or visitor to facilities often?</p> <p>What facilities do you frequent? _____</p> <p>How often do you use the facilities (check all that apply):</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50px; text-align: center;">Once a week</td> <td style="width: 50px; text-align: center;">Twice a week</td> <td style="width: 50px; text-align: center;">Once a month</td> <td style="width: 50px; text-align: center;">Less than once a month</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td style="text-align: center;">Once a year</td> <td style="text-align: center;">Twice a year</td> <td style="text-align: center;">Once every few years</td> <td style="text-align: center;">Never</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table> <p>Step 4: Are you a member of a local park and recreation association?</p> <p>What is your membership level? _____</p> <p>How many years did you join the association? _____</p> <p>Are there any changes you would like to happen? _____</p> | Once a week | Twice a week | Once a month | Less than once a month | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Once a year | Twice a year | Once every few years | Never | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Once a week | Twice a week | Once a month | Less than once a month | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Once a year | Twice a year | Once every few years | Never | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Once a week | Twice a week | Once a month | Less than once a month | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Once a year | Twice a year | Once every few years | Never | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Once a week | Twice a week | Once a month | Less than once a month | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Once a year | Twice a year | Once every few years | Never | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Have you completed
your form?



GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

Upper Providence Township Master Park Plan Update

Park Steering Committee Meeting #3: Wednesday, July 15, 2020



GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

MEMORANDUM

Date: September 16, 2020

To: Susan Hoffman, Director of Parks & Recreation, Upper Providence Twp.

From: Elizabeth Rosencrans, Junior Planner

cc: Timothy Tieperman, Upper Providence Twp. Manager
Kent Baird, AICP, Community Planner
Geoffrey Grace, AICP
Sarah Sato

Reference: Upper Providence Township Master Park Plan
Steering Committee Meeting #4—Minutes

Summary

The fourth Steering Committee Meeting for the Upper Providence Township Master Park Plan was held at 6:00PM on Wednesday, September 16, 2020 via Township Zoom Conference Call, and as part of the regularly planned Parks & Recreation Board meeting. There were ten (10) individuals in attendance. The following is a summary of the meeting and steering committee comments.

Minutes

Parks & Recreation Board meeting led by Susan Hoffman. The Park Plan discussion was led by Susan and G&A's Elizabeth Rosencrans using a shared Power Point presentation (attached)

- Sign in Sheet (not in-person meeting, but meeting recorded); Suggested Agenda provided in Power Point

I. Introductions

Ms. Rosencrans attended the committee meeting on behalf of Mr. Baird and provided a summary of the stakeholder questionnaire results and findings from the Public Workshop.

II. Power Point Presentation

Ms. Rosencrans shared a brief presentation (attached) with the Steering Committee members to provide an update on the Stakeholder Interview results, the Public Workshop findings and the online survey:

- Stakeholder Findings were shared. A total of 24 requested stakeholders were contacted and 19 stakeholders responded and were interviewed. Ms. Rosencrans shared a summary of top comments from the stakeholder questionnaires/interviews.
- Public Workshop Findings- a summary of the in person/paper responses from the week-long public workshop at Anderson Farm Park were shared, including tables and key comments.
 - Committee Comment: People would like to see lighting at the dog park.
- Online Survey/Workshop- an update regarding the status of the survey was shared.
 - The online survey is still open. Susan and Sarah will send another social media notice to residents to remind them about the survey.
 - The survey will likely close 1 week after the second reminder is sent out.
- Steering Committee Status
 - Sue noted that the Park Board will remain as the Steering Committee for this project as no new members have yet been identified. Sue and Kent Baird will be connecting in the next few weeks to determine what the next committee meeting will look like and will be in touch.
 - Sue noted that the Park Board should have an idea of what this report will look like by Thanksgiving.

III. General Notes (from other meeting sections)

a. Park Watch

- i. Dog Park- residents have requested trash cans at the far end of the dog runs, benches and shade. Lighting at the park was also requested.
- ii. Port Providence Road Park- residents noted there are no clear

borders of the park boundaries, the park blends in with private property next door.

IV. Next Steps/To-Do's

- a. Sue will send out a second notification regarding the online survey;
- b. Sue and Kent will coordinate to outline the layout of the next Steering Committee Meeting.



Upper Providence Township Master Park Plan Update

Steering Committee Meeting #4: Wednesday, September 16, 2020

Suggested Agenda

- Stakeholder Findings
- Public Workshop Results
- Online Survey



Stakeholders: The List

1. Upper Providence Township
2. Lower Providence Township
3. Royersford Borough
4. Limerick Township
5. Perkiomen Township
6. Trappe Borough
7. Trappe Borough Historical Society
8. Collegeville Borough
9. Phoenixville Borough
10. Schuylkill Township
11. East Pikeland Township
12. Spring City Borough
13. Upper Providence Little League
14. Upper Providence Chief of Fire & Emergency Services
15. Pottstown Area Regional Recreation
16. Schuylkill Highlands Partnership
17. Perkiomen Creek Watershed Conservancy
18. Valley Forge National Historical Park
19. Schuylkill River Greenways NHA
20. L.L. Bean
21. REI
22. Ursinus College
23. Collegeville Economic Development Corporation
24. Simplex Health



Stakeholders: Responses

| Upper Providence Township Master Park Plan Update Stakeholder Status | | | |
|--|-----------------|--|-----------|
| Stakeholder | Initial Contact | Final Status | Next Step |
| 1. Upper Providence Township | email | 9/16/2020 Interview completed 9/16/2020 | |
| 2. Royersford Borough | email | 8/20/2020 Interview completed 8/19/2020 | |
| 3. Limerick Township | email | 8/20/2020 Interview completed 8/18/2020 | |
| 4. Perkiomen Township | email | 8/20/2020 Scheduling date for interview | |
| 5. Trappe Borough | email | 8/20/2020 Interview completed 8/18/2020 | |
| 6. Phoenixville Borough | email | 7/19/2020 Interview completed 7/18/2020 | |
| 7. Trappe Borough Historical Society | email | 8/20/2020 No Response | |
| 8. Collegeville Borough | email | 8/20/2020 Interview completed 8/18/2020 | |
| 9. Schuylkill Township | email | 8/20/2020 Interview completed 8/18/2020 | |
| 10. East Pikeland Township | email | 8/20/2020 Interview completed 8/18/2020 | |
| 11. Spring City Borough | email | 8/20/2020 Interview completed 8/18/2020 | |
| 12. Upper Providence Little League | email | 8/20/2020 Interview completed 8/18/2020 | |
| 13. Upper Providence Chief of Fire & Emergency Services | email | 8/20/2020 No Response | |
| 14. Pottstown Area Regional Recreation (PAR) | email | 8/20/2020 Unable to provide interview at this time | |
| 15. Schuylkill Highlands | call | 8/20/2020 Interview completed 7/16/2020 | |
| 16. Perkiomen Creek Watershed Conservancy | email | 8/20/2020 Interview completed 7/12/2020 | |
| 17. Phoenixville Borough | email | 8/20/2020 Interview completed 7/16/2020 | |
| 18. Schuylkill Township | email | 8/16/2020 Interview completed 7/16/2020 | |
| 19. East Pikeland Township | email | 8/20/2020 Interview completed 7/18/2020 | |
| 20. Spring City Borough | email | 8/20/2020 Interview completed 7/18/2020 | |
| 21. Valley Forge National Historical Park | call | 8/20/2020 No Response | |
| 22. Schuylkill River Greenways NHA | email | 8/20/2020 Interview completed 7/16/2020 | |
| 23. Upper Providence Little League | email | 8/20/2020 Questionnaire completed 8/14/2020 | |
| 24. L.L. Bean | email | 8/20/2020 Interview completed 8/18/2020 | |
| 25. REI | email | 8/20/2020 No Response | |
| 26. Ursinus College | email | 8/20/2020 Interview completed 7/16/2020 | |
| 27. Collegeville Economic Development Corporation | email | 8/20/2020 Interview completed 7/20/2020 | |
| 28. Upper Providence Chief of Fire and Emergency Services | email | 7/19/2020 Interview completed 7/14/2020 | |
| 29. Simplex Health | email | 7/13/2020 Interview completed 7/12/2020 | |

**24 TOTAL
STAKEHOLDERS**

**19 INTERVIEWS/
QUESTIONNAIRES
COMPLETED**

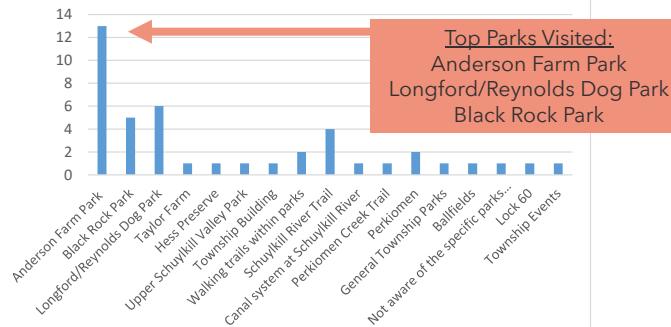


Stakeholders: Findings

Over **70%** Very Satisfied with existing Parks & Recreation

Important Areas:
Schuylkill River and Perkiomen Creek land & water trails

Figure_. Which park and recreation facilities do you frequent most?

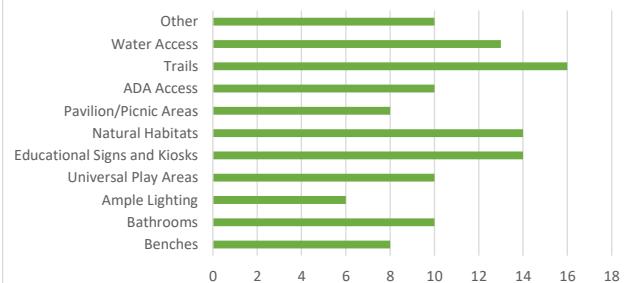


Stakeholders: Findings

Top Local Needs:
Trails
Natural Areas/ Habitat
Educational Signs & Kiosks

Top 'Other' Ideas:
Historical Preservation
Pump Tracks
Boat Launches
Programming for Seniors & Teens
Mapping

Figure_. What kind of park, recreation and trail facilities does the Township need?



Stakeholders: Findings

Top Opportunities:

Regional Trail Connections
Partnerships
Internal Park Trails
Natural Area/Open Space Enhancements
Implementing Popular Recreational Trends
Embracing Historical/Agricultural Heritage

Top Challenges

Funding
Staff Limitations
Long-Term Implementation
Educating Residents & Gaining Support
Getting the Word Out for Programs/Facilities
Effects of COVID-19



Public Workshop

Anderson Farm Park Week-long Workshop
Monday August 24 - Saturday August 29
7AM to 7PM



WE WANT YOUR FEEDBACK ON OUR **Park Master Plan**

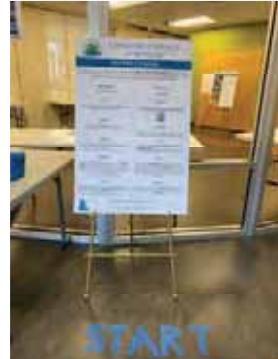
Starting Monday, August 24 through Saturday, August 29, stop by the UPT Recreation Center to participate in a park plan workshop to provide feedback about what you would like to change about or see in our parks.

This will be at your own pace and social distancing practices will be followed. Don't have time to stop by? Scan the QR code or visit the website below to fill out the survey.

Visit www.surveymonkey.com/r/UPTParkPlan



Public Workshop



Instructions Board
4 Display Boards
6 Map Stations
Paper Survey
(Hands Free Option Online)








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ENGINEERING & CONSULTING SERVICES

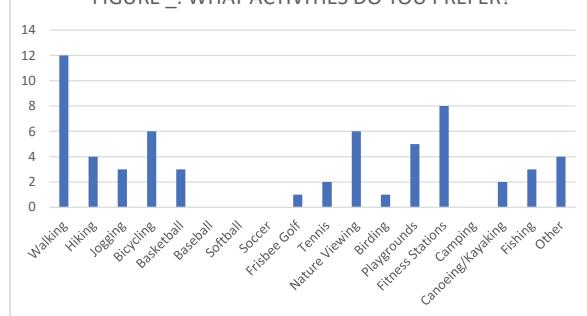
Public Workshop: Results

21 Surveys & Map Comments Received

Over **87%** Very Satisfied with existing Park & Recreation

Top Activities Enjoyed:
Walking
Fitness Stations
Bicycling
Nature Viewing

FIGURE _. WHAT ACTIVITIES DO YOU PREFER?



| Activity | Count |
|-------------------|-------|
| Walking | 12 |
| Hiking | 4 |
| Jogging | 3 |
| Bicycling | 6 |
| Basketball | 3 |
| Baseball | 0 |
| Softball | 0 |
| Soccer | 1 |
| Frisbee Golf | 0 |
| Tennis | 2 |
| Nature Viewing | 6 |
| Birding | 1 |
| Playgrounds | 5 |
| Fitness Stations | 8 |
| Camping | 0 |
| Canoeing/Kayaking | 2 |
| Fishing | 3 |
| Other | 4 |



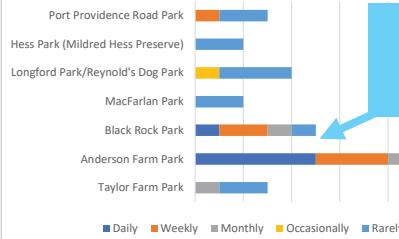
GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

Public Workshop: Results

80% felt parks were Well Maintained
&
Most facilities ranked 'excellent' or 'good'

Safety Ranking:
83% always feel safe
9% sometimes feel safe
8% only feel safe during the day

Figure __. HOW OFTEN DO YOU USE THE PARKS?



Most Frequented Parks
Anderson Farm Park
Black Rock Park



Public Workshop: Results

Top Park Needs:
Community Areas
Trails
Pickleball/Tennis Courts

Other Needs:
Natural Areas
Wildlife Habitat

FIGURE __. WHAT ARE YOUR PARK NEEDS?



Online Survey & Workshop



Upper Providence Township: Master Park Plan Update Public Survey

Welcome to the Master Park Plan Update Survey

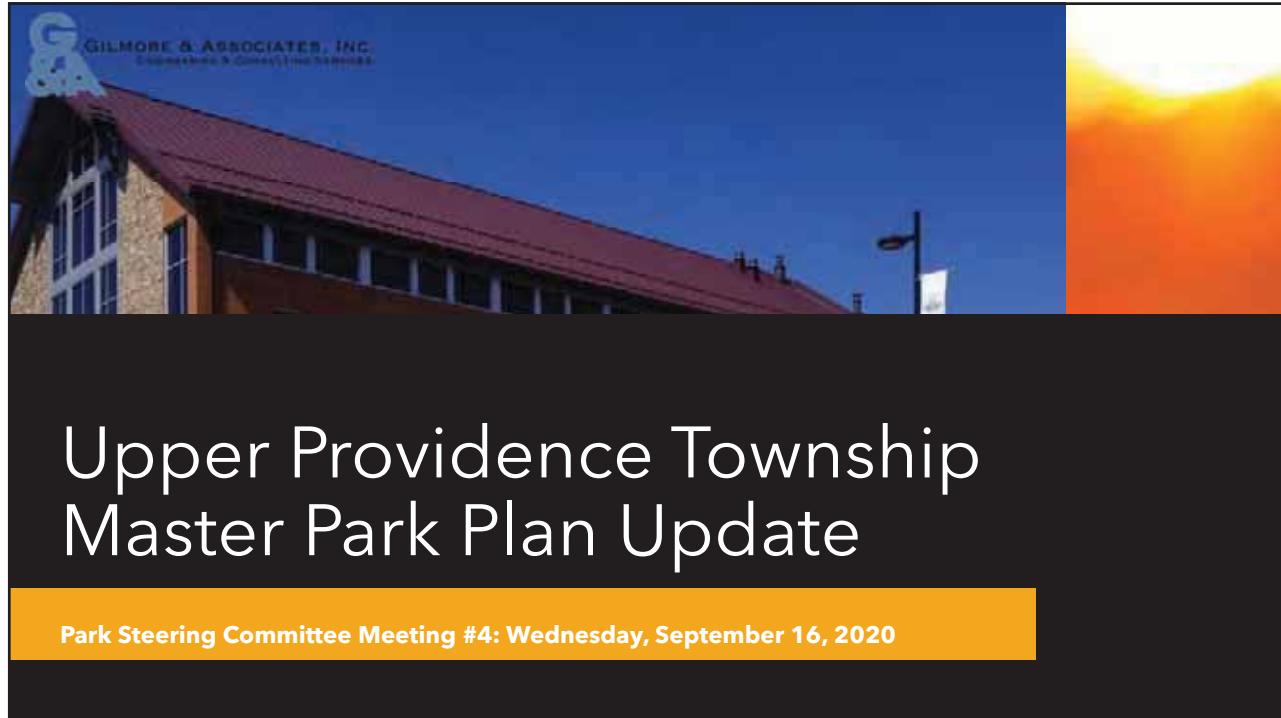
Do you think the natural and scenic beauty of Upper Providence Township? Do you enjoy the numerous opportunities of the Township? Would you like to see more? If so, Upper Providence Township needs your input with the evaluation and improvement of our park and recreation facilities. Please complete the following survey and let us know your thoughts and ideas.

Start Survey

Still Open!
88 Responses to-date



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**Upper Providence Township
Master Park Plan Update**

Park Steering Committee Meeting #4: Wednesday, September 16, 2020



Upper Providence Township Master Park Plan Update

Steering Committee Meeting #5: Wednesday, October 21, 2020

Suggested Agenda

- Online Survey Results
- Initial Concept Plans
- Public Workshop #2



Online Survey: Results

108 Total Responses

Over **60%** Very Satisfied with existing Park & Recreation

Top Activities Enjoyed:
Walking
Playgrounds
Hiking
Bicycling/Nature Viewing

What activities do you prefer (check all that apply)?

| Activity | Percentage |
|------------------------|------------|
| Walking | ~95% |
| Hiking | ~50% |
| Jogging | ~25% |
| Bicycling | ~45% |
| Basketball | ~20% |
| Baseball | ~15% |
| Softball | ~10% |
| Soccer | ~10% |
| Frisbee Golf | ~10% |
| Tennis | ~20% |
| Nature Viewing | ~40% |
| Birding | ~10% |
| Playgrounds | ~50% |
| Fitness Stations | ~25% |
| Camping | ~20% |
| Canoeing/Kayaking | ~15% |
| Fishing | ~15% |
| Other (please specify) | ~10% |

90% felt parks were Well Maintained & Most facilities ranked 'excellent' or 'good'

Safety Ranking:
83% always feel safe
8% sometimes feel safe
8% only feel safe during the day

Most Frequented Parks
Anderson Farm Park
Black Rock Park

How often do you use the parks?

| Park | Daily | Weekly | Monthly | Occasionally | Rarely |
|--------------------------------|-------|--------|---------|--------------|--------|
| Taylor Farm Park | ~10% | ~10% | ~10% | ~10% | ~75% |
| Anderson Farm Park | ~10% | ~30% | ~30% | ~30% | ~0% |
| Black Rock Park | ~10% | ~10% | ~20% | ~20% | ~50% |
| Macfarlan Park | ~5% | ~5% | ~10% | ~10% | ~65% |
| Longford Park/Reynold's Dog... | ~5% | ~10% | ~10% | ~10% | ~65% |
| Hess Park/Mildred Hess... | ~5% | ~5% | ~5% | ~5% | ~90% |
| Port Providence Road Park | ~5% | ~5% | ~5% | ~10% | ~75% |

Online Survey: Results

90% felt parks were Well Maintained & Most facilities ranked 'excellent' or 'good'

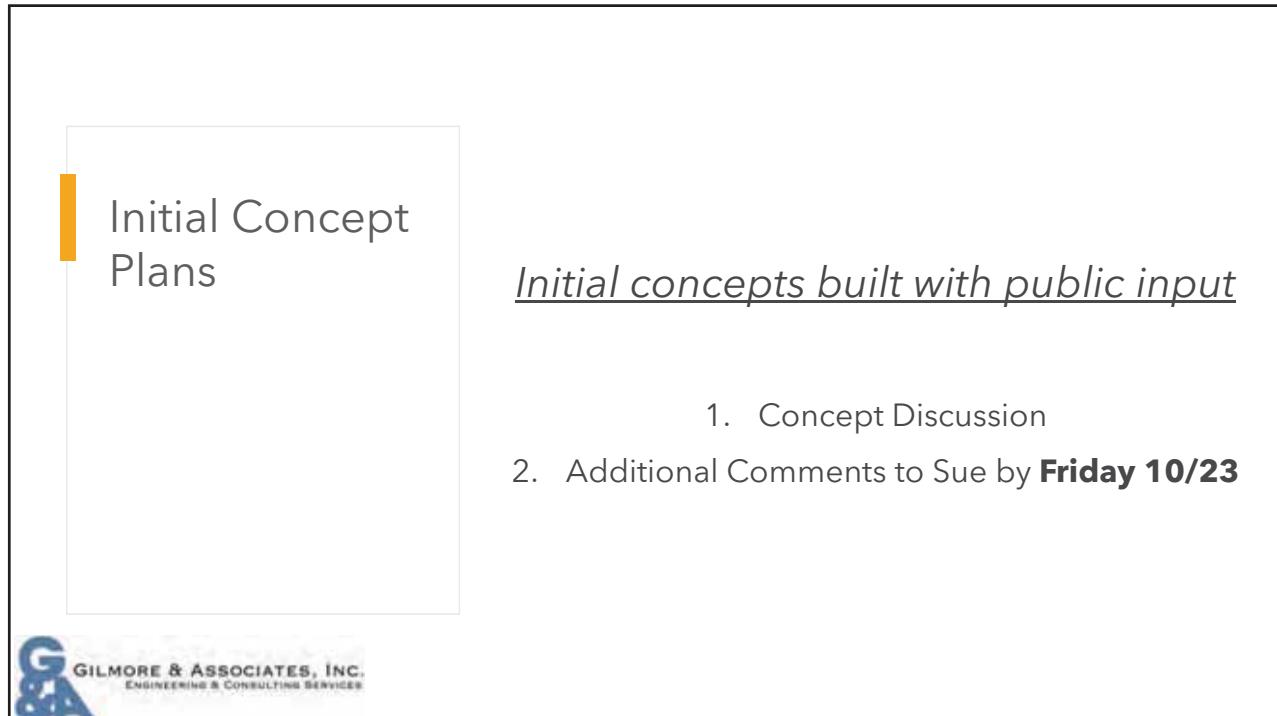
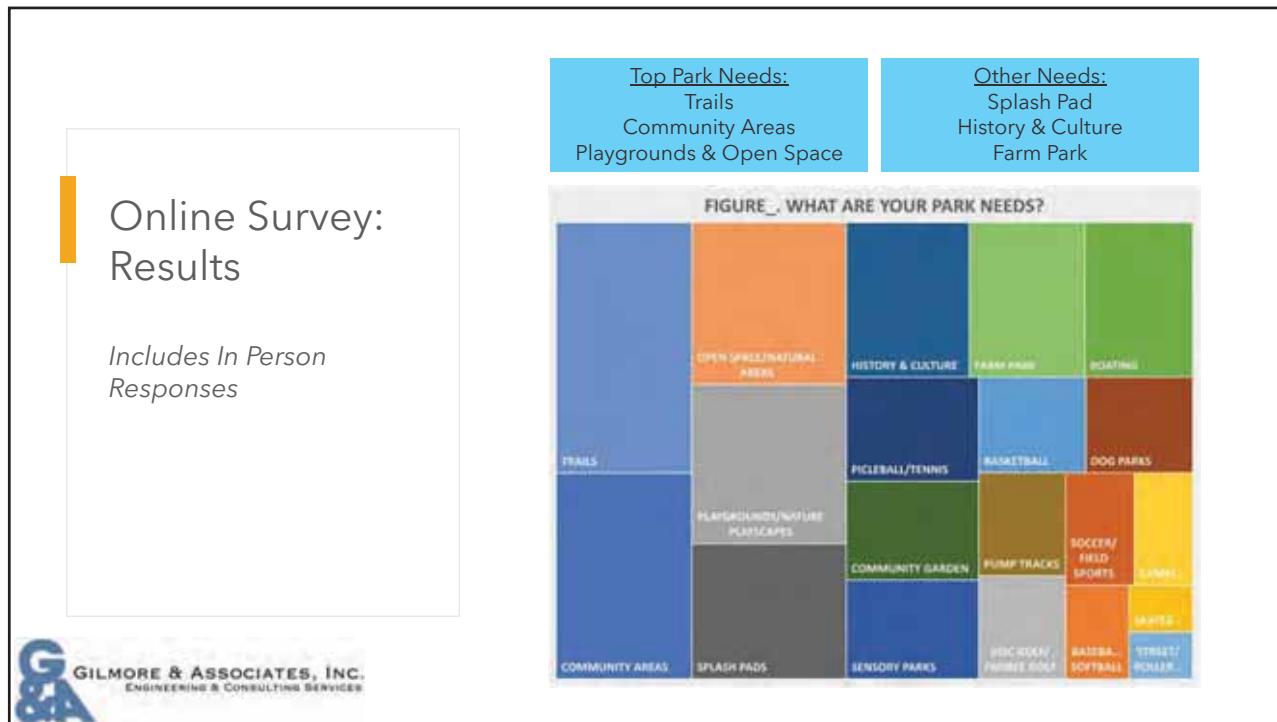
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| Port Providence Road Park | ~5% | ~5% | ~5% | ~10% | ~75% |

2



Taylor Farm Park



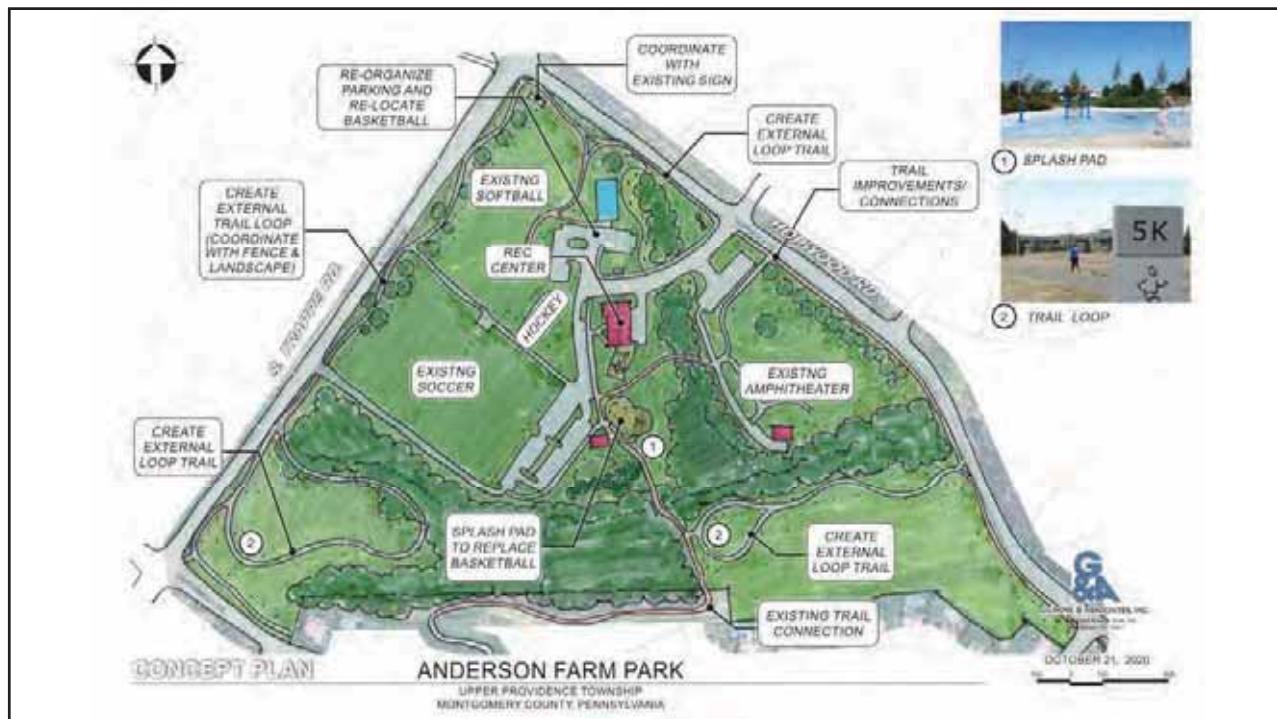
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Anderson Farm Park



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Engineering & Consulting Services



Black Rock Park



GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES



MacFarlan Park

EXISTING CONDITIONS



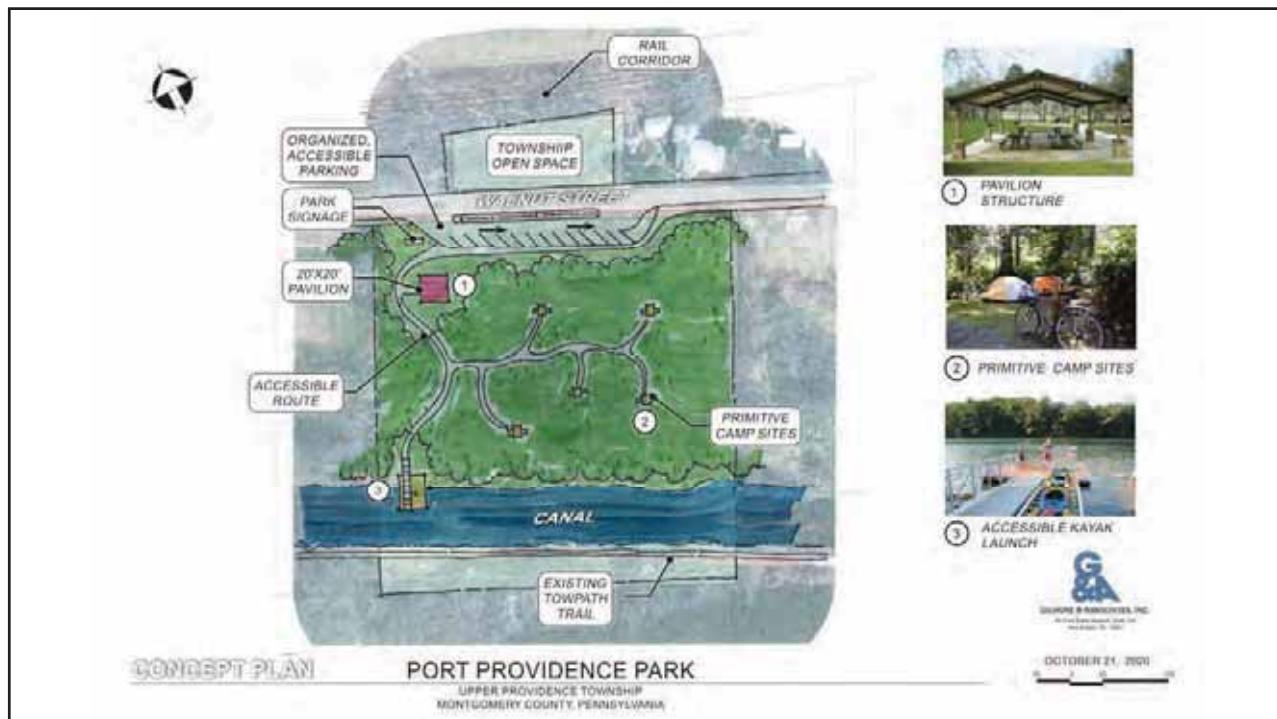
GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES



Port Providence Road Park



GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES



Longford Park / Reynold's Dog Park

EXISTING CONDITIONS



GILMORE & ASSOCIATES, INC.
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① SHADE STRUCTURE/
PAVILION



② DOG PARK AMENITIES



③ DOG PARK AMENITIES



CONCEPT PLAN

REYNOLDS DOG PARK

UPPER PROVIDENCE TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

OCTOBER 21, 2020

0 100 200 300 400

Public Workshop #2

Pick a date for the next Public Workshop

- Similar format to Public Meeting #1
- Present Concept Plans for public comment
 - Regroup and update concepts



Upper Providence Township Master Park Plan Update

Park Steering Committee Meeting #5: Wednesday, October 21, 2020



MEMORANDUM

Date: October 21, 2020

To: Tim Tieperman, Township Manager, Upper Providence Twp.
Susan Hoffman, Director of Parks & Recreation,

From: Elizabeth Rosencrans, Junior Planner

cc: Bryan Bortnichak, Assistant Township Manager
Kent Baird, AICP, Community Planner
Judy Stern Goldstein, R.L.A., ASLA, Senior Project Manager
Geoffrey Grace, AICP, Upper Providence Twp. Planner
Sarah Sato

Reference: Upper Providence Township Master Park Plan
Focus Group Meeting: Taylor Farm Park

Summary

The Taylor Farm Park Historic Preservation and Open Space Focus Group Meeting for the Upper Providence Township Master Park Plan was held at 12:30PM on Tuesday, October 20, 2020 via Township Zoom Conference Call. There were ten (10) individuals in attendance. The following is a summary of the meeting:

Minutes

The discussion was led by Tim and organized with G&A's Kent Baird using the Zoom meeting platform.

- Suggested Agenda and Taylor Farm packet with partial Focus Group biographies of Jeff Marshall, Peter Williamson, Lisa Minardi (not in attendance), and Michael Stokes (not in attendance) was provided. Guests Jack Sobon and Marcus Brandt invited separately and received packet separately. Supervisor Laurie Higgins, Assistant Manager Bryan Bortnichak, Park & Rec Director Sue Hoffman and planners Geoff Grace and Judy Stern Goldstein were also attended the meeting.

I. Introductions

Mr. Baird shared an introduction of the Taylor Farm Park focus and introduced each of the meeting attendees. Today's focus is to identify activities and provide guidance for the Township regarding what will best suit the barn and farmhouse structures at the Taylor Farm.

- Guest Jack Sobon introduced himself. He is an internationally renowned architect and author with specialties in timber framing. He consults on historic properties and the design of new timber frame projects. He is located in MA and has a focus on the barns in New England.

II. Discussion

Mr. Tieperman and Mr. Baird led the discussion with reference to the handout materials (attached).

- Buildings have been in this position for 10 years, when acquired with open space funding. No analysis of the historic or the historical significance has been completed. Known details of the site history and analyses:
 - One structural engineering study done with a primary focus on steel construction replacement and stabilization of the barn. One estimate over \$1Million to stabilize the barn.
 - One estimate to bring the existing house to code was received and is \$300K.
 - There are insurance concerns for insuring a vacant house.
 - The first and easiest discussed improvement/repair is roof repair for the barn. This could be either a temporary roof to the barn to delay any deterioration or further damage while the next steps are determined. Laurie identified that the roof has been repaired at different times in the past.
 - Marcus Brandt has been helping for the past year, but is in high demand. He recommended Jack be included on this meeting. Marcus submitted a proposal estimate of \$20K to stabilize the barn.
 - House improvements are dependent on what happens with the property- housing for young families if they do a seed farm. Could house multiple families.
 - **Next steps-** need to provide the Board with the next steps needed and identify a definite plan and timeline to get this done.
- Is it significant/historic or iconic?
 - Barn is large and therefore **Iconic**. Need further analysis to see if it is rare/significant/historic.
 - **Next step** would be to visit the barn (Jeff and Jack) to assess the base aspects of the barn and develop the base line.
 - Barn appears to be mid-19th century (1850's). Could be newer due to timber framing, after 1900's due to floor joist, etc. Per Laurie, Lisa Minardi dated the house in the 1700's. Marcus estimates shortly after the Civil War- iron truss under the forebay. Farm has been in family use since the 1800's within the Township.

- What is the timber frame made from? Materials used like wire nails could be more expensive to replace.
- May make more sense to repair in-situ instead of tearing down and repairing the base (structural engineer report recommends). Marcus agrees it does not need to be torn down. Would save a large amount of money.
- Any regional differences between the barns regionally that could help with the focus at Taylor Farm Park?
- No restrooms currently
- Tends to be wet along Township Line Road
- Very functional barn once stabilized either for functioning farm or community use.
- Early steps for changing the maintenance of the site need to be determined.
- Options for use. What programming/interest has the Township identified in this area and can these facilities be adjusted to meet this need? Or, are they important enough to adjust the plan to accommodate for these features?
 - Could sell the barn for use by someone else
 - Barns are realized as great gathering areas during the pandemic due to the open structure.
 - Community gardens / CSA's. Organic farming.
 - House- municipalities are often handicapped when it comes to restoration of due to the need to bid everything out.
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 - Restrictions doing this because property was purchased with County Open Space funds. Deed restriction- trail, garden, pavilion and even restrooms could be allowed. Any additional structures are not allowed.
 - Potential to preserve the barn/farmhouse and giving some leeway for agricultural entertainment on the site.
 - Residential curatorship rarely works with renters interfacing between park users. Public use and sustainable economic use don't always work together. And having a use viable enough to support the maintenance needed to keep up with the property.

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- III. Concept Plan- shows general improvements to entryway, new trails, community supported agriculture, meadow restoration, maintained farm views, and neighborhood connections.
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 - i. Unsafe to shift entrance to S. Township Line Road.
 - ii. Linfield Trappe and Township Line intersection is currently being redesigned.
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IV. Next Steps/To-Do's

- a. Get Tim a generalized scope within the next week (Marcus and Jeff to provide). Continue to brainstorm ideas for the site via email until Thursday.
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 - iii. Judy & Kent prepare a critical path/timeline for these studies for the barn.



Upper Providence Township

Taylor Farm Park

Historic Preservation and Open Space

Focus Group

Upper Providence Township is currently working on a township-wide master park plan. A master park plan evaluates the existing park and recreation facilities of a community and identifies a vision and short and long-range goals and recommendations to guide future park improvements. Public input is an important component of the plan and will play a crucial role when building the capacity needed to implement the plan.

The Taylor Farm Park is one park in need of special input from a focus group. Those selected for the Historic Preservation and Open Space Focus Group have unique skills and credentials related to historic preservation, barn preservation, land preservation, property management as well as community and conservation planning.

Focus Group (in random order):

1. Jeffrey Marshall—President of Heritage Conservancy, a regional land trust. Mr. Marshall is a nationally sought-after barn preservationist, architectural historian, and land preservationist with over 30 years of documented collaborative success.
2. Peter Williamson—Vice President of Land Conservation, Natural Lands, a regional land trust. Mr. Williamson has been a driving force of land conservation throughout nearly a dozen counties and is personally responsible for setting conservation strategy and negotiations with community and landowner stakeholders.
3. Lisa Minardi—Trappe Historical Society. Ms. Minardi is a primary contact for the regional non-profit seeking to preserve the story of Upper Providence Township's historic homes, villages and farms.
4. Michael Stokes—Trappe Historical Society. Mr. Stokes is a celebrated name in the world of community planning and is responsible for decades of guidance at the Montgomery County Planning Commission. He is additionally a historic preservation planner.
5. Patrick Hurley—Professor and Chair of Environmental Studies at Ursinus College. Professor Hurley is guiding the college toward greater sustainability and use of experimental/demonstration sites for forest farming, regenerative farming and engaged open space.

A Suggested Action-Oriented Agenda

- Describe the township concerns for the Taylor Farm Park
- Discuss initial options to preserve and restore the existing structures
- Discuss broader use of the farm and park to help preserve the context of structures
- List **Action Items** needed; ie. Barn Preservation Study, Architecture Review, etc.

Taylor Farm Park

Site Inspection Photos of Structures-Exterior



Main House-View looking South



Garage and Corn Crib



Outbuildings



Taylor Farm Buildings view looking North



Taylor Barn



Taylor Barn with Silo



Taylor Barn view looking East



MEMORANDUM

Date: October 21, 2020

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Susan Hoffman, Director of Parks & Recreation,

From: Elizabeth Rosencrans, Junior Planner

cc: Bryan Bortnichak, Assistant Township Manager
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Appendix 2.B - Public Input

- Combined Public Survey Results
- Stakeholder Feedback
 - Stakeholder List
 - Stakeholder Questionnaire
 - Combined Stakeholder Feedback
 - Interview Notes
- Park and Rec Questionnaire Feedback

Combined Public Survey Results

Public Survey: COMBINED

Step 1: Tell us about yourself:

| Check one: | |
|------------|-----|
| Household | 114 |
| Business | 0 |
| Other | 3 |

| Just your zip code please | 19460 | 19442 | 19426 | 19468 | 19473 |
|--|-------|-------|-------|-------|-------|
| | 4 | 1 | 5 | 1 | 1 |
| How many people in your Household, including you | 1 | 2 | 3 | 4 | 5 |
| | 1 | 7 | 1 | 0 | 1 |
| | | | | | 0 |

Step 2: How do you feel about the Upper Providence Township Park & Recreation Facilities?

| Do you use Upper Providence's park and recreation facilities (check one)? | |
|---|----|
| Yes | 78 |
| No | 3 |
| no answer | 39 |

| How often do you use the parks? | | | | | | |
|-----------------------------------|-------|--------|---------|--------------|--------|--|
| Parks | Daily | Weekly | Monthly | Occasionally | Rarely | |
| Taylor Farm Park | 0 | 2 | 2 | 10 | 44 | |
| Anderson Farm Park | 10 | 24 | 14 | 23 | 4 | |
| Black Rock Park | 5 | 14 | 17 | 19 | 12 | |
| MacFarlan Park | 1 | 5 | 4 | 8 | 39 | |
| Longford Park/Reynold's Dog Park | 0 | 10 | 3 | 9 | 44 | |
| Hess Park (Mildred Hess Preserve) | 0 | 0 | 0 | 3 | 53 | |
| Port Providence Road Park | 1 | 4 | 1 | 11 | 43 | |

| How happy are you with the facilities (Check one)? | |
|--|----|
| Very Satisfied | 50 |
| Somewhat Satisfied | 26 |
| Not Satisfied | 3 |
| no answer | 41 |

What activities do you prefer (check all that apply)?

Do you feel the parks are well maintained (check one)?

| | |
|-----------|----|
| Often | 73 |
| Sometimes | 9 |
| Never | 0 |

*no
answer*

Do you feel safe in these parks (check one)?

| | |
|---------------------|----|
| Always | 69 |
| Sometimes | 7 |
| Only during the day | 7 |

| | |
|-------------------------------|---|
| Never | 0 |
| no answer | 0 |
| If not, why not? | |
| playground equipment is dirty | |

| Please rate the following facilities within the Upper Providence Township: | | | | |
|--|-----------|------|------|------|
| Existing Facilities | Excellent | Good | Fair | Poor |
| ANDERSON FARM PARK | | | | |
| Walking Trails | 31 | 29 | 7 | 1 |
| Trail Accessibility | 28 | 33 | 4 | 1 |
| Lighting | 16 | 36 | 11 | 2 |
| Parking | 33 | 33 | 5 | 0 |
| Soccer Fields | 17 | 32 | 4 | 1 |
| Baseball/Softball Fields | 15 | 31 | 5 | 0 |
| Basketball Courts | 14 | 33 | 3 | 0 |
| Tennis Courts | 10 | 23 | 4 | 4 |
| Playgrounds | 30 | 23 | 2 | 1 |
| Recreation Center | 34 | 25 | 3 | 1 |
| Amphitheater | 32 | 21 | 2 | 1 |
| Pavilion/Picnic Areas | 23 | 30 | 4 | 1 |
| Restrooms | 21 | 34 | 7 | 1 |
| Trash Receptacles | 27 | 29 | 8 | 0 |
| Natural Areas/ Open Space | 28 | 27 | 4 | 1 |
| Wayfinding/Directional Signage | 16 | 33 | 6 | 1 |
| Cleanliness of facilities | 35 | 24 | 2 | 0 |
| Maintenance of facilities | 29 | 30 | 2 | 0 |
| BLACK ROCK PARK | | | | |
| Parking | 29 | 20 | 5 | 0 |
| Playing Fields | 16 | 24 | 3 | 0 |
| Tennis/Basketball Courts | 10 | 26 | 4 | 1 |
| Skate Park | 13 | 22 | 2 | 0 |
| Walking Trails | 18 | 21 | 10 | 1 |
| Pavilion/Picnic Areas | 18 | 17 | 6 | 0 |
| Grills/horseshoe box | 6 | 17 | 8 | 0 |
| Playground | 16 | 22 | 4 | 0 |
| Natural Areas/ Open space | 12 | 25 | 6 | 0 |
| Restrooms | 11 | 17 | 7 | 1 |
| Trash Receptacles | 11 | 26 | 6 | 0 |
| Wayfinding/Directional Signage | 10 | 24 | 6 | 0 |
| Cleanliness of facilities | 16 | 22 | 4 | 0 |
| Maintenance of facilities | 17 | 21 | 5 | 0 |
| MACFARLAN PARK | | | | |

| | | | | | |
|--|--------------------------------|-------|-------|-------|-------|
| | Parking | 10 | 9 | 3 | 1 |
| | Playground | 9 | 12 | 2 | 0 |
| | Pavilion/Picnic Areas | 9 | 10 | 2 | 0 |
| | Baseball/Softball Fields | 10 | 7 | 4 | 0 |
| | Walking Trails | 6 | 12 | 5 | 0 |
| | Restrooms | 6 | 12 | 4 | 0 |
| | Natural Areas/ Open Space | 7 | 13 | 2 | 0 |
| | Wayfinding/Directional Signage | 5 | 11 | 3 | 1 |
| | Cleanliness of facilities | 7 | 13 | 2 | 0 |
| | Maintenance of facilities | 8 | 12 | 2 | 0 |
| TAYLOR FARM PARK | | | | | |
| | Parking | 1 | 9 | 2 | 2 |
| | Natural Areas/ Open Space | 5 | 8 | 2 | 1 |
| | Connections to surroundings | 2 | 9 | 2 | 1 |
| PORT PROVIDENCE ROAD PARK | | | | | |
| | Parking | 4 | 12 | 4 | 1 |
| | Playground | 2 | 12 | 2 | 2 |
| | Water Access | 3 | 11 | 5 | 1 |
| | Picnic Areas | 3 | 10 | 3 | 2 |
| | Access to nearby Trail | 4 | 13 | 2 | 1 |
| | Wayfinding/Directional Signage | 3 | 11 | 4 | 1 |
| | Cleanliness of facilities | 3 | 13 | 3 | 1 |
| | Maintenance of facilities | 3 | 13 | 2 | 1 |
| LONGFORD PARK/ REYNOLDS DOG PARK | | | | | |
| | Parking | 9 | 16 | 5 | 0 |
| | Small gated dog run | 6 | 16 | 3 | 0 |
| | Medium gated dog run | 5 | 15 | 2 | 0 |
| | Large gated dog run | 6 | 15 | 2 | 0 |
| | Restroom | 9 | 13 | 4 | 0 |
| | Access to nearby Trail | 16 | 11 | 2 | 0 |
| | Wayfinding/Directional Signage | 9 | 13 | 3 | 1 |
| | Cleanliness of facilities | 10 | 15 | 3 | 0 |
| | Maintenance of facilities | 9 | 17 | 1 | 0 |
| MILDRED HESS PRESERVE (HESS PARK) | | | | | |
| | Parking | 3 | 6 | 3 | 1 |
| | Walking Trails | 2 | 7 | 3 | 1 |
| | Trail Accessibility | 3 | 6 | 3 | 1 |
| | Wayfinding/Directional Signage | 3 | 6 | 2 | 2 |
| | Connections to surroundings | 4 | 6 | 3 | 0 |
| | Cleanliness of facilities | 3 | 6 | 3 | 0 |
| | Maintenance of facilities | #REF! | #REF! | #REF! | #REF! |

Comments:

Great potential for nature trails & bluebird trails plus potential for ducks, kestrels, owls & bats.
 Wwww.bci.org
 Need volleyball courts and pickleball courts.
 Reduce lighting at Anderson Farm.
 grass needs to be shorter at soccer fields at Anderson Farm Park.

Step 3: Help us evaluate Upper Providence's Park and Recreation resources:

For each of the items listed below, please check one for each of the following to indicate the importance of that topic to you and your family?

| Facilities | High | Medium | Low | Not a Priority |
|------------------------------|------|-------------|-----|----------------|
| Benches | 23 | 33 | 12 | 2 |
| Bathrooms | 51 | 18 | 2 | 0 |
| Ample Lighting | 39 | 24 | 2 | 4 |
| Universal Play Areas | 36 | 19 | 3 | 9 |
| Educational Signs and Kiosks | 12 | 31 | 19 | 7 |
| Natural Habitats | 32 | 23 | 11 | 2 |
| Pavilion/ Picnic areas | 21 | 28 | 13 | 4 |
| Community/Recreation Center | 25 | 31 | 9 | 3 |
| ADA access | 19 | 19 | 11 | 15 |
| Trails | 48 | 18 | 3 | 0 |
| Water Access | 29 | 22 | 9 | 9 |
| Fishing | 7 | 13 | 17 | 28 |
| Other (please specify): | 0 | 0 | 0 | 0 |
| Other Name | | Other Tally | | |
| pickleball | | 1 | | |

Would you like more information on the health benefits of outdoor recreation and open space (check one)?

| | |
|-----------|----|
| Yes | 14 |
| No | 57 |
| no answer | 45 |

Would you like to be a community advocate for parks and open space development (check one)?

| | |
|-----------|----|
| Yes | 14 |
| No | 54 |
| no answer | 48 |

How would you help enhance and support Upper Providence's park and recreation resources?

Support bird and bat housing.

I would use them responsibly.

Updated: September 16, 2020

**Upper Providence Township
Master Park Plan Update
Stakeholder Status**



| Stakeholder | Initial Contact | | Next Steps |
|--|-----------------|-----------|---|
| | Format | Date | |
| 1 Upper Providence Township | email | 6/29/2020 | Interview Completed 7/20/2020 |
| 2 Royersford Borough | email | 6/29/2020 | Interview Completed 7/7/2020 |
| 3 Limerick Township | email | 6/29/2020 | Interview Completed 7/13/2020 |
| 4 Perkiomen Township | email | 6/29/2020 | Coordinating date for Interview |
| 5 Trappe Borough | email | 6/29/2020 | Interview Completed 7/16/2020 |
| 6 Historic Trappe | email | 7/7/2020 | Interview Completed 7/20/2020 |
| 7 Collegeville Borough | email | 6/29/2020 | No Response |
| 8 Lower Providence Township | email | 6/29/2020 | Interview Completed 7/9/2020 |
| 9 Pottstown Area Regional Recreation (PARR) | email | 6/29/2020 | Unable to provide interview at this time. |
| 10 Schuylkill Highlands | call | 6/29/2020 | Interview Completed 7/9/2020 |
| 11 Perkiomen Creek Watershed Conservancy | email | 6/29/2020 | Interview Completed 7/10/2020 |
| 12 Phoenixville Borough | email | 6/29/2020 | Interview completed 7/9/2020 |
| 13 Schuylkill Township | email | 6/29/2020 | Interview Completed 7/8/2020 |
| 14 East Pikeland Township | email | 6/29/2020 | Interview Completed 7/8/2020 |
| 15 Spring City Borough | call/email | 6/29/2020 | Interview Completed 7/10/2020 |
| 16 Valley Forge National Historical Park | call | 6/29/2020 | No Response |
| 17 Schuylkill River Greenways NHA | email | 6/29/2020 | Interview Completed 7/8/2020 |
| 18 Upper Providence Little League | email | 6/29/2020 | Questionnaire Complete 9/14/2020 |
| 19 L.L. Bean | email | 6/29/2020 | Interview 50% Complete |
| 20 REI | email | 6/29/2020 | Unable to provide interview at this time. |
| 21 Ursinus College | email | 6/29/2020 | Interview Completed 7/16/2020 |
| 22 Collegeville Economic Development Corporation | email | 6/29/2020 | Interview Completed 7/10/2020 |
| 23 Upper Providence Chief of Fire and Emergency Services | email | 7/7/2020 | Interview Completed 7/24/2020 |
| 24 Simplex Health | email | 7/15/2020 | Interview Completed 7/22/2020 |





Upper Providence Township Master Park Plan Update Questionnaire

Do you enjoy the natural and scenic beauty of Upper Providence Township? Do you enjoy the recreation opportunities of the township? Would you like to see more? If so, Upper Providence Township needs your help with the evaluation and improvement of our park and recreation facilities. Please complete the following questionnaire and let us know your recreation priorities!

Step 1: Tell us about yourself (*circle one*):

Gov't/Non-Profit

Business

Name & Title: _____ Date & Time: _____

Your Organization: _____ Interviewer (if applicable): _____

How many people do you represent? _____

Step 2: How do you feel about the Upper Providence Township Park & Recreation Facilities?

Do you use Upper Providence's park and recreation facilities (*check one*)?

Yes

No

(which do you frequent most? _____)

How happy are you with the facilities (*check one*)? Very Satisfied Somewhat Satisfied Not Satisfied

Comments: _____

What activities do you prefer (*check all that apply*)?

| | | |
|-------------------------------------|---|--|
| <input type="checkbox"/> Walking | <input type="checkbox"/> Softball | <input type="checkbox"/> Fitness Stations |
| <input type="checkbox"/> Hiking | <input type="checkbox"/> Soccer | <input type="checkbox"/> Camping |
| <input type="checkbox"/> Jogging | <input type="checkbox"/> Frisbee Golf | <input type="checkbox"/> Canoeing/Kayaking |
| <input type="checkbox"/> Bicycling | <input type="checkbox"/> Nature Viewing | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> Basketball | <input type="checkbox"/> Birding | |
| <input type="checkbox"/> Baseball | <input type="checkbox"/> Playgrounds | |

Step 3: Help us elevate Upper Providence's Park and Recreation resources

What is your relationship to these spaces? _____

What do you feel about the condition of these resources today? _____

Are there elements you would like to change? _____

Are there elements you would like to maintain or preserve? _____



Photo Source: G&A

What kind of park, recreation and trail facilities do you feel the Township needs (*check all that apply*)?

- Benches
- Bathrooms
- Ample lighting
- Universal Play Areas
- Educational Signs and Kiosks
- Natural Habitats
- Pavilion/Picnic Areas
- ADA access
- Trails
- Water Access
- Other _____

What opportunities exist?

What challenges are there?



Photo Source: G&A

Would you like more information on the health benefits of outdoor recreation (*check one*)?

Yes

No

Do you have any other comments, ideas, or thoughts regarding Upper Providence's park and recreation areas?



Photo Source: G&A

Please contact Timothy J. Tieperman or Kent Baird with any questions:

Timothy J. Tieperman
Township Manager
Upper Providence Township
1286 Black Rock Road, P.O. Box 406, Oaks, PA 19456

Kent Baird, AICP
Community Planner
Gilmore & Associates, Inc.
kbaird@gilmore-assoc.com / 215-345-4330

Compiled Stakeholder Questionnaire Responses

Stakeholder List

| Name and Title: | Your Organization: | Date and Time: | Interviewer: | How many people do you represent? |
|--|--|--|-------------------------------------|---|
| Lynn Corrigan | Parks & Rec Board Member (Jan 2020) | 6/29/2020 | <i>blank</i> | 2 |
| Cathy Kernen, President Michelle Rubin, Community Resources Coordinator | Collegeville Economic Development Corp. East Pikeland Township | 7/10/2020 - 1:00 pm 7/8/2020 - 11AM | <i>Adrienne</i> <i>Elizabeth</i> | 50 4 staff, 12 Police, 3 public works 8,000 residents |
| Melissa Gibbons, Director of Phoenixville Park and Recreation | Phoenixville Borough | 7/8/2020 - 1 pm | <i>Adrienne</i> | 5 staff, 50 seasonal staff, 17,000 Borough Residents |
| Edward M. Mentry Jr., Township Manager | Schuylkill Township | 7/8/2020 - 3pm | <i>Elizabeth</i> | 8,600 Residents, 21 FT staff, 3 PT staff, 30-35 BOS & committee members |
| Carol De Wolf, Director | Schuylkill Highlands Conservation Landscape through Natural Lands | 7/9/2020- 10am | <i>Elizabeth</i> | 1 staff, 560 emails, no memberships |
| Jane Delaney, Director of Park and Recreation | Lower Providence Township | 7/9/2020 - 11am | <i>Adrienne</i> | 3 staff, 3 park workers, 25,400 Residents |
| Julie Lacey, Parks & Rec Chairperson | Royerford Park and Recreation | 7/7/2020 | <i>Elizabeth</i> | 4,700 |
| Dan Kerr, Township Manager | Limerick Township | 7/13/2020-11am | <i>Adrienne</i> | 20,000 |
| Taylor Green | UPT Park Board | 7/14/2020 | <i>Elizabeth</i> | 2 |
| Brandon Green | Kona Ice KOP | 7/15/2020-2:15pm | <i>Taylor Green</i> | 0 |
| Tamara Twardowski, Borough Manager | Trappe Borough | 7/15/2020-10:45 am | <i>Elizabeth</i> | 2 employees, 3 council members serve as open space |
| Kathleen Drennan | UPT Park Board | 6/30/2020 | <i>Elizabeth</i> | 2 |
| Richard Ressel Jr. EMC, Emergency Management Coordinator | Township of Upper Providence Department of Fire and Emergency Services | 7/24/2020-8:30 am | <i>Adrienne</i> | 20 |

| | | | | |
|---|---|-------------------|------------------|--|
| Patrick Hurley, Professor and Chair, Department of Environmental Studies | Ursinus College | 7/16/2020-2pm | <i>Elizabeth</i> | 120 Faculty, 1500 Students |
| Ryan Beltz, Executive Director | Perkiomen Watershed Conservancy | 7/10/2020-9:15am | <i>Elizabeth</i> | 6 full time staff, 6 part time staff, 20 board members, 600 members (paying active), 3000 volunteers, 5000 email list |
| Donald Shaner, Council President | Spring City Borough | 7/10/2020-10:30am | <i>Elizabeth</i> | 3,300 residents, 7 Council members, Parks Commission 4 Members. |
| Elaine Schaefer, Executive Director | Schuylkill River Greenways National Heritage Area | 7/8/2020-10am | <i>Elizabeth</i> | 10 Employees, 15 board members, 80 Trail Ambassadors, 150 other volunteers, 900-1000 paid members, 5,000 email base, 1 million + trail users |
| Susan Hoffman, Director of Parks and Recreation | Upper Providence Township Department | 7/17/2020-9:30am | <i>Elizabeth</i> | parks depart-4 staff, IFP-15 staff |
| Lauren Shelly, Director of Wellness Operations, Alexandra Hayden, Chief of Staff, David Rambo | Simplex Health | 7/22/2020-10am | <i>Elizabeth</i> | 10-12 staff in Upper Providence |
| Lisa Minardi, Executive Director | Historic Trappe | 7/20/2020 10AM | <i>Elizabeth</i> | Mailing List 3,000. Providence area. |
| | | | | |
| | | | | |

Step 2: How do you feel about the Upper Providence Township Park & Recreation Facilities?

| Do you use Upper Providence's park and recreation facilities (check one)? | | |
|---|-----|----|
| | Yes | 19 |
| | No | 2 |
| <i>no answer</i> | | |

| Which do you frequent most? | |
|---|----|
| Anderson Farm Park | 13 |
| Black Rock Park | 5 |
| Longford/Reynolds Dog Park | 6 |
| Taylor Farm | 1 |
| Hess Preserve | 1 |
| Upper Schuylkill Valley Park | 1 |
| Township Building | 1 |
| Walking trails within parks | 2 |
| Schuylkill River Trail | 4 |
| Canal system at Schuylkill River | 1 |
| Perkiomen Creek Trail | 1 |
| Perkiomen | 2 |
| General Township Parks | 1 |
| Ballfields | 1 |
| Not aware of the specific parks residents utilize | 1 |
| Lock 60 | 1 |
| Township Events | 1 |

Anderson Farm Park
sub-categories

Recreation/Community
Center

Skate Park

GENERAL COMMENTS USED TO ANSWER ABOVE TALLY

SRT trailhead adjacent Dog Park, students also use the SRT

SRT in Mont Clare Area

Not personally. Residents likely use the Township parks, we recommend they use the Dog Park
Don't personally use. Do know people utilize the Township Parks
Student use ballfields or pass through the township during cross country
Lock 60 is the biggest footprint (run peddles and paddles program here and operate the lock)
Families visit Anderson Farm Park most, singles/retirees utilize walking trails in Black Rock, every demographic uses Reynolds Dog Park and Trailhead Access.
Facilitating Anderson Park Facilities - no staff members located in the area that use the park personally
love your events, promote UP events on CDC website

How happy are you with the facilities (Check one)?

| | | |
|--|--------------------|----|
| | Very Satisfied | 12 |
| | Somewhat Satisfied | 5 |
| | Not Satisfied | |

Comments:

poor parking during peak hours/days. Limited info on other UPT parks available.

Upper Prov has better facilities than any other surrounding towns.

N/A - Residents enjoy the parks but I can't answer to satisfaction level

Great, very clean, friendly

Have visited Black Rock Park and was pleased with the facilities

Dog park gate that leaves the smaller dog park area needs fencing added to space

Satisfied with the Township building. We are doing an Open Space Plan in Lower Providence and would like to collaborate.

We like the facilities and what each park has to offer.

Anderson Farm, people like the fields. Based on calls Limerick receives asking if we have facilities for those who cannot use the Upper Providence Community Building indoor courts because they are too small to include all their spectators during team activities.

There is a large number of facilities available in the township, offering various sporting and recreational activities for many interests. My biggest desire is an increase in trails.

Would love a 4 ft. mini ramp in skate park.

Haven't heard complaints. In passing the parks seem well maintained and enjoyed

Well maintained, could use more parkings.

Heard comments about Anderson Farm Park - a beautiful facility, but heard that might be sold to a private company and people were concerned.

Anderson Park recreation center and pavilion were nice.

People love Lock 60-most popula area for activities. Parking is adequate and once a year we camp with 100 people here.

More signage needed everywhere. Anderson -people love the facilities, desire more entryways. Black Rock - no facilities on the west side.

Staff use Recreation Center 7 days a week, would be helpful to have showers at center to use so can go straight to and from work.

Anderson Fields are nice and wll laid out. Deck Hockey is popular but needs repairs. Recreation center has an awkward layout that makes use difficult.

Room for improvement- concerned about the Taylor Farm Park.

What activities do you prefer (check all that apply)?

| | |
|------------------|----|
| Walking | 20 |
| Hiking | 15 |
| Jogging | 9 |
| Bicycling | 19 |
| Basketball | 4 |
| Baseball | 5 |
| Softball | 3 |
| Soccer | 3 |
| Frisbee Golf | 4 |
| Nature Viewing | 11 |
| Birding | 9 |
| Playgrounds | 11 |
| Fitness Stations | 9 |
| Camping | 8 |

| | |
|-------------------|----|
| Canoeing/Kayaking | 13 |
| Other | 11 |

Other Note

| | |
|-----------------------|---|
| Tennis | 1 |
| Fishing | 2 |
| Visiting Historic | 2 |
| water access | 3 |
| skateboarding | 2 |
| Pickleball is popular | 1 |
| Foraging | 1 |
| Dog Walking | 1 |
| Outdoor Concerts | 1 |
| Night sky campout | 1 |
| Agriculture | 1 |
| Farming | 1 |
| Gardening | 1 |

Step 3: Help us evaluate Upper Providence's Park and Recreation resources:

What is your relationship to these spaces?

Resident who primarily visits Anderson & Black Rock

Now with COVID, they are more important than ever.

Neighboring Municipality

Neighboring Town/Borough

Neighboring Municipality

Major mini-grant funder for many river corridor projects.

Talking to staff, collaborate on community activities, partner on programming and bus trips. Future partnerships - challenges with COVID

I take my children to them. We guide Royersford residents their way for things we can't offer in town. - Senior Citizens.

Community partners in providing recreation services to stakeholders

Very positive; I have been using them for over 15 years.

Use pretty frequently.

Trappe is neighboring municipality

Frequent user

Use them for work, during events, music fest, community days, 911 calls.

Neighboring College, Pass through users. Sports fields may be attractive to students.

Environmental education outreach

Park user and neighboring municipality

SRT events, signage, maps, and stormwater projects along the Perkiomen Creek.

Director of Parks and Recreation

Manage the Anderson Farm Park Recreation Center

Regional Historical Society- covers old Providence Township including today's Upper Providence Township.

What do you feel about the condition of these resources today?

Good. Limited to no info on other UPT parks & facilities available from these sites.

Very good.

Residents enjoy the parks

good condition from what I know of them

Black Rock Park - very impressed with the facilities, condition, and quality

Canal Association has some work to do on the canal - currently in the works

Good condition, good to get feedback.

Well upkeep - newer equipment.

N/A

Black Rock Park is in great shape and is well maintained. Anderson Farm park's biggest need is a repaired hockey rink.

I think they're in good condition.

From my observations they are well maintained

good condition, well kept

They need a facelift/updated. Showers needed at Rec Center

Parks seem like they are in good shape and relatively well maintained.

Anderson Farm Park is nice facility. Cannot speak specifically about the parks

Anderson Farm Park - there may be some accessibility issues due to slopes and lack of trails

Very Satisfied.

Well maintained, and good condition for the age of our facilities (playgournds, sports facilities).

The fields of Anderson Farm Park are nice, but the layout and use of the Recreation Center needs improvements to meet the needs of the community.

Concerned about the condition of the Taylor Farm Park- many constituents have voiced dissatisfaction with the way the historic structures were torn down at Anderson Farm Park and are concerned this will happen again at Taylor Farm Park. Prior use of leasing the Taylor Farm Park land to a turf farmer was detrimental to the soil and land quality.

Are there elements you would like to change?

Expand on Rec Center, more of a Community/Visitor Center, info available for all facilities.

Not at this time, exepet for people want water fountains added to trails (Perkiomen), also Mont Clare Towpath needs parking clarified.

N/A

nothing that I know of

N/A

Dog Park gate that leaves the smaller dog park area needs fencing to keep smaller dogs in-well used and can get muddy. Perkiomen Trail has some areas that need repairs.

More public education on environmental friendly programs, Trees, Arbor Day, Recycling. Connect our trails better.

A connection between towns, - trails, waterways.

don't have first hand knowledge on this

I would like to see an improved and larger trail system in the parks.

Anderson needs new nets; I wish you allow the skaters a voice to design the skate park.

N/A

Yes, add more amenities

Bigger workout area. It's tight, crammed inside, maybe outside work out stations.

Enhancing the natural features within the Township and promoting opportunities for people to interact with nature. Larger trail loops and connected trails would be enjoyed by students.

Access and trail connectors to the Perkiomen Creek

Improve accessibility

More connectivity with other spots along the river and the trail.

More signage at parks . More entryways/ease of access needed at Anderson. Pedestrian safety at Black Rock Park. Connectivity to each park to provide more ease of walkability between Anderson and Black Rock. Currently trails in each park lead to nowhere (Anderson Farm Park and Black Rock West).

Structural elements of the Recreation Center need improvements to make the building more usable. The Recreation Center space is limited for managing a robust fitness program. People utilize the center as a fitness center, but there are no showers to support people excercising and then going to work/etc which creates a barriers for users. The group exercise area (a popular draw for the center) is small/inadequate. There is no actual spin room- we are using a side office with a fish bowl feel, which does not provide the best experience. The kitchen is not adequate for demonstrations for cooking activities, it was not designed to house collaborative events. The gym space upstairs is very nice, the rock climbing wall is nice but awkwardly placed so it doesn't get used. The awkward layout makes use of the facilities difficult. The space is not condusive for holding events like birthday parties - and when events are held they take up indoor space that requires closing down indoor activities. A cafe/snack area would be beneficial to promote health and give people an area to socialize. Parking at Anderson is not ideal.

Would like to see Taylor Farm Park better managed and a better use of the land like organic farming, pollinator features, adaptive reuse of the structures- Nature Center in the House, Educational Center in the Barn- many examples out there.

Are there elements you would like to maintain or preserve?

Walking paths, add trails to access ponds.

As much of nature as possible.

Our residents enjoy traveling to Upper Providence for the larger park opportunities and the additional recreation activities they provide that are not available in our Township

preserve and maintain open space

If other parks are similar to Black Rock Park, I would encourage maintaining the quality they are in. If not, I would recommend they be brought up to the quality of Black Rock Park.

Dog park/Trailhead has a good space for a stop along the SRT for restrooms. Important to ensure that amenities for trail users for SRT and Perkiomen land and water trails are available. Historic preservation for historic sites like the Schuylkill Canal.

Bike trails, and add to them with more universal accessibility. Need to know enough about them to maintain & preserve.

The partnership Upper Providence & we (Royersford) have built to share resources.

Trails and towpath connections. Limerick is doing same thing, connecting to Schuylkill River and Perkiomen Creek Trails is a priority.

Cleanliness of the facilities.

Trail and water access points along the Schuylkill and Perkiomen. The Dog Park is a great resource for surrounding communities.

Playgrounds and areas for children to socialize are important. Anything to provide space for people to get outside to recreate.

Yes, historical nature of some areas

Preserving farm structures and farmland.

No, parks seem to be well maintained.

Preserve the space at Anderson.

Lock 60 - river channel near lock is filled with silt and should be improved (we have given money in the past for a study and would love to see this improved.

We would like to maintain the Hockey rink at Anderson Farm Park - it is heavily used and needs to be rebuilt. Residents like the open space aspect of the township - would like to preserve open spaces, like the Taylor Farm Park - don't want to see this become an active recreation complex.

Don't really use trails, other parks just work in community and live outside of community. 911 calls on trail only about 3-4 times a summer.

Amphitheater space

Open space and historic structures of Taylor Farm Park

What kind of park, recreation and trail facilities Township needs (check all that apply)?

| | |
|------------------------------|----|
| Benches | 8 |
| Bathrooms | 10 |
| Ample Lighting | 6 |
| Universal Play Areas | 10 |
| Educational Signs and Kiosks | 14 |

| | |
|-----------------------|----|
| Natural Habitats | 14 |
| Pavilion/Picnic Areas | 8 |
| ADA Access | 10 |
| Trails | 16 |
| Water Access | 13 |
| Other | 10 |

Other Note

| | |
|---|---|
| exercise station | 1 |
| water fountains on trails | 1 |
| Mapping for water trail | 1 |
| Access pavilion/picnic areas to reserve. | 1 |
| Boat Launch | 1 |
| Outdoor Gyms | 1 |
| Good, functional, cold water fountains | 1 |
| Spash Park | 1 |
| shading/trees | 1 |
| activity areas for teens | 1 |
| senior programs | 1 |
| Edible landscaping/Cricket Fields | 1 |
| Wayfinding to access areas on the creek | 1 |
| Wayfinding signage into Town, bike and kayak access | 1 |
| Pump track | 2 |
| Historical site/Preservation in the township | 2 |
| Expanding Recreation Anderson Center | 1 |
| Preserved Open Space | 1 |

What Opportunity Exists

Improved communication on facilities, note - pic of Rec Center building does not even identify what the buildng is - poor signage on building itself. Improve trails, info on other parks/attractions in the area.

Although I am quite familiar with resources in the area, I am not sure which are in Upper Prov vs. surrounding areas. Will get clarification when we talk in the interview. Historic information could be available on app or interactive map. Also would like to see a boat launch in the township - (Collegville received a grant for a boat launch along the Perkiomen Creek.)

Nature Playground, Paved ADA Loop Trails, Disk Golf, Pump Tracks, Trail Connection to the new Hidden River Park & Preserve

Can't speak on this, because not as familiar with UPT facilities but has a park and rec board who she would like to pass on the questionnaire to who use the UPT park facilities more often.

Celebrate historical aspects of a park and tie in educational kiosks on local history.

Land Protection where possible

Bike connectivity for safety. Water Access to Perkiomen Creek (Lower Providence has a highly used water access in Hoy Park).

Water park/splash pad

State grant programs and funding support for upgrades and improvements to these facilities when available, once identified.

Plenty of open space.

More representation from the community on what is built instead of just building.

Not at this time.

play parks, sports parks, exercise classes, social activities

Bike track. Work in administration building, near skate park and see bikes in skate park, could have their own bike track, plenty of room and open space for it, compliment use to skate park.

Edible landscaping/Foraging. -Larger trail loops and connections,-Increasing Tree Cover, Farm Park/Natural Areas could provide an opportunity for teaching about these spaces, -Increasing environmental education within parks, -Work with Perkiomen Watershed Conservancy for access and improvements-they are great for educational aspects.

Perkiomen access point at Indian Head Road (Township) and Lower Perkiomen Park (County). Paddling (Kayak, Canoe, Tubing) - an activity on the rise, especially with busy trails, Natural based play areas, Bathrooms are the big request. There are not enough on the trail to meet the high use of trail (numbers are doubling with COVID), Tree planting and habitat restoration.

Partnership between the Borough and the Township for a larger concert event at Anderson Park. Partnership between Spring City, Royerford and Upper Providence for a running/bicycle event.

Bike Share Program Partnership. Develop a recreational hub in Upper Providence for kayaks, bikes, and shuttles. More permanent facilities near Lock 60. Making Trails welcoming to novice riders.

Splash pad potential at Black Rock Park. Traffic calming and pedestrian improvements at Black Rock Park. Connect dead-end trails in parks to other trails. Alternative restrooms that tackle the issue of no water access. Historical Site/Preservation-potentially at Taylor Farm park, pump track at Black Rock Park, Port Providence Park boat launch or water access point-potential partnerships with Schuylkill River groups-Port Providence community garden, Art aspect (painting a wall or a portable wall).

stand alone pickle ball - co-op space or team room for group activities like card games, mahjong, knitting, pool, ping pong, etc. -this space would be utilized in different ways,-community gardens - with homeschooling the Township will likely see an increase in use of community spaces, where students go to connect with others for activities.

-Township needs to be more proactive to preserve open space and historic structures. Upper Schuylkill Valley Park and adjacent property is a very important resource in the Township and nothing is in place to protect it.

-Work with Quest Diagnostics for the preservation of the historic colonial house on Black Rock Road next to the Township Building.

-Nature Education Center

-Space to support agricultural and nature based education- partnerships with the Trappe Borough Keystone Grange #2 (non-profit)

-Seed to Farm group that teaches the next generation of farmers- great partnership opportunity/use for the Taylor Farm Park.

-Farm stand/farmers market at the Taylor Farm Park on the corner of E Linfield Trappe Road and Township Line Road.

What challenges are there?

Not sure - Possibly Park & Rec staff limitations, resources, funds, zoning or deed restrictions? Community involvement / opinions? Would like to know more from the perspective of a Board member in particular.

Although I am quite familiar with resources in the area, I am not sure which are in Upper Prov. Vs. surrounding areas. Need wayfinding signs to Perkiomen Creek, water access.

Long-term implementation (timing), funding

Can't speak on this, because not as familiar with UPT facilities but has a park and rec board who she would like to pass on the questionnaire to who use the UPT park facilities more often.

Funding - the biggest challenge. Locating locations for trails & landowner negotiations. Safety aspect of trails close to roadways and traffic.

N/A

ADA Access to water. Everybody should be able to use the facilities including water access.

Reworking the building use in Anderson Park.

Hard to improve everything for all parks, so prioritize and balance funding in a diverse way with community input, not to exclude people, not limited to just baseball or one group but include universal access and diversify the funding.

Budgeting constraints

Money, land, time.

Funding and maintenance are general challenges municipalities face.

Communication, lack of knowledge

Funding. Limited tax dollars.

Parks containing competing uses (aesthetics vs. recreation vs. nature). Keeping public support to follow new trends like natural improvements and farm parks.

Funding, More people recreating with closed gathering spaces due to COVID - this will be a challenge the Township might face as they try to meet the growing number of park users.

Distance between Borough and Township mean residents have to drive to access-too far to walk on a trail.

Funding. Permitting challenges on the River.

Vandalism - issue for art. Funding - reach out to local businesses and groups for funding support. Reaching the community - social media accounts seen, but not heavily followed. Can be difficult to reach the community. Need to involve the community more to leverage grant funding. Deed restrictions on multiple park sites. Taylor Farm Park a hot button issue - community is split on its future use - need to come to a consensus with residents before moving forward.

Limited space in the Recreation Center and layout limitations. -Marketing activities at the Recreation Center - hard to get the word out to residents.

-Neighboring YMCA-well liked- how to find recreation activities that don't compete, but compliment what's at the YMCA.

-Funding

-Educating the public about the importance of open space and historic preservation.

Would you like more information on the health benefits of outdoor recreation (check one)?

| | | |
|--|-----|----|
| | Yes | 17 |
| | No | 4 |

Do you have any other comments, ideas, or thoughts regarding Upper Providence's park and recreation areas?

Are there any community questionnaires that have been done previously that may provide helpful insight? I believe one was suppose to happen in 2019. Not sure of status or results. Results of questionnaires given out at Community days? In general, improved upon spaces we already have to increase activities, participation & utilization.

Now with COVID, our lives have changed. I believe that outdoor recreation, where we can safely socially distance and enjoy nature, is now more important than ever. Townships that can provide these resources for their residents will be seen as highly desirable. I expect many families with the financial ability will be moving from cities like Philly to townships like Upper Prov.

East Pikeland Township is looking into disc golf, nature playgrounds, and pump track opportunities--things that would serve a wide variety of people/abilities. We are also hoping to implement a dog park with a paved ADA accessible trail. These trends might be of interest to Upper Providence. Our residents are looking for more outdoor activities. A connected multi-municipal group to connect neighboring municipalities and share information (online) with residents regarding combined recreational resources could be beneficial (trail connections, parks, environmental areas, and events). Residents are already traveling to neighboring municipalities to use facilities. This could help municipalities connect and to promote each other.

I have not been part of the community center since it was turned over to a managing company. But my experience was good before that with the community center, and it has great walking paths. I am interested in grant information/support for Park Master Plan for Phoenixville. What is the cost of the plan? Where did the money come from to pay for it? I am having to update our plan every 5 years as trends change.

Schuylkill Township would like a connection into the regional network and neighboring municipalities. We would be excited to participate in a multi municipal / regional recreation effort that would better equip us to convey to our residents what resources surround us. There is a mulit-municipal planning group in Chester County, and this would make sense to incorporate parks and recreation into this.

A newsletter could be beneficial to discuss getting out that spreads to all demographics and focuses on getting undeserved communities outdoors.

Reach out to the Schuylkill Highlands Partnership to work together to include as we develop the SH Yearly Work Plan and strategic planning, to clarify next steps, and gain funding support.

Work with the Schuylkill Highlands Goal #2 - economic development focus to get residents and visitors into community stops for amenities when recreating between Valley Forge and Reading- The Middle Schuylkill. Someone from the Township should attend these meetings to continue the connection.

If trails were expanded so we could bike right from where we live in neighboring townships, that would be ideal. Packing up bikes in the car and then driving to and from trail is a lot of work.

none.

To plan for the future, because park and recreational needs are increasing and the demand for these facilities is also increasing.

Please put in more functional cold water fountains so the township can work on reducing use of single use plastic and everyone has a chance to stay hydrated. Outdoor yoga/fitness classes that are very affordable.

I am unfamiliar with all UPT has to offer. Therefore it is difficult for me to answer many of these questions.

A growing number of students are recognizing the importance of close to home parks and recreation. Parks seems to be feared toward active recreation more than passive recreation and may not be meeting the needs of all residents or recreation users.

We are very interested in partnering for projects and events. Partnership for 5k events. We have an initiative to make the Perkiomen a State Water Trail, and have seen a large increase in people paddling along the Perkiomen, Upper Providence has key access areas and facilities (docks), specifically Indian Head Road (owned by UPT). A partnership on this property would be great and there are grant opportunities to help improve this area. Community Gardens are also gaining popularity in other municipalities. This could be beneficial as the Township is developed. Potential to partner for farmers market and native plant sale opportunities as well.

As you plan, make sure there is enough restrooms and parking. Consider the effects of COVID when planning, including ways to inform residents of the park conditions (if the park is full, etc.) whether its through signage or on your website.

Interior trails, even if they are short, draw people to parks and get a lot of use.

Get the community involved in the process! We don't have much involvement now, but we need it to make sure we are putting the community first. Utilize paper outreach surveys that can be mailed to residents to send a more personal touch during these times. Trails are voiced as a #1 desire of residents. Links at Anderson to Black Rock. Taylor Farm Park to Hess Park. Longford Park to Port Providence Park. Potential for Parks and Recreation Department to include a stewardship role as the parks expand. Need signage and advertisement techniques to get information to residents and guide them once they are there.

Not at this time.

Outdoor classes - Opportunities for spreading information about classes and communication to residents to share what activities are available.

I would encourage the Township to avoid re-inventing the wheel. Find out which non-profits and local organizations are out there and can help with programming/ect.

Upper Providence Township-Park Update

Stakeholders- Additional Notes-ER

Tuesday, July 7, 2020 10AM- Julie Lacey- Royersford Parks & Recreation

Wednesday, July 8, 2020 10AM- Elaine Schaefer- Schuylkill River Greenways

- Been there 5 years- all 5 counties that the river goes through
- Mission to connect people and communities to the river- # 1 tool is the SRT, which they built, maintain, and promote. They own the trail from Berks-Montco border and N, and from this point south, its on the county/municipality. They help to convey and coordinate owners for a unified experience. Handle SRT Map/Signage/.... Montgomery has their own trend
- #2 tool is getting people on the River with sojourn
- Also hold events beside the river- biking, events, movie events
- Education
- Grant program—**have done several in the Upper Providence side of the Perkiomen Creek**
- Also build/improve launches up and down the river- this is the biggest challenge to getting people on the river.- many access points, but majority are private. Phoenixville good example of this
- **New partner for Fitzwater near Lock 60- SRG has not coordinated with yet**
- Black Rock Boat Launch on Chester County side of Upper Providence park larger—will use this for sojourn
- Supported bike share program in Phoenixville- still working towards this goal-unable to ID entity that will run the program here (have had program for over 10 years in the region)
- Goal to develop a system of recreational hubs up and down the SRT- so far have one in Pottstown. Thought is that these hubs would be working together. DCNR ID that #1 activity PA residents want to do is Kayaking—hubs will be an opportunity for residents to rent a kayak, take it down stream, and leave it in the next hub down- then could take a bike from the hub to bike back up, or take a shuttle (part of the hut) – does require a person to man the hub to help with safety, instructions, and man the shuttle. **Were hoping Fitzwater would be a partner.**
- Have partnered with Sly Fox which does events in Mont Clare—at community center near the river....

Wednesday, 7/8/2020 at 11AM- Michelle- East Pikeland Township

- Michelle- oversees Park and Recreation, Open Space Committee, EAC
- New to the area.
- 2 years ago, EPT did a park and recreation study- 200 respondents online to find
- People want loop, paved ADA accessible trails, Dog Parks, nature playground
- Recently acquired a new property themselves, doing a concept plan with the public now—looking at more of a nature focus for the park now with nature playground. (Berks Nature has an example and DCNR is looking into funding them)
- Not a lot of activities for teens- looking to put in a disk golf course for their property and a pump track
- People in EPT are asking for more natural opportunities, like trails and playgrounds.

- People tend to leave EPT for water access and more involved activities EPT doesn't provide.
- New property—Hidden River Park & Preserve right along the SRT and Schuylkill River across from UPT- near Cromby Power Plant. Committee meetings for new park have shown a desire to connect over Schuylkill River to UPT and SRT.
- Recommendation of this plan could be to form a joint municipal recreation committee that collaborates events, recreational facilities, etc. so residents are aware of facilities within the area.

Wednesday 7/8/2020 at 3PM- E.J-Schuylkill Township

- No Park and Recreation commission now
- Schuylkill has not had any park and recreation program or facilities in the past. Township was interested in public feedback for trails, etc. in the past and heard residents did not want trails. Have not done another survey lately, but it sounds like the attitude has changed and people do want trails- they are noticing all of the regional trails around them and recognizing how important trail connections are.
- Recently opened first park- Valley Park Park. Have no playgrounds, no fields, no Township sponsored/involved athletic organizations.
- Residents rely on Phoenixville School District and Charlestown Township fields.
- Do have a preserve in township- popular spot
- Have a small reservoir in the Township people try to canoe/kayak on

Thursday, 7/9/2020 at 10AM- Carol De Wolf- Schuylkill Highlands Partnership

- Have been focusing on the chester side of the river, except for Royersford
- Very involved with Mont Clare and working with Schuylkill River to dredge the canal- **a high priority for us and for funding**
- Working on a trail from bigger Black Rock Park
- Working on water access on Perkiomen
- Water loop available at Fitzwatertown

Friday, July 10, 2020 at 9:15AM- Ryan Beltz- Perkiomen Watershed Conservancy

- Berks, Bucks, Lehigh, and Montgomery
- UPT the most important part at the end of the creek
- Receive \$15K from Schuylkill River Greenways each year for signage/improvements. Some of these improvements may end up in UPT
- Opportunity to partner for grant opportunities.

Friday, July 10, 2020 at 10:30AM- Donald Shaner- Spring City Borough

- Have their own park and recreation commission.
- Outdoor concerts held in the park in the borough (Brown Street Park)- draws more local residents with a few outside attendees
- Have their own 5K event
- Are attempting a concert at the end of this month.

Thursday, July 16, 2020 at 10:30AM- Tamara Twardowski- Trappe Borough

- Have 2 Borough owned parks and 1 that's jointly owned with Collegeville
 - Have playgrounds, ball fields, etc.
- No stand alone Park/Rec department or committee- members of the council cover these items. Also share Public Works with Collegeville Borough- more of a water department.

Thursday, Patrick

- Patrick studies land used planning and urbanizing rural landscapes- faculty- expert on these topics in North America. Also study foraging and forestry. And an avid bicyclist. Point person for the college's 'food forest' under DCNR's MFRFB program- converting 2 acres nearby- interested in edible landscaping.
 - Main concern is conservation in the Township- park connectivity- nature connection. Any of these things help with attractive quality for the College.
 - Would like to see some edible landscaping
 - **Top ways to get young people out are wildlife and food**- one of the best ways to get people out for programming/activities
 - Subdivision is actually increasing tree cover (forest cover)- but it's a different type of tree cover. – lost tree cover when the old police station was removed.
- Unsure if the students interact with UPT parks very often.
- UPT functions as an area that's experiencing rapid development
- _____ from the Health department and exercise groups- may have more information about the students and their use of the parks.
- New Bryn.... Land Trust Preserve. – trails and restoring fields to warm season meadows an many bird boxes
- Limerick park- Kurylo Preserve- a similar park experience and will extend into the game farm and Stone Hill Sanctuary that will extend to a proposed Swamp Creek trail- Montgomery County Trail. Limerick trying to develop a connected system of parks and trails.
- Enjoy the trail around the YMCA- but too much lawn for Patrick.
- Growing population of Asian demographics in the area- need for Cricket fields- existing field across the Perkiomen- Knights Cricket Field. Also a number of Indian families.
- Patrick sent some helpful articles

Monday, July 20, 2020 at 10AM- Lisa Minardi- Historic Trappe

- Historic Trappe is a merger of the Historical Society and Speakers House. One non-profit that controls 4 historic sites within Trappe Borough- but focus area is the old Providence Township- so includes Upper Providence Township.
- Taylor farm had been leased for years to a turf farmer- bad for the land and destroying the soil. M detrimental '
- Trappe has the 2nd oldest Grange association- need more space
- Seed to Farm
- Dissatisfaction

Friday 7/17/2020 9:30AM and Monday 7/20/2020 at 12 Noon- **Susan Hoffman, UPT Parks & Recreation**

- Health question- residents recognize connection, but not sure if they get outside in order to get healthy...
- Have grant to link Black Rock Park through river crest development to Lock 60 and SRT.
- Small loop trail near Lock 60- working with county to ID ownership- needs improvements.
- Hess is getting a parking lot near the high school.
- 113 and Menonite Road- sidewalk- supposed to be a trail to link with Black Rock.

Wednesday 7/22/2020 10AM- **Simplex Health (Lauren Shelly, David Rambo, Alexandra Hayden)**

- Simplex Health- a population health company that focus on exercise and food as medicine approach. More of a clinacly oriented group- partnered with IFP. Work with health systems/pyhsicians, etc. outside of recreation center.
- In Upper Providence- wellness center and fitness program management.
- Joint effort for maintenance (Public Works does deep cleaning) Simplex Health does light spot cleaning.
- Activities mainly within the recreation center- do offer some activities outside activities- mainly at Anderson Park. Do not have a territory, and if the Township requested it, could shift outside of the park.

Friday 7/24/2020 10AM- **David Scheffler- L.L. Bean Outdoor School**

- Most programs are out of state parks. Also do partnership programs with local groups. Marsh Creek/ French Creek.
- No charge for local programs. Would charge for bigger programs like camping.



Upper Providence Township

Master Park Plan Update

Committee Questionnaire

What is a Master Park Plan?

A master park plan is a public document that evaluates the existing park and recreation facilities within a community and identifies short and long-range goals and recommendations to guide future park projects and improvements to support a consistent vision. Local commitment is an important component of the plan and will play a crucial role when building the capacity needed to implement the plan.

The Upper Providence Township Master Park Plan Update will provide a vision and strategic plan for the township's parks, to support the recreation areas, while preserving open space and natural areas, and ensuring parks are maintained as important places to learn, to play and to gather.

Importance of Committees:

A municipality's plan is tailored to meet the community's needs and priorities, and as such is extremely dependent upon public input. The best way to determine what residents need is to ask them! Involving the Park & Recreation committee in the formation of this Master Park Plan Update will take this involvement to a new level by gathering information through residents devoted to the topic.

Parks & Recreation Committee

What is your committee's top priority/goal for 2020? _____

Who is your committee's main representative? _____

What are your committee's underlying goals?

- _____
- _____
- _____
- _____

For the completion of the Master Park Plan Update, please answer the questions on the back of this form to the best of your committee's abilities. When completed please return to the Township Administration Office.

Please feel free to contact Kent A. Baird, the Planner preparing this plan, with any questions concerning the following inquiries or Upper Providence's Master Park Plan Update: at 215-345-4330, or by email at kbaird@gilmore-assoc.com



Upper Providence Township Master Park Plan Update

For the Township's Master Park Plan Update please identify the following:

Some questions may require a list or inventory of information. Please submit any extended list or extra information you may wish to provide with this form.

Please electronically attach or email any tables, charts, or graphics you may find.

- Identify existing parks, open space, and recreational facilities. Include a list of the facilities at each site, their use, and public perception.
- What park and recreation goals from the past Comprehensive and Open Space plans have/haven't been met?
- Identify greenways and trail connections
- Identify any recreational groups or Town activities (seasonal events)

Park & Recreation Committee Focused Questionnaire

Respondents: Lynn Corrigan
Susan Hoffman

What is your committee's top priority/goal for 2020?

Support & advise Parks & Rec

Focusing on community needs and wants in terms of our facilities and programs.

Who is your committee's main representative?

Sue Hoffman

Sue Hoffman, Director of P&R

What are your committee's underlying goals?

Improve on existing space & parks to increase utilization, Insure parks & trails are safe and well maintained, Acquire insight into community needs and desires, Assist in evaluating feasibility of improvements and help to execute

Communication to community

Providing affordable and accommodating programs to community

Having safe and enjoyable playground equipment and play spaces accessible to all populations

Recreation Center use and membership

| Identify existing parks, open space, and recreational facilities. Include a list of the facilities at each site, their use, and public perception | | | |
|---|---|--|---|
| PARK | FACILITIES | USE | PUBLIC PERCEPTION |
| Info to be provided by Sue Hoffman | | | |
| Anderson Farm Park | ball fields, soccer fields, basketball court Playground, Walking Trail, Amphitheater, Outdoor Restrooms, Pavilion. Community loves this park and is our more popular destination for play and walking. A lot of field rentals for soccer, ball fields and pavilion. | Used for large Community Day event, Music Fest Event and Summer Concert Series. | |
| Anderson Farm Park Recreation Center | Fitness Center, Multipurpose Group Exercise Room, Meeting Room, Rock Wall, 2 Court Gymnasium, Restrooms, Kitchen and Offices. Membership based. | Used for Open Gym, Group Exercise, general fitness and community programming. | Least known in community, not many people know it is there or what it is. Those who do have a membership say it needs updating. |
| Black Rock Park | Township Municipal building, Police, and Fire. Has ball fields, tennis court, basketball court, skate park, walking trail, two playgrounds, 3 pavilions, outdoor restrooms, take a book leave a book library. Used for baseball and softball tournaments and pavilion rentals. Playgrounds and play areas used heavily. | Used for Township events and programs. Community enjoys spaces, wishes some fields were larger for baseball/softball use. Play systems need to be updated. | Overall, positive community remarks |
| Taylor Farm Property | Open Space, historical working farm. | Property not known or used by public. Deed restriction. | |

| | | | |
|----------------------|---|--|--|
| Hess Preserve | Open space, no parking or real access. | Property less likely used by public. | |
| MacFarlan Park | Ball fields, playground, walking trail, pavilion and restrooms. | Used heavily for field rentals with Upper Providence Little League. Gets good use, not well signed. Good parking and access. | |
| Port Providence Park | small playground with a swing set and climbing structure. OK parking, hard to access. Located next to canal so flooding does happen. | | |
| Reynolds Dog Park | 3 fenced in dog play areas (grass, chain link fence). Dog stations, access to Perk and Schuylkill trails, restrooms. Good parking, not well signed. | Heavily used. | |

What park and recreation goals from the past Comprehensive and Open Space plans have/haven't been met?

Info to be provided by Sue Hoffman

Trail connectors to parks and trail heads have not been met.

Signage not met.

New comp plan being written

Identify greenways and trail connections

Info to be provided by Sue Hoffman

Identify any recreational groups or Town activities (seasonal events)

Info to be provided by Sue Hoffman

Community Day- Average 5k attendance, September
Spook-tacular- Average 200+ attendance, October
Large Events:
Breakfast with Santa- Average 200+, December
Golf Outing- Average 100+ attendance, April-May
Music Fest- Average 2k attendance, May
Summer Concert Series- Average 100+ attendance, May-August

Appendix 4.A Upper Providence Township Land Development List

PLANNING COMMISSION ITEMS HEARD AND DECIDED:

- ✓ **314 Egypt Road Minor Subdivision--Brower Property**
Property Location: 314 Egypt Road Greenwood Avenue
Proposed Development: Minor Subdivision
Township #: 2053-0365-0001 (MSD)
Clock expiration: unlimited (signed waiver)
PC Date: 01/13/2021 (*recommendation to approve*), Board date 02/10/2021
- ✓ **SEI North Campus/Reber Road alignment**
Property Address: 1 Freedom Valley Drive
Proposed Development: Reber Road extension
Township #: 7040-0333-0004 (T) LD
Submission Date:
PC Date: 11/12/2020 (no recommendation), Board date 11/16/2020
- ✓ **Lightcap 3-Lot Subdivision**
Property Address: 457 Fruit Farm Road
Proposed Development: 3-Lot Subdivision
Township #: 5018-0363-0001 SD
Submission Date: October 13, 2020 (PC date: 11/12/2020, recommendation for approval) *Tentative Board date: 12/21/2020*
- ✓ **183 Kline Road Zoning Map Amendment**
Property Address: 183 Kline Road
Proposed Development: Zoning Map Amendment from R-1 to R-2
Township #: 8006-0361-0001 ZMA
Submission Date: August 12, 2020
No MPC clock deadlines
- ✓ **Pope John Paul Home Bleachers**
Property Address: Rittenhouse and Township Line Roads
Proposed Development: Home Bleacher Installation
Township #: 5006-0358-0002 Amended Final
Submission Date: February 13, 2020 / Clock Expiration: None per letter (July 17, 2020)
Planning Commission recommendation: August 12, 2020
Board appearance date August 17, 2020
- ✓ **Yerkes Station Multifamily Development**
Property Address: 124 Yerkes Road (Hopwood Road and Route 29)
Proposed Development: development of multifamily development
Township #: 7035-0341-0002 (T-rev) LD
Submission Date: March 7, 2019 / ~~Clock Expiration (original) waived per letter~~
~~Wavier revoked: February 5, 2020 / Clock Expiration: May 5, 2020~~
~~Expiration Date per Governor's Order: July 17, 2020~~
~~Clock Expiration per July 13, 2020 letter: July 21, 2020~~
Planning Commission recommendation: July 8, 2020

Board appearance date July 20, 2020

- ✓ **357 Greenwood Avenue Subdivision / Conditional Use and Tentative Plan**
Property Address: 172 Hopwood Road
Proposed Development: 26 Single Family Detached Homes
Township #: 6033-0341-0001 CU / 6033-0341-0002 (T) LD
Submission Date: February 14, 2020
Conditional Use Hearing Clock: April 14, 2020 / Extension to June 30, 2020
Conditional Use Expiration Date per Governor's Order:
September 11, 2020
Land Development Clock Expiration: May 14, 2020 / Extension to June 30, 2020
Land Development Expiration Date per Governor's Order:
September 11, 2020
Planning Commission recommendation: June 10, 2020
Board advertising approval: June 15, 2020, Conditional Use to be scheduled (August 3, 2020)
Tentative Plan and Conditional Use Approval: August 3, 2020
- ✓ **Testa Dance Conditional Use**
Property Address: Egypt and Longford Roads
Proposed Development: Conditional Use for Studio Use in M-1 District
Township #: 0144-0366-0001 Conditional Use
Submission Date: June 3, 2020 / Clock Expiration: August 2, 2020 (extension signed)
Planning Commission recommendation: June 10, 2020
Board advertising approval: June 15, 2020, Conditional Use to be scheduled (August 3, 2020)
- ✓ **209 Fourth Avenue Subdivision**
Property Address: 209 Fourth Avenue (Norwood and Fourth Avenue)
Proposed Development: Single Family Attached (twins)
Township #: 03027-0354-003 P(SD)
Submission Date: February 19, 2020 / Clock Expiration: May 19, 2020
Expiration Date per Governor's Order: July 31, 2020
Planning Commission recommendation: May 11, 2020
Board approved June 15, 2020
- ✓ **Barker Property / Reynolds Acquisitions Preliminary Plan**
Property Address: 116 Hess Road
Proposed Development: 14 lot Subdivision
Township #: 5010-0351-0003 (P) LD
Submission date: December 17, 2020 / Clock Expiration (original): March 16, 2020
Extension Letter (dated: March 12, 2020): June 30, 2020
Expiration Date per Governor's Order: September 11, 2020
Planning Commission recommendation: March 13, 2020
Board approved June 15, 2020

- ✓ **188 Bechtel Road Subdivision**
Property Address: 188 Bechtel Road
Proposed Development: Single Family Detached
Township #: 5019-0354-0002 P (SD)
Clock expiration: March 3, 2020
Board approved February 18, 2020
- ✓ **Murphy Minor Lot Line Adjustment**
Property Address: 210 Amelia Street
Proposed Development: minor lot line adjustment
Township #: 0328-0359-0001 Minor SD
Clock expiration: March 19, 2020
Board approved February 18, 2020
- ✓ **Pope John Paul Lighting**
Property Address: Rittenhouse and Township Line Roads
Proposed Development: Athletic Field Lighting
Township #: 5006-0358-0001 Amended Final
Clock expiration: February 18, 2020
Board approved February 18, 2020
- ✓ **Wirant Dental Office**
Property Address: 429 Lewis Road
Proposed Development: Dental Office Building
Township #: 04011-0345-0001 P(LD)
Clock expiration: February 19, 2020
Board approved February 18, 2020
- ✓ **Pulte Homes Zoning Text Amendment**
Property Address: 1719 Main Street
Proposed: Zoning Text Amendment to the Neighborhood Convenience Commercial District
Township #: 8002-0349-0002 ZTA
Clock expiration: None
Moved to Board for applicant to request hearing
- ✓ **Providence Business Park III-60K Flex Space**
Property Address: Egypt Road and Hollow Road
Proposed Development: 60K Flex Space Building
Township #: 02059-0319-0003 (P) LD
Clock expiration: February 4, 2020
Board approved: January 21, 2020
- ✓ **Providence Business Park 3—HB Frazer**

Property Address: Egypt and Hollow Road, southeast of intersection
Proposed Development: development of an office building within a Providence Business Park
Township #: 0259-347-0003 FINAL
Clock expiration: February 4, 2020
Board approved: January 21, 2020

✓ **209 Fourth Avenue Subdivision**

Property Address: 209 Fourth Avenue (Norwood and Fourth Avenue)
Proposed Development: Single Family Attached (twins)
Township #: 03027-0354-0002 T(SD)
Clock expiration: December 31, 2019
Board approved December 2, 2019

✓ **Daniel Testa Land Development**

Property Address: 1218 Egypt Road
Proposed Development: single lot land development
Township #: 0144-0355-0001 LD
Clock expiration: December 31, 2019
Board approved October 21, 2019

✓ **Yerkes Area Mixed Used Zoning Amendment**

Property: Hopwood Road and Route 29/Collegeville Road area
Proposed: Zoning Text Amendment (Yerkes Mixed Use)
Township #: To be issued
Clock expiration: None
Board approved November 4, 2019

✓ **Wirant Dental Office**

Property Address: 429 Lewis Road
Proposed Development: Dental Office Building
Township #: 04011-0345-0001 P(LD)
Clock expiration: October 11, 2019
Board approved October 7, 2019

✓ **Residences at Providence Town Center (formerly PTC 106)**

Property Address: Arcola Road and Water Loop Drive
Proposed Development: Multi-family and Hotel
Township #: 03031-0305-0003 (P) LD
Clock expiration: November 30, 2019
Board approved October 7, 2019

✓ **188 Bechtel Road Subdivision**

Property Address: 188 Bechtel Road
Proposed Development: Single Family Detached
Township #: 05019-0354-0001 T(SD)

Clock expiration: October 1, 2019
Board Approved: September 16, 2019

- ✓ **Providence Business Park III-60K Flex Space**
Property Address: Egypt Road and Hollow Road
Proposed Development: 6-0k Flex Space Building
Township #: 02059-0355-0003 LD
Clock expiration: October 31, 2019
Board Approved: September 3, 2019
- ✓ **Providence Business Park 3—HB Frazer**
Property Address: Egypt and Hollow Road, southeast of intersection
Proposed Development: development of an office building
Township #: 2-057 010-1151 (P)LD
Clock expiration: October 31, 2019
Board Approved: September 3, 2019
- ✓ **Windbiel Subdivision**
Property Address: 1646 West Main Street
Proposed Development: 4-lot Subdivision
Township #: 08004-0287-0002 (P) LD
Clock expiration: June 24, 2019
Board Approved: July 15, 2019
- ✓ **Sheppard Redistribution**
Property Address: Hollow Road
Proposed Development: Distribution Center
Township #: 02059-0273-0003 (P) LD
Clock expiration: July 10, 2019
Board Approved: August 19, 2019
- ✓ **Pierce Minor Subdivision**
Property Address: 580 Old State Road
Proposed Development: Minor Subdivision/Lot Line adjustment
Township #: 05019-0352-0001 SD
Clock expiration: July 16, 2019
Board Approved: July 15, 2019
- ✓ **Barker Property Conditional Use and Subdivision**
Property Address: 116 Hess Road
Proposed Development: Conditional Use application for R-1, flex lot option (14 lots)
Township #: 05010-0351-0001 (CU) & 05010-0351-0002 (T) LD
Clock expiration: June 18, 2019
Board Approved: July 15, 2019
- ✓ **Starkey 3-lot Subdivision**
Property Location: 296 Hafner Road

Proposed Development: Subdivision of a 3.36 acre parcel into three single family detached home lots

Township #: 4-021A012-1152 (P)SD

Clock expiration: April 4, 2019

Board approved

✓ **Stearly Conditional Use and Tentative Plan**

Property Location: 395 Greenwood Avenue

Proposed Development: Subdivision of a 24.16 parcel into 17 lots using the Flex Lot option within the R-1 District

Township #: 8-002 035-1153 (T)LD & 8-002035-1154 CU

Clock expiration: March 4, 2019 Extension: April 30, 2019 (BOS April 22, 2019)

Board approved

✓ **Kline Road Partners**

Property Address: 183 Kline Road

Proposed Map Amendment/Text Change: Rezoning of parcel to the R-2 Zoning District (from R-1) and an amendment to the language of the Township's Cluster Ordinance

Township #: 8-005 004-1151 ZTA

Clock expiration: None

PC action: Recommend to BOS to advertise and schedule a hearing//Board took no action at May 2019 Meeting

Animals & Insects

Educational Signage Topics

Insects Native Birds
Pollinators Native Animals

Potential Custom Climbers

Eastern coyote Monarch Butterfly
White-tailed deer Bumble Bee



Chrysalis Spinner Telescope

Play categories: physical, sensory
Sensory input: vestibular (spinning), proprioceptive (push/pull)

Play categories: sensory
Sensory input: visual

Flower Talk Tubes

Play categories: sensory, social
Sensory input: sound



6 Cell Honeycomb Climber

Play categories: physical, sensory, social
Sensory input: cozy place for seclusion, tactile, vestibular (climbing), proprioceptive (hanging, jumping)

Color Palette

Bright, bold colors

Safety Surfacing

Embed animal tracks leading to the matching animal climber or into the woods



Butterfly Climbers

Play categories: physical, sensory
Sensory input: vestibular (balance), proprioceptive (hanging, push/pull)



Spring Riders

Play categories: physical, sensory, social
Sensory input: vestibular (self-propulsion), proprioceptive (rocking)

Spiderweb Climber

Play categories: physical, sensory
Sensory input: vestibular (climbing), proprioceptive (hanging)



Whirlin' Robin

Play categories: physical, sensory
Sensory input: cozy place for seclusion, vestibular (spinning)

Ant and Anthill Climbers

Play categories: physical, sensory, social
Sensory input: tactile, vestibular (climbing), proprioceptive (jumping)

Earth

Educational Signage Topics

Geology Tree Roots
Soils Dinosaurs
Underground Animals & Insects

Color Palette



Dinosaur Dig

Sand Pit and/or Table

Play categories: physical, sensory and social
Sensory input: tactile



Safety Surfacing

Stripes representing geologic age mapping



Tree Roots

Leave uprooted tree or position to accompany interpretive signage discussing tree roots



Potential Custom Climbers

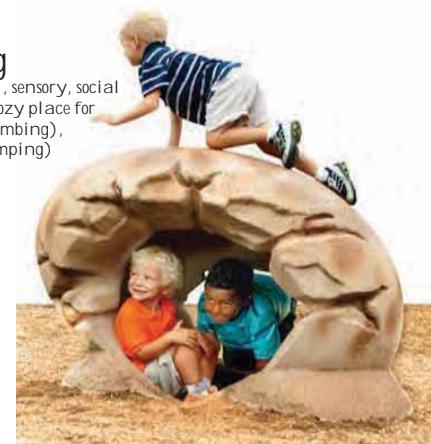
Star-nosed mole
Eastern cottontail
Earthworm



Fossil Details on Boulders
Sensory: Tactile

Dinosaur Egg

Play categories: physical, sensory, social
Sensory input: tactile, cozy place for seclusion, vestibular (climbing), proprioceptive (jumping)



Boulders & Ropes

Play categories: physical, sensory, social
Sensory input: tactile, vestibular (climbing, balance) proprioceptive (jumping, push/pull, hanging)

Music

Educational Signage Topics

Animal Sounds



Musical Instruments

Play categories: sensory, social
Sensory input: tactile, sound

Water



Potential Custom Climbers

Beaver
American Mink

Rainbow Trout

Skunk Cabbage
Eastern Painted Turtle

Great Blue Heron



Color Palette



Safety Surfacing

Stream, fish, and plant graphics

Sensory Panels

Play categories: sensory and social

Sensory input: sight, sound, tactile, proprioceptive (push/pull)



Rock-n-Ship Glider

Play categories: physical, sensory and social

Sensory input: vestibular (rocking) and proprioceptive (push/pull, jumping)



Dragonfly Springrider

Play categories: physical, sensory and social

Sensory input: vestibular (self propulsion) and proprioceptive (rocking)



Educational Signage Topics

Township History

Hydrologic Cycle

Watersheds

Riparian Corridors

Riparian Animals & Insects

Cattail Spinners

Play categories: physical, sensory
Sensory input: vestibular (spinning, balance), proprioceptive (hanging)

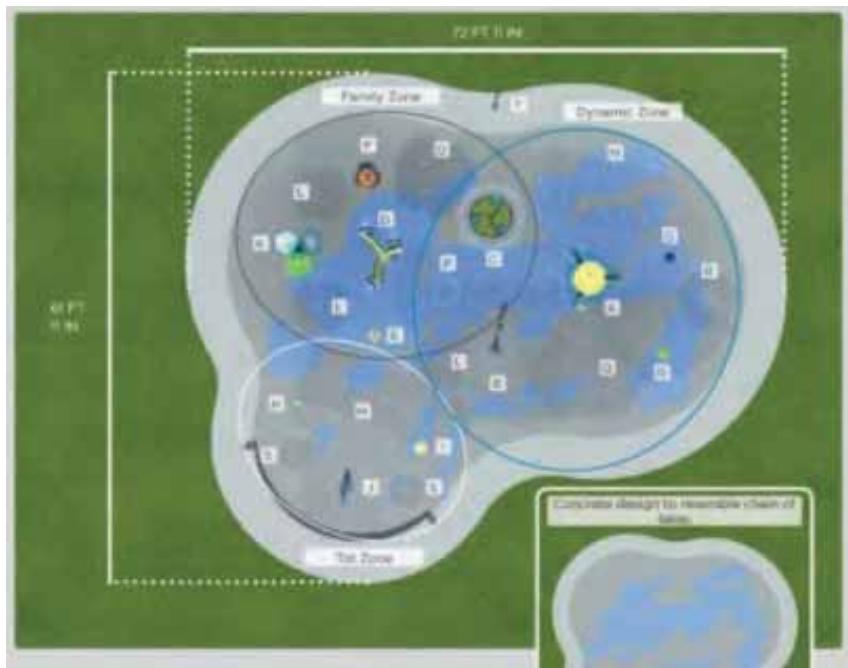
Appendix 5.B. Splash Pads



Township Splash Pad Example



Montgomery Township Spray Park

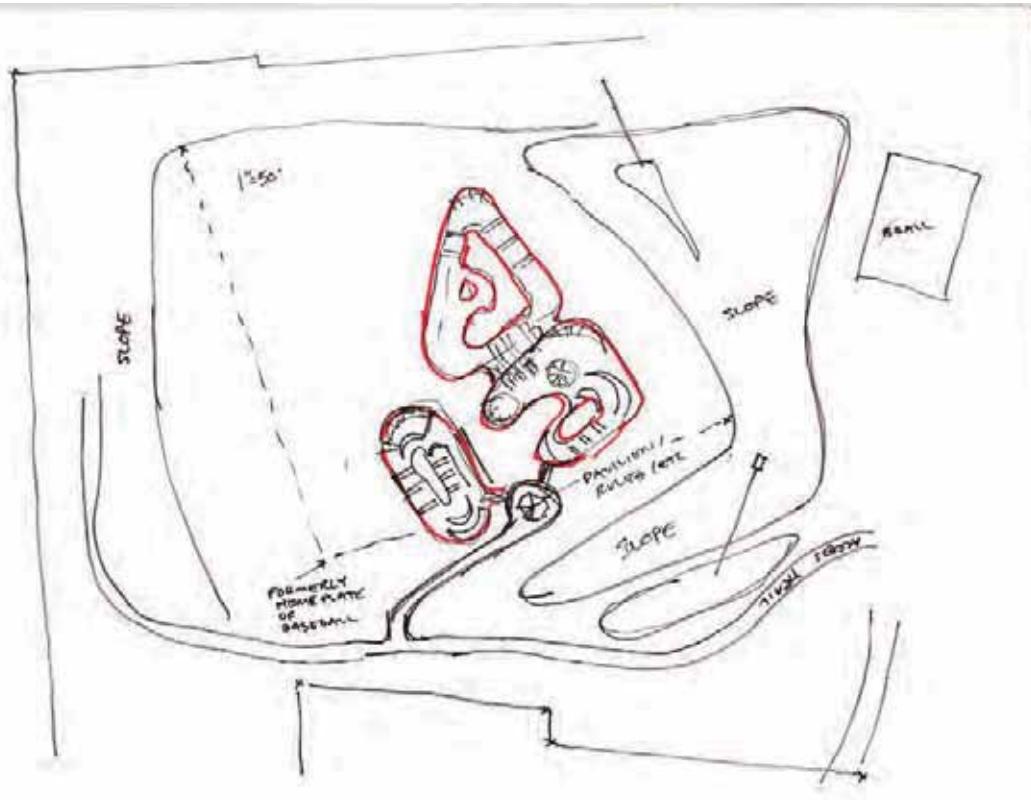


Spray Park Sample Layout



Spray Park Sample Layout

Appendix 5.C – Pump Tracks



Black Rock Park Planning Sketch – Chris Green



Sample Pump Track

Appendix 5.D. Bicycle Camping

Guide to Bicycle Camping (Adventure Cycling Association)

Summary

A guide to help campground and park managers identify how bicycle camping can best fit with their existing services and accommodations to effectively serve cycling visitors. Cycling visitor needs are different because:

- The unpredictable nature of bike touring makes it less practical to make reservations in advance.
- Visitors arriving by bike have limited alternatives if campsite is full.

To welcome these visitor's campsites can implement 2 strategies:

1. Provide a bicycle campsite (also called hiker/biker or bike-in site) which is a campsite outfitted for people arriving by bicycle, and other nonmotorized visitors such as hiker and kayakers.
2. Implement a no-turn-away policy guaranteeing space for solo bike travelers or small groups bicycle travelers without motorized support.

Amenities for bicycle travelers may include:

- At a minimum a place to set up their tent and park their bicycle.
- Bike parking: bike rack should provide 2 points of contact with frame (not wheel)
- Bike repair station: stand, clamp, tools and floor pump.
- Lockers
- Group picnic areas: covered
- Electrical outlets: can be solar-powered in a secure place (inside lockers or group picnic area)
- Showers: a popular amenity

The demand for bike camping is steadily increasing. Oregon State Parks counts between 10,600 and 14,000 visitors using their hiker/biker sites each year and about 90-96% are bicyclists. Location (with-in 5 miles) to local, state and national bicycle routes are a good indication of demand for use and can be found at www.adventurecycling.org/mapcorrections <http://www.adventurecycling.org>

Thousands of people travel by bicycle in the U.S. each year because the slower pace allows them to connect with communities and landscapes along the way. It's a type of Adventure travel, defined by the Adventure Travel Trade Association as a mix of nature, physical activity, and culture.

- 58% of bicycle travelers make over \$75,000 per year
- 82% have a college education
- 8.1% are international tourists
- 52 is the average age

Bicycle travelers spend up to 40% more than motorized travelers due to being self-powered and require more frequent services like food and accommodations.

- Nationally bicycle tourism accounts for \$83 billion of the \$130 billion spent on bicycling each year (Outdoor Industry Association 2017) bringing economic benefits to nearby communities.
- Adventure Cycling Route Networks include: over 48,600 miles (2019) of mapped cross-country routes along hundreds of parks and camp grounds with service listings for food, lodging, campground, bike shops, etc. There are also National routes, with over 50,000 miles of designated routes and State Routes.

Providing bicycle campsites that do not require reservations usually run between \$5 and \$10 per night.

Oregon State Park is installing 11 overnight “hike-bike pods” at hiker/biker campsites along the Oregon Coast, including bike repair station, pump, covered lockers and solar powered electrical outlets inside the lockers. Cost (\$9,500 each) funded by the Oregon State Parks Foundation with help from grants from REI, Travel Oregon, and Juan Young Trust, installed by park staff.

References:

Guide to Bicycle Camping by Adventure Cycling Association.

Bicycle Tourism Contributes \$83 Billion Annually to U.S. Economy

The outdoor Industry Association release a study in 2017 and found that bicycling participants spend \$83 billion on trip-related sales, generate \$97 billion in retail spending with bicycle recreation spending contributes to the creation of 848,000 jobs.

<https://www.adventurecycling.org/advocacy/building-bike-tourism/economic-impact/>

Bike travel weekend and Bike your Park day (First weekend in June). Will be held on Sept 25-27th in 2020, postponed due to COVID – 19 pandemic, Bike Travel Weekend, usually held in June is postponed and will be held the last weekend in September.

<https://www.adventurecycling.org/resources/btw-bypd/>

Pennsylvania Bicycle Routes map listed on PennDOT website: showing Bike Routes L -running North to South from Allentown to Chester and Bike Route S -East to West from Bucks County to Lancaster.

<https://www.penndot.gov/TravelInPA/RideaBike/Pages/Pennsylvania-Bicycle-Routes.aspx>

Appendix 5.E. Accessible Kayak Launches

Trends for ADA Accessible Kayak Launches 7/2/2020

Trends for ADA Accessible Kayak Launches

Recreational facilities, including boating facilities are among the facilities required to comply with the Americans with Disabilities Act (ADA) Accessibility Guidelines. Newly constructed and altered state and local governments facilities, places of public accommodation, and commercial facilities be readily accessible to individuals with disabilities. *

Recreational boating facilities can include fixed and floating facilities vary in size from one boat slip at a small campground to several thousand slips and can handle boats ranging in size from small canoes to large sailboats and powerboats.

Accessible Routes

At least one accessible route must connect accessible buildings, facilities, elements and spaces on a site. Boat launch ramps must also be connected by an accessible route.

- Accessible route must comply with ADAAG provisions for location, width (min 36 inches), passing space, head room, surface, slope (max. 1:2 or 8.33%), changes in level, doors, egress, etc.

Kayak/Canoe launches often consist of at least one floating structure connected to land by a ramp. * Making these public launches accessible to all users is a requirement of the American with Disabilities Act (ADA)

7 Design Features of an ADA Accessible Kayak/Canoe Launch

1. Gangway slope: If a ramp drops down to a launch site, the ramp should have 1 foot of length for every inch it drops. Allowing water levels to fluctuate.
2. Handrails: min. 36 inches high along gangway.
3. Ample room: the deck of the launch site big enough to accommodate wheelchairs, watercraft, and other equipment.
4. Step-down bench: in the middle of the floating launch structure is a bench with transition steps so users can work their way down to the kayak.
5. The plank: at the end of the bench a plank slides out over the top of the kayak to provide additional support and allow user to ease straight down into the kayak.
6. Moving the vessel: Launch decks are often made of composite decking materials for low maintenance and scratch resistance. In the loading area, the kayak or canoe is supported by either rollers or underwater saddles that hold the vessel steady while the user is getting situated into the vessel.
7. More handrails: Additional handrails near the water allow users to work their way down the launch to open water.

Kayak use has exploded in popularity in recent years because they are affordable to own, easy to transport and provide and leisure activity that all can enjoy. Launch facilities draw users to the area.

Overhead handles, grab bars, etc.

The transfer between land and boat can be extremely difficult to maneuver, especially when moving from a canoe seat to a higher launch platform. Alternative grab points can mitigate the complicated procedure of getting oneself onto a launch from a boat so that the boat is not the sole anchor point. *

References

Accessibility Guidelines for Recreation Facilities June 2003, A Federal Agency Committed to accessible design

www.access-board.gov

*How to Make a Kayak/Canoe Launch ADA-Compliant by Ayres August 14, 2019

<https://www.ayresassociates.com/how-to-make-a-kayak-canoe-launch-ada-compliant/>

*Logical Lasting Launches Design Guidance for Canoe and Kayak Launches National Park Service U.S. Department of the Interior. Rivers, Trails, & Conservation Assistance Program Spring 2004.



Sample ADA Kayak Launch

Appendix 5.F - Wayfinding and Educational Signage

Polk Valley Park – Wayfinding Signage







Polk Valley Park – Natural Areas Signage



Interpretative Education Signage Example – Hart's Woods, Doylestown Central Park

Hart's Woods

Hart's Woods is a mature Oak-Beech forest of great importance to our area. The continuous canopy cover and vegetation provide important wildlife habitat. At one point the forest covered a much larger area that reached across Route 202 to where Doylestown Hunt is today. In addition to the wooded area in Central Park, approximately 20 additional acres of Hart's Woods are preserved by the Heritage Conservancy to the northeast, forming one large, contiguous forested area. For many years, Hart's Woods has been conserved by different organizations including Del Val College. This Oak-Beech forest is what is known as a **Climax Forest**. A Climax Forest can be defined as the "final self-sustaining and self-reproducing stage of natural forest development if no large disturbances occur". This Oak-Beech forest composition was once common in the Piedmont region, but due to current and past development pressures, very few forests have been able to reach this stage of development. Doylestown Township is working to preserve Hart's Woods as an important and unique wildlife habitat, an area to keep development and habitat fragmentation pressures off ground nesting birds, and an area of preserved mature canopy forest.

Piedmont Region
Hart's Woods is located within the Gettysburg-Newark Lowland section of the **Piedmont Physiographic Province**, a geologic formation that stretches from New Jersey in the north to Alabama in the south. "Piedmont" is French for foot of the mountain. The Piedmont region meets the Appalachian Mountains on its western edge, and ends at the Atlantic Coastal Plain in the east. The Piedmont province consists of the remnants of several ancient, eroded mountain chains. What remains behind within the Gettysburg-Newark Lowland section are rolling lowlands, shallow valleys, and isolated hills that range in elevation from 20 to 1,355 feet above sea level. Soils are high in clay content and underlying rock formations consists mostly of red shale, siltstone, and sandstone. The area is known to be fertile and in Pennsylvania this area has the longest growing season due to its mild climate. All of these factors combine to form the underlying rock and soil structures that make Hart's Woods possible.

Source:
PAFGM: Physiographic Provinces of Pennsylvania, 2003
PAFGM: Waterford, Robert, Water Science Series, Non-Intensive Oak-Beech Forests, June 2003



Ovenbird (Seiurus aurocapillus)
The American Woodcock is well camouflaged by its brown-mottled feathers, and it moves slowly along the forest floor searching for earthworms. It lives in young forests and shrubby old fields, and its plumage makes it hard to find – except at dusk when males show off for females through calls and aerial displays.



American Woodcock (Scolopax rusticola)
The Wood Thrush breeds in deciduous and mixed forests in the eastern U.S. Large trees, moderate understory, shade and abundant leaf litter for foraging are needed. This bird's numbers are rapidly declining due to habitat fragmentation and parasites.



Wood Thrush (Hylocichla mustelina)
The Dwarf Lie of Dillinger, A Kew Tree – was often mentioned.



Red Oak (Quercus rubra)
The American Beech (Fagus grandifolia) is the only species of beech native to the United States.



Spicebush (Lindera benzoin)
It is the go-to tree for ground cover in the landscape.



False Solomon's Seal (Maianthemum canadense)

Ground Nesting Birds

Doylestown Township and the Environmental Advisory Council are working to encourage the return of ground nesting birds in Hart's Woods. This Oak-Beech Forest provides much needed habitat for these birds, while in many areas of the state and county, important nesting habitat is being removed or fragmented. Dogs are not permitted within Hart's Woods in order to ensure a safe environment for these valuable creatures.

The **Ovenbird** is named for the last-covered dome it makes for its nest. It spends much of its time foraging for invertebrates. These birds breed in deciduous and mixed deciduous closed canopy forests where its spotted breast makes an excellent disguise among the leaf litter.

American Woodcock (Scolopax rusticola) is well camouflaged by its brown-mottled feathers, and it moves slowly along the forest floor searching for earthworms. It lives in young forests and shrubby old fields, and its plumage makes it hard to find – except at dusk when males show off for females through calls and aerial displays.

The **Wood Thrush** breeds in deciduous and mixed forests in the eastern U.S. Large trees, moderate understory, shade and abundant leaf litter for foraging are needed. This bird's numbers are rapidly declining due to habitat fragmentation and parasites.

Source:
Pennsylvania's Forests: Is Our Tree Climbing and Why We Should Care, Fletcher Institute for Conservation, June 2011

Healthy Forests

A healthy forest contains multiple layers of vegetation, a diversity of plant species, animals, and soil, each providing an important function and all existing together in a complex relationship.

The **canopy layer** of the forest provides shade and protection for plants and animals and slows and traps rain. Below the canopy the **understory** – a layer of smaller growing trees and shrubs – begins to grow and eventually replaces older trees as they die. The **forest floor** includes herbaceous perennials, grasses, vines, mosses and plants living close to the soil layer. The forest floor teams with life such as worms, insects, fungi, bacteria, and micro-organisms that perform important functions such as breaking down leaves and other litter on the forest floor into rich nutrients for the forest plant life. This **litter layer** provides an important protective layer for the forest floor, keeps nutrient rich soil from washing away, and provides cover and protection for all kinds of animal life.

Source:
Pennsylvania's Forests: Is Our Tree Climbing and Why We Should Care, Fletcher Institute for Conservation, June 2011

See if you can find these plants from the different forest layers:



Red Oak (Quercus rubra)
The American Beech (Fagus grandifolia) is the only species of beech native to the United States.



American Beech (Fagus grandifolia)
It is the go-to tree for ground cover in the landscape.



Spicebush (Lindera benzoin)
It is the go-to tree for ground cover in the landscape.



False Solomon's Seal (Maianthemum canadense)

FOSSIL
INDUSTRIES

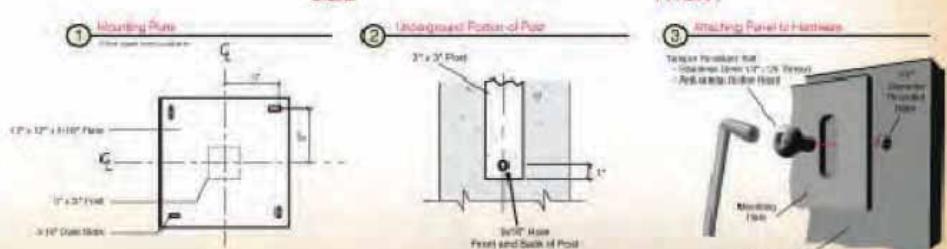
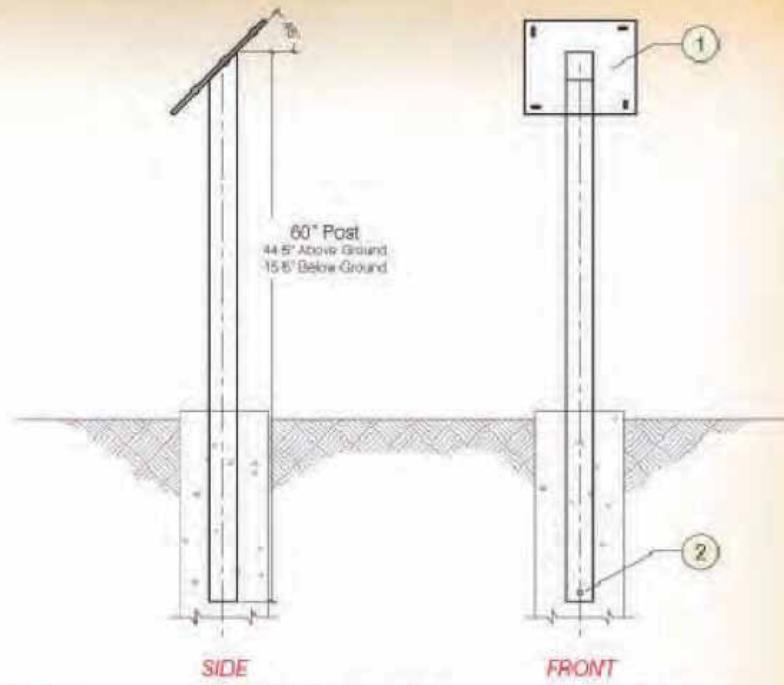
www.fossilgraphics.com



SINGLE POST PEDESTAL: In Ground

- Black Powder Coated Aluminum
- Custom Sizes and Colors Available

Part #: SPG1212



EDUCATIONAL SIGNAGE

NOT TO SCALE

Wayfinding Signs for Nature Centers and Parks Companies

FASTSIGNS of Pottstown, PA

Contact: Bill Weller

180 Shoemaker Rd unit b, Pottstown PA 19464

Cell: (484) 624-4874

Wood Product SIGNS (Colorado)

970-641-1675

www.woodproductsigns.com

ROMTEC, Inc.

(Waterless Restrooms, Conventional restroom -1 room at trailhead, kiosks, pavilions and shelters, community centers)

18240 North Bank Rd.

Roseburg, OR 97470

Phone: 541-496-3541

Email: service@romtec.com

<http://romtec.com/>

TimberHomes Vermont

(Kiosk and Park structures, Kiosk Kits for Trailheads, & Parks)

Contact: David Hooke

6335 VT Route 113

Vershire, VT 05079

Tel: 802-685-7974

<https://timberhomesllc.com/>

ComplianceSigns.com

1-800-578-1245

Berntsen (Aluminum Trail Signs)

1-800-518-0934

www.berntsen.com

ELMARK

307 Westtown Road

West Chester, PA 19382

1 610-692-0525

Email: sales@elmark.com

<https://www.elmark.com/>

ALUMA PHOTO – PLATE CO.

Permanent Graphics in Metal (Interpretive Signs)

1-866-579-9096

9001 Airport Blvd Ste #605

Houston, Texas 77061

(713)-943-8561

<https://www.alumaphoto-plateco.com/products/interpretive-signage.html>

Cylex Signs (Park signs, Trail signs)

2830 N 29th Ave, Phoenix, AZ 85009

1-800-356-3055

info@clexsigns.com

CampgroundSigns.com

1 800-952-1457

Fossil Industries

Contact:

44 Jefrynn Boulevard

Deer Park, NY 11729

Email:info@fossilgraphics.com

Phone: 631-254-9200

<https://fossilgraphics.com/>

Pannier

Contact:

345 Oak Road

Gibsonia, PA 154044

Phone: 724-265-4900

Email: marketing@pannier.com

<https://panniergraphics.com/>

Gecko Group

Contact: Ellie Byrom-Haley, President

211 W. Chestnut St

West Chester, PA 19380

Phone: 610 430-0305

Email: info@geckogroup.com

<https://geckogroup.com/home/>

Appendix 5.G. Cost Opinions

| ORDER OF MAGNITUDE COST OPINION WORKSHEET | | | | | |
|---|--|------|-----|------------|------------|
| PROJECT: Anderson Farm Park | | | | | 1/27/2021 |
| LOCATION: 499 Hopwood Road, Collegeville PA 19426 | | | | | |
| DESCRIPTION: Park Master Plan Improvements | | | | | |
| NO. | DESCRIPTION | ITEM | NO. | UNIT | TOTAL COST |
| SITE WORK & UTILITIES | | | | | |
| 1 | Demolition | 1 | LS | 25,000.00 | 25,000 |
| 2 | E&S Controls | 1 | LS | 5,000.00 | 5,000 |
| 3 | Site Rough Grading | 1 | LS | 50,000.00 | 50,000 |
| 4 | Water/Sewer (Splash Pad) | 1 | LS | 50,000.00 | 50,000 |
| 5 | Electrical (Splash Pad) | 1 | LS | 25,000.00 | 25,000 |
| TOTAL - SITE WORK & UTILITIES | | | | | 155,000 |
| PAVING AND SURFACES | | | | | |
| 1 | Concrete Pavement - Splash Pad (4" gravel, 6" concrete) | 555 | SY | 120.00 | 66,600 |
| 2 | 10' Wide Asphalt Trail (4" gravel, 2 1/2" binder, 1 1/2" | 4500 | LF | 100.00 | 450,000 |
| 3 | Asphalt Paving - Relocated Basketball Court | 555 | SY | 35.00 | 19,425 |
| 4 | Basketball Court Color Coating | 555 | SY | 20.00 | 11,100 |
| 5 | Asphalt Paving - Parking Area Improvements | 1665 | SY | 35.00 | 58,275 |
| TOTAL - PAVING AND SURFACES | | | | | 605,400 |
| SITE FEATURES & AMENITIES | | | | | |
| 1 | Splash Pad (106'x62') w/Recirculation System | 1 | LS | 650,000.00 | 650,000 |
| 2 | Splash Pad Fence (48" Chainlink) | 350 | LF | 60.00 | 21,000 |
| 3 | Splash Pad Shade Structures (16'x16' cantilevered) | 6 | EA | 8,000.00 | 48,000 |
| 4 | Park Signage | 1 | LS | 2,500.00 | 2,500 |
| 5 | 10' High Chain Link Fence (Basketball Court) | 340 | LF | 85.00 | 28,900 |
| 6 | Restroom/Mechanical Structure | 1 | LS | 250,000.00 | 250,000 |
| TOTAL - SITE AMENITIES | | | | | 1,000,400 |
| CONSTRUCTION ITEM SUB-TOTAL | | | | | |
| CONTINGENCY (20%) | | | | | |
| SURVEY/DESIGN/PERMITTING (15%) | | | | | |
| CONSTRUCTION OBSERVATION/INSPECTION (5%) | | | | | |
| TOTAL COST | | | | | 2,465,120 |

ORDER OF MAGNITUDE COST OPINION WORKSHEET

PROJECT: Black Rock Park

4/21/2021

LOCATION: 1286 Black Rock Rd, Phoenixville, PA 19460

DESCRIPTION: Park Master Plan Improvements

| ITEM | | | | | TOTAL COST |
|--|--|-------|------|------------|------------------|
| NO. | DESCRIPTION | NO. | UNIT | \$/UNIT | |
| SITE WORK & UTILITIES | | | | | |
| 1 | Demolition - Clearing and Grubbing/Tree Removal | 1 | LS | 5,000.00 | 5,000 |
| 2 | E&S Controls | 1 | LS | 2,500.00 | 2,500 |
| 3 | Site Rough Grading | 1 | LS | 10,000.00 | 10,000 |
| 4 | Stormwater Management/Infrastructure | 1 | LS | 5,000.00 | 5,000 |
| TOTAL - SITE WORK & UTILITIES | | | | | 22,500 |
| PAVING AND SURFACES | | | | | |
| 1 | Concrete Pavement (4" gravel, 4" concrete) | 100 | SY | 100.00 | 10,000 |
| 2 | 8' Wide Asphalt Trail (4" gravel, 2 1/2" binder, 1 1/2" w) | 2000 | LF | 100.00 | 200,000 |
| 3 | Poured In Place Rubber Safety Surface | 15000 | SF | 22.00 | 330,000 |
| TOTAL - PAVING AND SURFACES | | | | | 540,000 |
| SITE AMENITIES | | | | | |
| 1 | Playground Equipment | 1 | LS | 700,000.00 | 700,000 |
| 2 | Park Signage | 1 | LS | 2,500.00 | 2,500 |
| 3 | Pump Track (Design/Build Asphalt Surface) | 1 | LS | 500,000.00 | 500,000 |
| 4 | Synthetic Skating Surface (seasonal) | 5000 | SF | 35.00 | 175,000 |
| 5 | Landscape/Shade Trees | 1 | LS | 10,000.00 | 10,000 |
| TOTAL - SITE AMENITIES | | | | | 1,387,500 |
| CONSTRUCTION ITEM SUB-TOTAL | | | | | |
| CONTINGENCY (20%) | | | | | |
| SURVEY/DESIGN/PERMITTING (15%) | | | | | |
| CONSTRUCTION OBSERVATION/INSPECTION (5%) | | | | | |
| TOTAL COST (DOES NOT INCLUDE EMS/LEARNING CENTER) | | | | | 2,730,000 |

ORDER OF MAGNITUDE COST OPINION WORKSHEET

PROJECT: Longford Park/Reynolds' Dog Park

1/27/2021

LOCATION: 100 Longford Rd, Phoenixville, PA 19460

DESCRIPTION: Park Master Plan Improvements

| ITEM | | | | | TOTAL COST |
|--|---|------|------|------------|----------------|
| NO. | DESCRIPTION | NO. | UNIT | \$/UNIT | |
| | SITE WORK & UTILITIES | | | | |
| 1 | E&S Controls | 1 | LS | 1,500.00 | 1,500 |
| 2 | Water Line | 1 | LS | 10,000.00 | 10,000 |
| TOTAL - SITE WORK & UTILITIES | | | | | 11,500 |
| | PAVING AND SURFACES | | | | |
| 1 | Concrete Pavement (Accessible Walkways) | 2000 | SF | 9.00 | 18,000 |
| TOTAL - PAVING AND SURFACES | | | | | 18,000 |
| | SITE AMENITIES | | | | |
| 1 | Steel Pavilion (32'x32') & Concrete Pad | 1 | EA | 75,000.00 | 75,000 |
| 2 | Steel Pavilion (16'x16') & Concrete Pad | 1 | EA | 50,000.00 | 50,000 |
| 3 | Dog Park Elements | 1 | LS | 20,000.00 | 20,000 |
| 4 | Dog Park Re-Surfacing | 1 | LS | 100,000.00 | 100,000 |
| TOTAL - SITE AMENITIES | | | | | 245,000 |
| | CONSTRUCTION ITEM SUB-TOTAL | | | | 274,500 |
| | CONTINGENCY (20%) | | | | 54,900 |
| | SURVEY/DESIGN/PERMITTING (15%) | | | | 41,175 |
| | CONSTRUCTION OBSERVATION/INSPECTION (5%) | | | | 13,725 |
| TOTAL COST: | | | | | 384,300 |

ORDER OF MAGNITUDE COST OPINION WORKSHEET

PROJECT: Macfarlan Park

4/21/2021

LOCATION: 250 Green Tree Road, Phoenixville, PA 19460

DESCRIPTION: Park Master Plan Improvements

| ITEM | | | | | TOTAL COST |
|--|---|------|------|------------|------------------|
| NO. | DESCRIPTION | NO. | UNIT | \$/UNIT | |
| | SITE WORK & UTILITIES | | | | |
| 1 | Demolition | 1 | LS | 25,000.00 | 25,000 |
| 2 | E&S Controls | 1 | LS | 2,500.00 | 2,500 |
| 3 | Site Rough Grading | 1 | LS | 30,000.00 | 30,000 |
| TOTAL - SITE WORK & UTILITIES | | | | | 57,500 |
| | PAVING AND SURFACES | | | | |
| 1 | 8' Wide Asphalt Trail (4" gravel, 2 1/2" binder, 1 1/2" w | 4500 | LF | 80.00 | 360,000 |
| 2 | Asphalt Paving - Pickleball (3 Courts) | 725 | SY | 35.00 | 25,375 |
| 3 | Poured In Place Rubber Safety Surface | 7500 | SF | 22.00 | 165,000 |
| 4 | Asphalt Paving - Parking Re-Organization | 3000 | SY | 35.00 | 105,000 |
| TOTAL - PAVING AND SURFACES | | | | | 655,375 |
| | SITE AMENITIES | | | | |
| 1 | Playground Equipment | 1 | LS | 500,000.00 | 500,000 |
| 2 | Park Signage | 1 | LS | 1,500.00 | 1,500 |
| 3 | 10' High Chainlink Pickleball Fencing | 340 | LF | 85.00 | 28,900 |
| 4 | Pickleball Color Coating | 725 | SY | 20.00 | 14,500 |
| 5 | Shade Structure | 2 | EA | 7,500.00 | 15,000 |
| 6 | Benches | 5 | EA | 1,000.00 | 5,000 |
| TOTAL - SITE AMENITIES | | | | | 564,900 |
| | CONSTRUCTION ITEM SUB-TOTAL | | | | 1,277,775 |
| | CONTINGENCY (20%) | | | | 255,555 |
| | SURVEY/DESIGN/PERMITTING (15%) | | | | 191,666 |
| | CONSTRUCTION OBSERVATION/INSPECTION (5%) | | | | 63,889 |
| TOTAL COST | | | | | 1,788,885 |

ORDER OF MAGNITUDE COST OPINION WORKSHEET

PROJECT: Port Providence Park

4/21/2021

LOCATION: 1286 Black Rock Rd, Phoenixville, PA 19460

DESCRIPTION: Park Master Plan Improvements

| ITEM | | | | | TOTAL COST |
|--|--|------|------|-----------|------------|
| NO. | DESCRIPTION | NO. | UNIT | \$/UNIT | |
| SITE WORK & UTILITIES | | | | | |
| 1 | Demolition - Clearing and Grubbing/Tree Removal | 1 | LS | 5,000.00 | 5,000 |
| 2 | E&S Controls | 1 | LS | 2,500.00 | 2,500 |
| 3 | Site Rough Grading | 1 | LS | 20,000.00 | 20,000 |
| 4 | Stormwater Management/Infrastructure | 1 | LS | 5,000.00 | 5,000 |
| TOTAL - SITE WORK & UTILITIES | | | | | 32,500 |
| PAVING AND SURFACES | | | | | |
| 1 | Concrete Pavement (4" gravel, 4" concrete) | 4300 | SY | 100.00 | 430,000 |
| 2 | 8' Wide Asphalt Trail (4" gravel, 2 1/2" binder, 1 1/2" w) | 270 | LF | 100.00 | 27,000 |
| 3 | Asphalt Parking/Striping/Signage | 250 | SY | 50.00 | 12,500 |
| TOTAL - PAVING AND SURFACES | | | | | 469,500 |
| SITE AMENITIES | | | | | |
| 1 | Timber Guide Rail | 150 | LF | 150.00 | 22,500 |
| 2 | Information Kiosk | 1 | EA | 1,500.00 | 1,500 |
| 3 | Steel Pavilion (20'x20') & Concrete Pad | 1 | LS | 65,000.00 | 65,000 |
| 4 | Water Service/Solar Charging Station | 1 | LS | 15,000.00 | 15,000 |
| 5 | ADA Kayak Launch & Storage Rack | 1 | LS | 75,000.00 | 75,000 |
| 7 | Park Signage | 1 | LS | 1,500.00 | 1,500 |
| TOTAL - SITE AMENITIES | | | | | 180,500 |
| CONSTRUCTION ITEM SUB-TOTAL | | | | | |
| CONTINGENCY (20%) | | | | | |
| SURVEY/DESIGN/PERMITTING (15%) | | | | | |
| CONSTRUCTION OBSERVATION/INSPECTION (5%) | | | | | |
| TOTAL COST | | | | | 955,500 |

ORDER OF MAGNITUDE COST OPINION WORKSHEET

PROJECT: Taylor Farm Park

1/27/2021

LOCATION: Upper Providence Township

DESCRIPTION: Park Master Plan Improvements

| ITEM | | | | | TOTAL COST |
|---|--|------|------|------------|------------|
| NO. | DESCRIPTION | NO. | UNIT | \$/UNIT | |
| SITE WORK & UTILITIES | | | | | |
| 1 | Demolition - Clearing and Grubbing/Tree Removal | 1 | LS | 5,000.00 | 5,000 |
| 2 | E&S Controls | 1 | LS | 2,500.00 | 2,500 |
| 3 | Site Rough Grading | 1 | LS | 20,000.00 | 20,000 |
| 4 | Stormwater Management/Infrastructure | 1 | LS | 20,000.00 | 20,000 |
| TOTAL - SITE WORK & UTILITIES | | | | | 47,500 |
| PAVING AND SURFACES | | | | | |
| 1 | 10' Wide Asphalt Trail (4" gravel, 2 1/2" binder, 1 1/2" | 9000 | LF | 100.00 | 900,000 |
| 2 | Widen Entrance Drive | 700 | SY | 35.00 | 24,500 |
| 3 | Stream Crossing | 1 | LS | 200,000.00 | 200,000 |
| 4 | Asphalt Parking | 550 | SY | 35.00 | 19,250 |
| TOTAL - PAVING AND SURFACES | | | | | 1,143,750 |
| SITE AMENITIES | | | | | |
| 1 | Gateway Signage (at intersection) | 1 | LS | 15,000.00 | 15,000 |
| 2 | Vinyl Post & Rail Fencing | 1600 | LF | 45.00 | 72,000 |
| 3 | Landscape Material | 1 | LS | 25,000.00 | 25,000 |
| 4 | Meadow Establishment | 10 | AC | 2,500.00 | 25,000 |
| 5 | Lights for Parking Area | 1 | LS | 20,000.00 | 20,000 |
| 6 | Park Signage | 1 | LS | 1,500.00 | 1,500 |
| TOTAL - SITE AMENITIES | | | | | 158,500 |
| SITE STRUCTURES | | | | | |
| 1 | Barn Renovation | 1 | LS | | TBD |
| 2 | Farmhouse Renovation | 1 | LS | | TBD |
| TOTAL - SITE STRUCTURES | | | | | |
| CONSTRUCTION ITEM SUB-TOTAL | | | | | |
| CONTINGENCY (20%) | | | | | |
| SURVEY/DESIGN/PERMITTING (15%) | | | | | |
| CONSTRUCTION OBSERVATION/INSPECTION (5%) | | | | | |
| TOTAL COST (NOT INCLUDING BARN/FARMHOUSE STRUCTURES) | | | | | 1,889,650 |

Guidelines for Trail Development Within Montgomery County, Pennsylvania



Montgomery County Commissioners

James R. Matthews, Chairperson

Thomas Jay Ellis, Esq.

Ruth S. Damsker

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Trail Notes

Montgomery County's proposed primary trail network offers many potential benefits to county residents on a local, regional and even national level. Benefits of smart trail design and development range from preserved open space to the promotion of active, healthy lifestyles to the creation of an alternative source of transportation for commuters and recreation users alike. Additionally, the sixteen proposed interconnected county trails will establish connections to parklands, historic sites, natural areas and other points of interest through out the region. Through devoted trail planning, the county has constructed the Schuylkill River Trail and the Perkiomen Trail. These trails have set the foundation for the county's regional trail network while providing the framework for local trails and pathways to connect to the regional system.

The Open Space Program, Trails & You

The purpose of this document is to provide desirable and minimum trail design standards to municipalities applying for county open space funds to develop trail connections. The municipality's open space plan must indicate connections to existing or proposed county trails, and county parks and historic sites to be eligible for county trail funding.

If a municipality decides to pursue the design and construction of a regional county trail segment, the trail surface and width standards should reflect the preferred trail standards stated in the County's: Open Space, Natural Features, and Cultural Resources Plan, Montgomery County, 2004, Chap. 4, "Trails and Pathways," pp.131-141 (Summary excerpt of "Trails and Pathways" - see right sidebar column). Additionally, coordination with the county will be established regarding design and construction of a proposed county trail segment.

When a municipality enters the Green Fields/Green Towns Program and applies for the County Trail Connection Grant Option, the municipality will be required to meet county trail guidelines, and multiple requirements/conditions stated within the applications and grant agreement (see attached application packet). Furthermore, municipal trail design plans must be County approved.

| <u>Montgomery County's Proposed Primary Trail Network Preferred Standards</u> |
|---|
| Chester Valley Trail Preferred Trail Surface and Width Standards: Macadam Pavement with a 10-12 foot trail width. |
| Cresheim Trail Preferred Trail Surface and Width Standards: Macadam or Hard Cinder Pavement with a 10-12 foot trail width. |
| Cross County Trail Preferred Trail Surface and Width Standards: Macadam Pavement with a 10-12 foot trail width. |
| Evansburg Trail Preferred Trail Surface and Width Standards: Hard Cinder Pavement with an 8-10 foot trail width. |
| Liberty Bell Trail Preferred Trail Surface and Width Standards: Macadam or Hard Cinder Pavement with a 10-12 foot trail width. Exceptions through boroughs, village areas and areas where on road facilities and sidewalks must be used. |
| Manatawny Trail Preferred Trail Surface and Width Standards: Hard Cinder Pavement with an 8-10 foot trail width. |
| Pennypack Trail Preferred Trail Surface and Width Standards: Macadam or Hard Cinder Pavement with a 10-12 foot trail width. |
| Perkiomen Trail Preferred Trail Surface and Width Standards: Macadam or Hard Cinder Pavement with a 10-12 foot trail width. |
| Power Line Trail Preferred Trail Surface and Width Standards: Macadam or Hard Cinder Pavement with a 10-12 foot trail width. |
| Schuylkill East Trail Preferred Trail Surface and Width Standards: Hard Cinder Pavement with an 8-10 foot trail width. |
| Schuylkill River Trail Preferred Trail Surface and Width Standards: Macadam Pavement with a 10-12 foot trail width. |
| Stony Creek Trail Preferred Trail Surface and Width Standards: Macadam or Hard Cinder Pavement with a 10-12 foot trail width. |
| Sunrise Trail Preferred Trail Surface and Width Standards: Macadam or Hard Cinder Pavement with a 10-12 foot trail width. |
| West County Trail Preferred Trail Surface and Width Standards: Macadam or Hard Cinder Pavement with a 10-12 foot trail width. |
| Wissahickon Trail Preferred Trail Surface and Width Standards: Macadam or Hard Cinder Pavement with an 8-12 foot trail width. |
| 202 Trail Preferred Trail Surface and Width Standards: Macadam Pavement with a 10-12 foot trail width. |

In order to maintain consistency throughout the trail development process, the county has referenced and developed a trail and bicycle facilities design criteria to aid in the design and construction phases. The county has created four trail classification types providing a desirable and minimum standard range for each classification type. The four trail classification types are:

*Multiuse *Retrofit Sidewalk

*Pathway *On Road Improvements for Bicyclist

The trail classification type (or a related name/description) should be identified or noted within the municipality's open space plan update. Through the initial planning process, the trail type should be determined and solidified. Once established, the municipality should adhere to the county's applicable standards for that particular classification type. The criteria formulated in this document are characteristically universal standards derived from primary public and private publications noted at the end of this document.

The county acknowledges that unforeseen factors and environmental constraints may exist in the design and construction phase of trail development that may hinder the municipality from meeting certain standards. The county expects the municipality to research all possible trail realignments, remediation scenarios, land use impacts, negotiation strategies and community partnerships before determining that the minimum standards cannot be met.

Trail Terms and the Trail Ahead

To briefly elaborate, the county has described each trail classification type to allow the municipality to identify what type of trail they envisioned or would like to plan for.

Multiuse – A trail that permits more than one user group (jogger, bicyclist, hiker, etc.) at a time, creating a two-way shared use area. The trail is constructed of a hard paved surface or a hard compacted cinder to facilitate wheeled and pedestrian trail traffic.

Pathway – This is a temporary or permanent area that is normally dirt or cinder although some paths are asphalt or concrete. A path typically indicates the common route taken by pedestrians between two locations.

Retrofit Sidewalk – A widened and improved concrete pedestrian facility to allow more than one pedestrian user group (jogger, walker, hiker, etc.) at a time, creating a two-way shared use area (excludes wheeled trail traffic in most cases).

On Road Improvements for Bicyclist – Improvements consist of the creation or designation of the following: a) Bike Lane – A portion of a roadway that has been designated by striping, signing, and pavement markings for the preferential or exclusive use of bicyclists; b) Bike Route – A shared right-of-way (widened curb lane or shoulder or the creation of a shoulder) located on medium to lightly traveled streets and roadways designated with appropriate "bike route" directional and informational signs. These signs help encourage use and warn motorists that bicycles may be present; c) Bicycle Friendly Areas (BFAs) – An area that provides compatible and safe streets for bicyclists. Typically, BFAs are used in residential neighborhoods, although these areas could be used in any type of development where designated bike lanes are not required, but motorists should be aware of bicyclists using the roadways.

Terms may differ throughout the municipalities open space plans updates. The idea is that each municipality that applies for county open space funds can relate to one of our four trail classification types and set in motion their trail building process as soon as it's identified.

The Trail Ahead...Access & Ownership

Another major component to a trail development project is the process of the municipality acquiring access and/or ownership to the corridor for the proposed trail alignment. **The County requires a 75' (foot) trail corridor-width minimum for all proposed trail projects.** If the minimum cannot be met, the municipality must demonstrate why its partial or entire corridor is below the minimum. The 75' minimum is required to ensure proper buffering, landscaping, aesthetic view-sheds and greenway preservation throughout the county.

There are a variety of acquisition and access methods a municipality may use to fulfill this component of trail development. Montgomery County's three acceptable standards are as follows:

- a) Fee Simple Acquisition: A complete transfer of land ownership from one landowner to another party, usually by purchase.
- b) Easement: Grants the right to use a specific portion of land for a specific purpose or purposes. Easements may be limited to a specific period of time or may be granted in perpetuity; or the termination of the easement may be predicated upon the occurrence of a specific event. An easement agreement survives transfer of landownership and is generally binding upon future owners until it expires on its own terms.
- c) License/Lease Agreement: The temporary grant of an interest in land upon payment of a determined fee. The fee does not have to be monetary, but some consideration must be given for the right to use the land, or the lease will not be legally binding.

License/lease agreements (between public utility agencies) will only be recognized and accepted by the Green Fields/Green Towns Program if the agreement is for 25 years or longer (with renewal options) and the municipality agrees to maintain and police the trail segment for that time span. The above stated condition of approval is to ensure that the municipality is 100% committed to planning, designing, building and maintaining their public asset and recreational amenity.

Montgomery County prefers the municipality to either acquire the land or right-of-way through fee simple or obtain an easement in perpetuity throughout the trail corridor.

Design Standards

The heart of this document is the chart below. The chart contains tangible trail design standards that will provide direction and support behind a tremendous regional trail network.

TRAIL NOTE: Please note the term 'Cinder' used in the Trail Surface Type description applies to a variation of cinder/granular type surface applications. The most common cinders used include limestone (limestone dust), sandstone and crushed native rock. The stones' diameter should be less than 3/8 inch and the surface depth should be at least 4 inches thick (compacted) to accommodate mostly every multi-use trail user.

Montgomery County Trail Design Standards

| <u>Standard Description</u> | | <u>Trail Classification Type</u> | | | |
|--|---------------------|--|----------------|---|------------------------------------|
| Criteria Outline | | Multiuse | Pathway | Retrofit Sidewalk | On Road Improvements for Bicyclist |
| Trail Width (75' trail corridor width minimum) | Desirable | 12' | 6' | 10'-12' (multi-use w/o bike lane: two-way shared use)* | Bike Lane: 6'-5' |
| | Minimum | 8'-10' | 4' | 6'-8' (multi-use with bike lane: two-way shared use)** | Bike Lane: 4' |
| Trail Shoulder Width | Desirable | 4-5' | 2' | 4' (multi-use w/o bike lane: two-way shared use) | Road Shoulder: 8'-6' |
| | Minimum | 2' | 2' | 2' (multi-use with bike lane: two-way shared use) | Road Shoulder: 4' |
| Trail Surface Type*** | Desirable | Macadam | Cinder/Macadam | Concrete | Macadam |
| | Acceptable | Cinder | Cinder | Macadam (if acceptable by local zoning regulations) | Macadam |
| Trail Grade (longitudinal slope) | Desirable | 1%-3% | 1%-3% | 1%-2% | -- |
| | Maximum | 5% | 5% | 5% | -- |
| Trail Surface Grade (cross slope) | Desirable | 1% | 1% | 1% | -- |
| | Maximum | 2% | 2% | 2% | -- |
| Vertical Clearance | Desirable | 10' | 10' | 10' | -- |
| | Minimum | 8' | 8' | 8' | -- |
| Horizontal Clearance (edge of trail vegetation clearance) | Desirable | 4-5' | 2' | 4' | -- |
| | Minimum | 2' | 2' | 2' | -- |
| Design Speed (mph) | Desirable Grades | 20 | 3-7 | 8-15 | 25-30 |
| Viewshed (linear feet) (line of sight within a corridor) | Desirable | 200'-175' | 75' | 200'-175' | -- |
| | Minimum | 150' | 50' | 150' | -- |
| Signage | Trail | See 'Sign Dimensions for Trail & Bicycle Facilities' for chart and sign examples | | | |
| | Roadway | | | | |
| * 6' (typical ped. sidewalk) | | | | All Trail Surface Depths are assumed @ 2-4" and Trail Sub-base Depths are assumed @ 4-8". | |
| ** 4' (typical ped. sidewalk) | | | | | |
| *** Macadam should be considered for trail grades over 2% | | | | | |

Note: Montgomery County Trail Design Standards were derived from multiple sources cited on the ' Trail & Bicycle Facilities Resource References' page located on page 15 of this document.

The remaining sections of this document contain the estimated construction costs, cross section illustrations of each classification type, signage dimensions and examples, and a trail and bicycle resource reference page.

TRAIL NOTE: In addition to county open space funds, municipalities are encouraged to seek and apply for other trail funding sources in conjunction with the subdivision and land development process to facilitate their trail development goals. See [Appendix A](#) for a detailed list of other potential trail funding sources for municipalities to seek out and utilize.

Estimated Trail Construction Costs

Baseline Estimates for Constructing Trail Type Surfaces*

12' Multiuse Wide Trail - Cost Range Per Linear Foot

| Macadam | Concrete | Cinder | Road Improvements (Macadam) |
|---------|----------|---------|---|
| \$43.00 | \$77.00 | \$21.00 | Variable dependent on scope and design of improvements. |
| \$26.00 | \$53.00 | \$11.00 | |

6' Multiuse Wide Trail - Cost Range Per Linear Foot

| Macadam | Concrete | Cinder | Road Improvements (Macadam) |
|---------|----------|---------|---|
| \$21.50 | \$38.50 | \$10.50 | Variable dependent on scope and design of improvements. |
| \$13.00 | \$26.50 | \$5.50 | |

- All estimated figures were calculated in 2005 dollar amounts -

* The above stated estimates were derived from Montgomery County's experience in developing the Schuylkill River and Perkiomen trails using force account labor (materials, trucks and equipment rentals included), utilizing regional and local engineering cost estimates and a national trail estimate. The estimated cost ranges calculated in the table above, represent a high (virgin territory) and low (existing rail/utility corridor) cost construction scenario for municipalities to consider when planning a future trail.

TRAIL NOTE: The above stated cost estimates throughout this memo do not include preliminary and/or final engineering design costs. Only after a careful review on a case-by-case basis of each project, can a reliable and accurate cost be calculated. The above stated cost estimates within this trail guideline document could increase due to many variables and unforeseen factors in the construction phase.

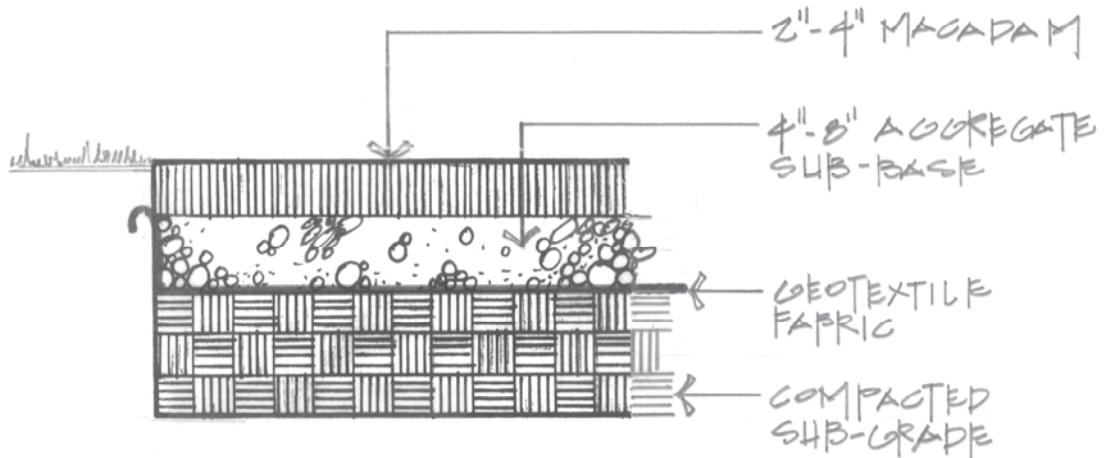
The cost of constructing a paved, concrete or cinder (gravel-surfaced) trail varies depending on whether the trail is built where there already exists a suitable base. For example, trail construction along an abandoned railroad corridor or a former roadway typically requires less site preparation work because a base already exists upon which the trail surface can be applied. If, however, a new trail is being blazed through virgin territory or where a dirt footpath is being upgraded to a more formalized trail, then the trail route must also be cleared, excavated and provided with an adequate sub-base prior to application of the actual trail surface. This extra work adds time and expense to the overall project cost (fuel cost should also be estimated for all power equipment and vehicles used for trail development).

Secondly, the expense of design engineering (i.e., the preparation of line and grade drawings; details/specifications; erosion and sedimentation control plans; applications to regulatory agencies for environmental clearance and approvals; etc.) must also be factored into a trail's overall development cost. Other qualifiers that could fluctuate the overall cost are: base thickness; surface thickness; motorized vehicle weight consideration; direction of alignment; curb cuts; access/driveway aprons; signage/signals; landscaping; and other amenities related to trail development. This component of cost is perhaps most difficult to accurately build into a typical cost estimate because each trail project is unique and will have its own set of design and engineering requirements. Generally, design costs will be higher for a trail that is being built through virgin territory because it will likely involve a greater degree of environmental impact versus a trail that takes advantage of an existing man-made corridor.

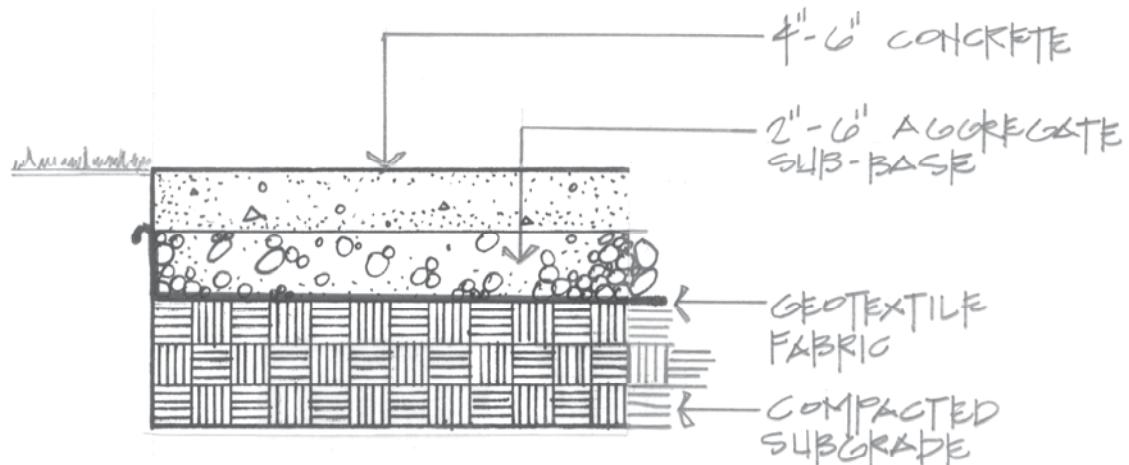
Lastly, a final variable that will affect typical trail development costs is labor. If an outside contractor is used, then local prevailing rates for construction crews can make the project more expensive than if public employees were to be used to perform the construction work. For example, a government-sponsored trail project can often be implemented using its force account labor (i.e., crews from its parks department, public works, or roads and bridges departments) to cut down on expenses since its employees' salaries are already paid for in the agency's regular payroll system. This approach assumes that departmental employees have time available to spend on the trail project without sacrificing other essential duties of their positions. It also assumes that the governing body has reviewed and approved of the approach to devote staff resources to the construction effort.

Cross Section Illustrations of Trail Classification Types

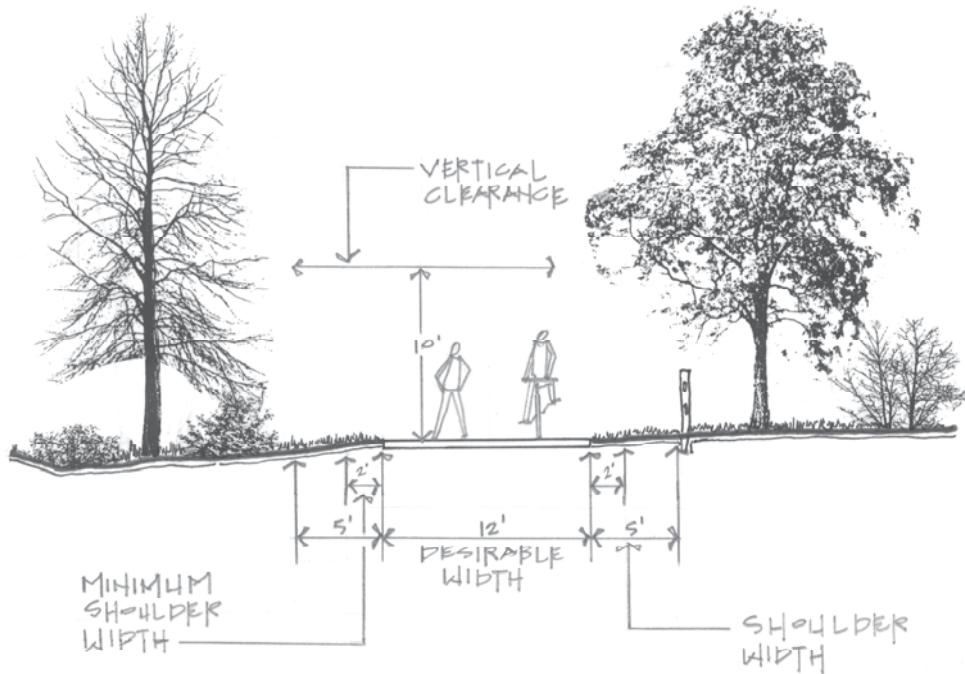
The trail cross sections and detail illustrations (pages 7-9) are visual examples of the County's recommended desirable and minimum principle standards which correspond with the trail design chart on page 5 of this document. Each trail classification illustration may depict multiple scenarios between desirable and minimum standards.



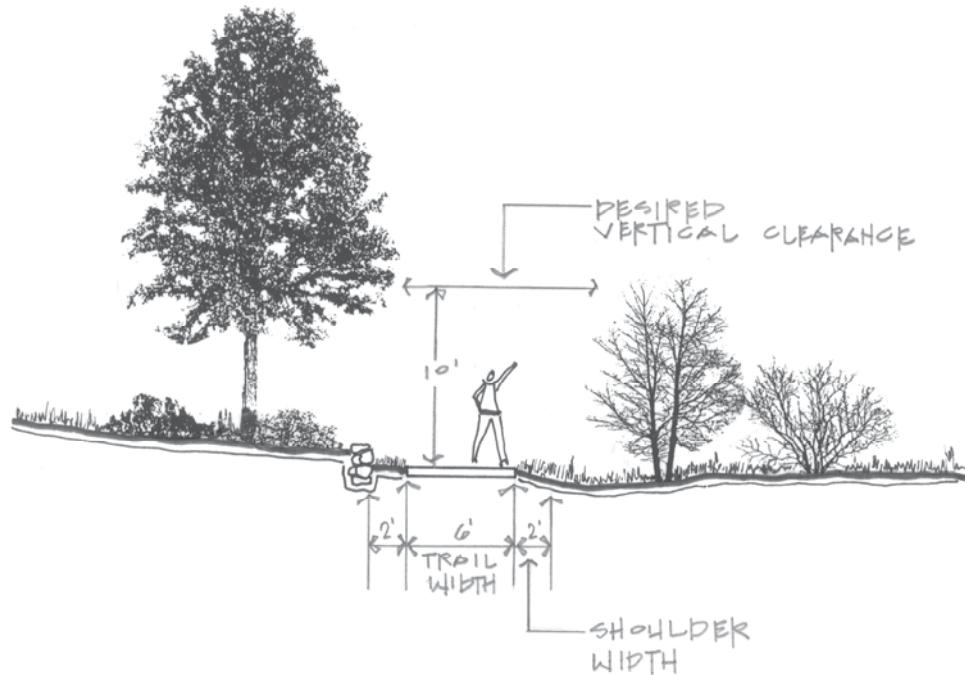
TYPICAL MACADAM TRAIL DETAIL



TYPICAL CONCRETE TRAIL DETAIL

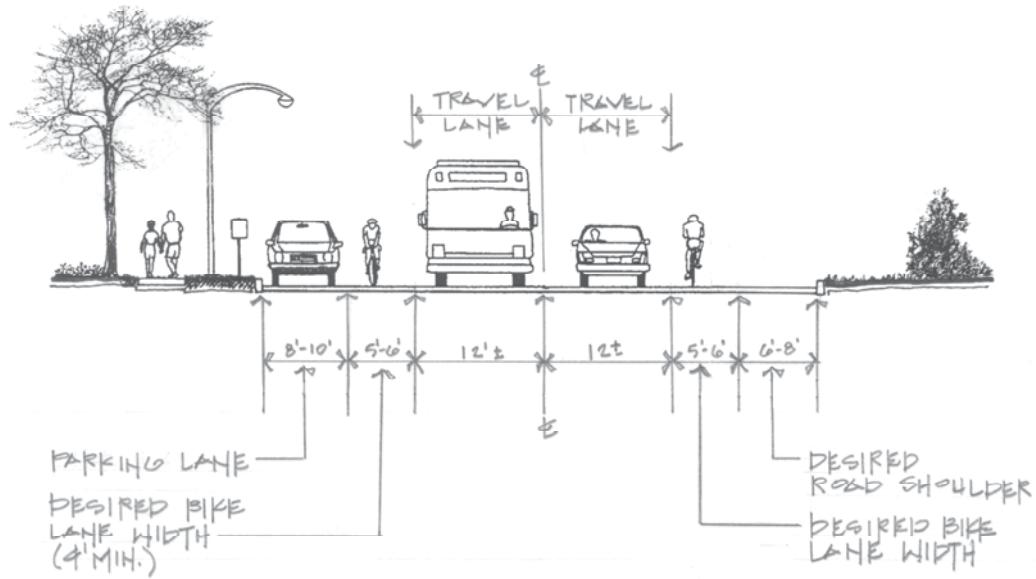


TYPICAL MULTIUSE TRAIL SECTION



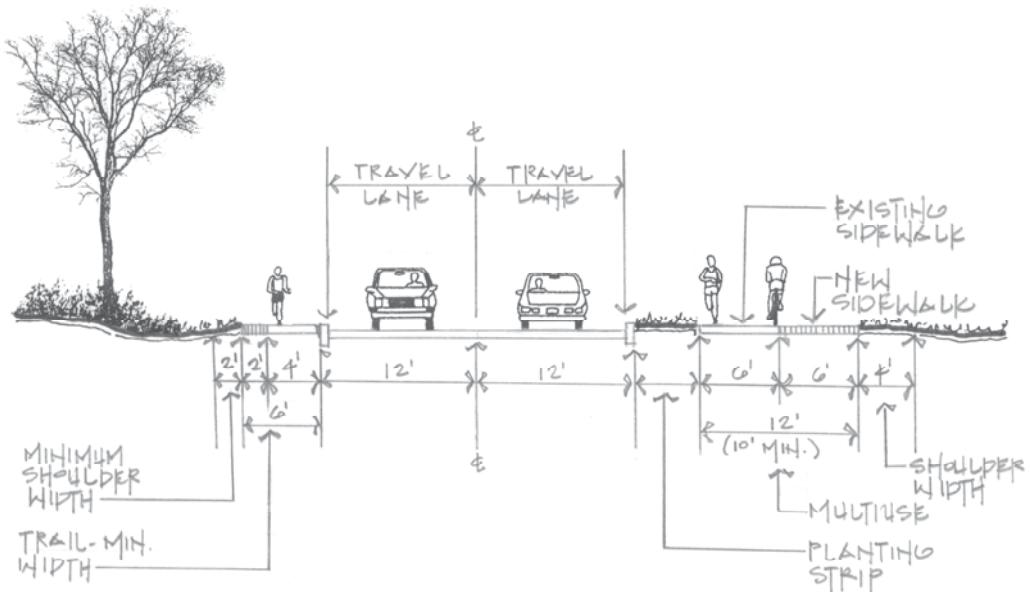
TYPICAL PATHWAY SECTION

HTS



ON ROAD IMPROVEMENTS FOR BICYCLES

NTS



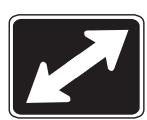
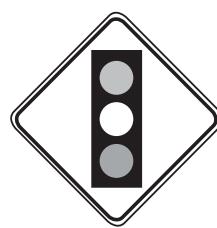
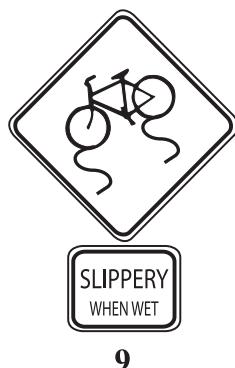
SIDEWALK RETROFIT

NTS

Minimum Signage Dimensions

Sign Dimensions for Trail & Bicycle Facilities

| Sign Type | Reference Code | Minimum Sign Size - inches | |
|--|----------------|----------------------------|---------|
| | | Multiuse | Roadway |
| Bike Route Ahead | 1 | 18 x 18 | 30 x 30 |
| Bike Route | 2 | 24 x 18 | 24 x 18 |
| Bike Lane | 3 | — | 30 x 24 |
| Share The Road | 4 | — | 24 x 24 |
| Bicycle Warning | 5 | 18 x 18 | 24 x 24 |
| Share The Road Plaque | 5 | — | 18 x 24 |
| Interstate Bicycle Route Sign | 6 | 18 x 24 | 18 x 24 |
| Bicycle Route Sign | 7 | 12 x 18 | 12 x 18 |
| Bicycle Parking | 8 | 12 x 18 | 12 x 18 |
| Bicycle Surface Condition | 9 | 18 x 18 | 24 x 24 |
| Bicycle Surface Condition Plaque | 9 | 12 x 9 | 12 x 9 |
| Playground | 10 | 18 x 18 | 24 x 24 |
| Hill | 11 | 18 x 18 | 24 x 24 |
| Bump | 12 | 18 x 18 | 24 x 24 |
| Pedestrian Crossing | 13 | 18 x 18 | 24 x 24 |
| Dip | 14 | 18 x 18 | 24 x 24 |
| Narrow Bridge | 15 | 18 x 18 | 30 x 30 |
| Bikeway Narrows | 16 | 18 x 18 | 30 x 30 |
| Signal Ahead (Same dimensions apply to Stop & Yield Ahead Signs) | 17 | 18 x 18 | 30 x 30 |
| Bicycle Guide Direction Signs | 18,19 | 24 x 6 | 24 x 6 |
| Street Name | 20 | 18 x 6 | 18 x 6 |
| Bicycle Route Supplemental Plaques | 21,22,23 | 12 x 4 | 12 x 4 |
| Route Sign Supplemental Plaques | 24-29 | 12 x 9 | 12 x 9 |





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51

Sign Dimensions for Trail & Bicycle Facilities

| Sign Type | Reference Code | Minimum Sign Size - inches | |
|--------------------------------------|----------------|----------------------------|--------------|
| | | Multiuse | Roadway |
| Standard County Trail Sign | 30 | 18 x 18 | 18 x 18 |
| Stop | 31 | 18 x 18 | 30 x 30 |
| Yield | 32 | 18 x 18 x 18 | 30 x 30 x 30 |
| Bicycle Lane Supplemental Plaques | 33 | — | 30 x 12 |
| Movement Restriction | 34-36, 38 | 12 x 18 | 18 x 24 |
| Begin Right Turn Lane Yield to Bikes | 37 | — | 36 x 30 |
| Push Button for Green Light | 39 | 9 x 12 | 9 x 12 |
| Bicycle Wrong Way | 40 | 12 x 18 | 12 x 18 |
| Ride With Traffic Plaque | 40 | 12 x 12 | 12 x 12 |
| No Motor Vehicles | 41 | 24 x 24 | 24 x 24 |
| No Bicycles | 42 | 24 x 24 | 24 x 24 |
| No Parking Bike Lane | 43,44 | — | 12 x 18 |
| Pedestrians Prohibited | 45 | 18 x 18 | 18 x 18 |
| Bicycle Regulatory | 46,47 | 12 x 18 | 12 x 18 |
| Shared-Use Path Restriction | 48 | 12 x 18 | — |
| To Request Green Wait on Symbol | 49 | 12 x 18 | 12 x 18 |
| Railroad Crossbuck | 50 | 24 x 4.5 | 48 x 9 |
| Advance Grade Crossing | 51 | 15 Dia. | 15 Dia. |
| | | | |

TRAIL NOTE: For additional design details, sign materials and further examples please reference the Manual on Uniform Traffic Control Devices for Streets and Highways written and published by the Federal Highway Administration.

These design standards will guide the county in future trail developments, as well as the municipalities applying for open space funds. Montgomery County and the 62 municipalities are pioneering ahead to develop a first-rate integrated trail system on a local and regional level, while creating an innovative recreational and preservation program for all others to accredit and pursue.

Trail & Bicycle Facilities Resource References

Bicycling Road Map, Montgomery County Planning Commission, Norristown, PA, 1999.

Community Trails Handbook, Brandywine Conservancy, Chadds Ford, Pennsylvania, 1997.

Guide for the Development of Bicycle Facilities, American Association of State Highway and Transportation Officials (AASHTO), Washington, D.C., 1999.

Guide for the Planning, Design, and Operation of Pedestrian Facilities, American Association of State Highway and Transportation Officials (AASHTO), Washington, D.C., July 2004.

Manual on Uniform Traffic Control Devices for Streets and Highways, 2003 ed., Federal Highway Administration, Washington, D.C., 2003.

Rails-to-Trails Conservancy, Trails and Greenways Clearinghouse, < <http://www.trailsandgreenways.org/resources/> > , accessed in 2005.

Ryan, Karen-Lee (ed), Trails for the Twenty-First Century, Island Press, Washington, D.C., 1993.



Appendix 4.B – Sample Trail Surface Materials



Macadam



Crushed Stone



Natural



Boardwalk



Bike Lane



Sharrows



Sidewalk



Country Road

Appendix 5.J - Shade Structures

Pavilion Example – “Raleigh” from Enwood Structures



Shade Structure Example



Pavilion Example



Appendix 5.K. Playgrounds

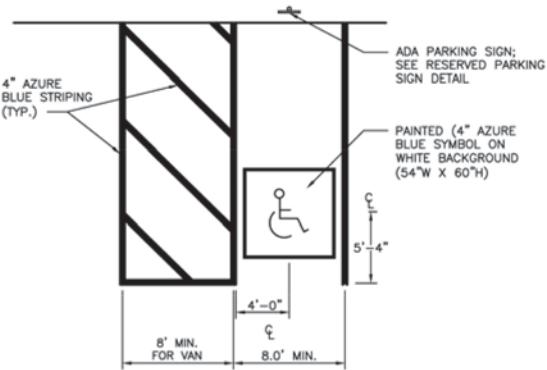
TreeTops Color Options 2a



TreeTops Color Options 2b

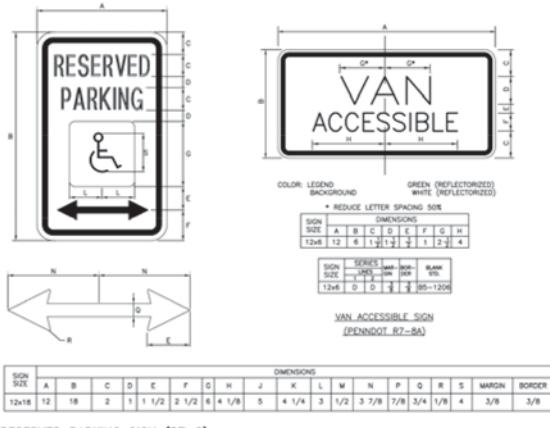


Appendix 3.E - ADA Accessible Parking



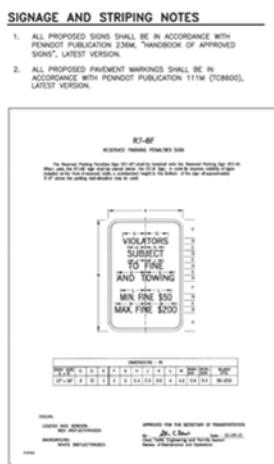
A.D.A ACCESSIBLE PARKING STRIPING

NOT TO SCALE



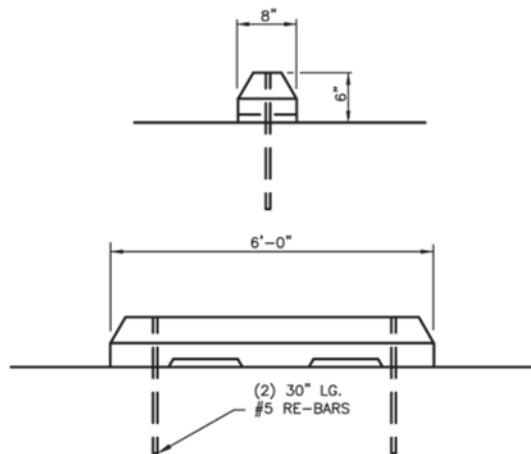
RESERVED PARKING SIGN (R7-8)

NOT TO SCALE



SIGN POST INSTALLATION DETAIL

NOT TO SC



PRECAST CONCRETE WHEEL STOP DETAIL

NOT TO SCALE

Unparalleled Excellence

Ice Rink Engineering and Manufacturing, LLC services clients around the world, and they've learned to rely on us. They depend on our integrity and truthfulness in guiding them to the best possible product for their particular project and circumstance. Our clients see our years of in-depth experience in this industry as a distinct advantage that serves them well.



ICE RINK
ENGINEERING AND MANUFACTURING, LLC
A WORLDWIDE COMPANY

EZ Glide 350® Synthetic Ice—Simply the Best!

What does EZ Glide synthetic ice have to offer you?



Recreational Skaters

Recreational and beginner skaters, including very young children and senior adults, find EZ Glide 350 a safer and more enjoyable alternative to refrigerated ice. Because EZ Glide 350 is slightly less slippery than refrigerated ice, a beginner is far less likely to take a bad fall while learning to skate. This results in fewer injuries and more fun for everyone, regardless of age, coordination or skill level! EZ Glide 350 is being utilized for special events and public skating facilities as an inexpensive alternative to a refrigerated ice system; and because it can be used at any time of year, indoors or outdoors, municipalities are finding it a great addition to summer and winter community events, creating an exciting atmosphere and activity that everyone can enjoy.

Figure Skaters

Intermediate and advanced figure skaters are insisting on EZ Glide 350 synthetic ice for training because any skill performed on refrigerated ice is easily executed and perfected on this surface. The slight increase in resistance allows a skater to build stamina and muscle strength. It also slows a skater just enough to allow perfecting the edge and body control necessary to perform advanced jumps, spins and footwork. Practicing on EZ Glide 350 will, without question, enhance a figure skater's technique and skill level—coaches and choreographers have proven just that. The transition from EZ Glide 350 to ice and ice to EZ Glide 350 is very easy. Many professional show skaters perform routinely on both types of surfaces on a daily basis. This is the only synthetic surface that adagio skating is consistently performed on.

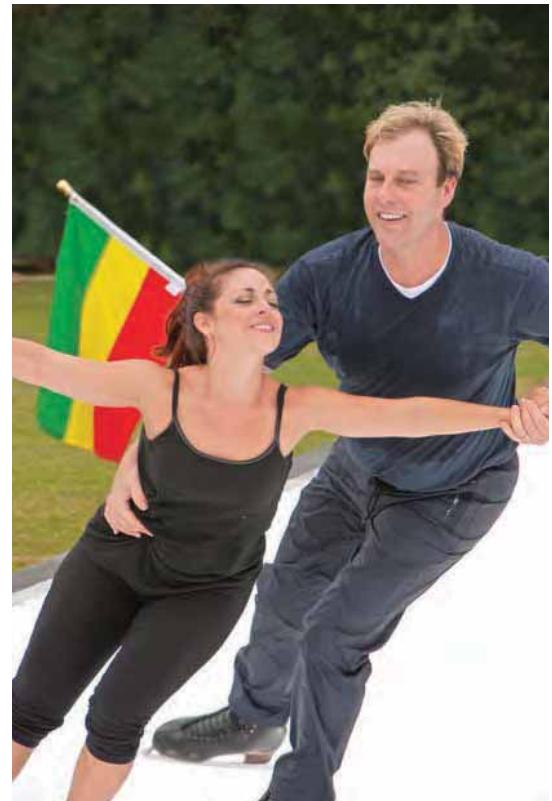
Hockey Skaters

Hockey skaters are finding that all their drills, maneuvers, edging and stops are greatly enhanced from practicing on EZ Glide 350 and EZ Glide NC™. Many hockey training facilities have been established within the United States and abroad specifically utilizing the EZ Glide product. As with figure skaters, the muscle strength and stamina realized from practicing on EZ Glide is a huge benefit for hockey training according to many coaches who use the product. Pucks travel easily across the EZ Glide surface, allowing for stickhandling, shooting and passing drills to be performed and perfected. Any hockey maneuver or drill performed on ice can be performed and strengthened on the EZ Glide surface.

Entertainment Producers / Choreographers / Directors

Entertainment producers are choosing EZ Glide 350 for their venues even though refrigerated ice may be an option. Cost savings are enormous due to quick and easy installation and breakdown times, smaller crews, fewer travel trailers, less specialized equipment, no power requirement and quicker venue-to-venue time. The size of the skating surface can increase or decrease depending on the event parameters, greatly improving booking options. Additionally, the EZ Glide 350 floor can be installed to fit any shape or size stage. The unique design of the Double-Locking (DL) Dove-Tail™ panel allows for a variety of connection options around the perimeter of each panel, maximizing unusually shaped floors and custom staging possibilities.

Choreographers and directors are finding EZ Glide 350 to be far more versatile than ice. From a visual standpoint, the audience does not realize the performer is skating on synthetic ice. Any skill, jump or spin can be performed on EZ Glide 350, including pairs/adagio and ice dancing. Many classical dance techniques that are not suitable for refrigerated ice are performed with ease on EZ Glide 350 due to the slight increase in resistance to the blades. EZ Glide 350 provides just what is needed to blend the artistry of dancing and skating, allowing for a well-rounded, entertaining performance.



Frequently Asked Questions

Installation Planning, Product Information and Services

What kind of subfloor is necessary for my EZ Glide 350 surface?

The EZ Glide 350 floor can be installed on any sturdy, flat, level and firm surface. Concrete, asphalt, decks, patios, driveways, tennis courts, etc. are commonly used as subfloors for EZ Glide 350. Many of our floors have been installed in basements, on parking lots, driveways, in theaters, malls, on floats, on simple lumber decking or on the street in Times Square, New York, as an example. Any imperfections or dips in an existing subfloor may be leveled with sand, pea gravel or concrete. Consult our Engineering Department with any questions.



What is the lifespan of EZ Glide 350?

Indefinite, under normal and expected use.

What kind of warranty is available for the EZ Glide 350 floor?

The EZ Glide 350 surface is indestructible under normal use conditions. There is a written 10 year warranty provided with each new surface; however, we have floors that have been in use for 20 years and we have never had one warranty claim.

Do you offer installation services?

Ice Rink Engineering and Manufacturing is a full service company. We offer installation services for refrigerated and synthetic ice rinks and a variety of training services including rink operation procedures, skating surface maintenance and skate sharpening among many others.

What do I need to prepare my subfloor prior to installing the panels?

Prior to panel installation, we recommend laying out a moisture membrane or vapor barrier over your subfloor to protect the panel underside. These vapor barriers are available through Ice Rink Engineering and Manufacturing, LLC.

Maintenance

Does EZ Glide 350 require use of a glide enhancer?

EZ Glide Enhancer™ is shipped with every floor purchase or rental at no extra charge. Its use will significantly increase the glide performance and reduce blade sharpening. Misting the floor with EZ Glide Enhancer is only necessary occasionally and on an as-needed basis. It takes approximately five minutes to mist a 2400 square foot surface, as an example. Once the Enhancer is applied, spraying periodically with a light mist of water is all that is required.

What is the EZ Glide Enhancer made of?

EZ Glide Enhancer is a specially formulated proprietary material. It is an environmentally friendly product which is safe and non-toxic. Comprised of 50% water in its usable form, the Enhancer is totally water soluble, non-staining and EPA approved. This product works on all three of our different synthetic ice surfaces and greatly increases skating speeds.

How often do I have to clean the skating surface?

Only when the surface shows signs of any matter such as dust, dirt or other foreign particles.





Skating

Does synthetic ice skate just like refrigerated ice?

No! But, EZ Glide 350 is as close as it gets! Hockey and figure skating training facilities, public rinks, private outdoor rinks and special event facilities are opening across the globe in great numbers utilizing the 350 product exclusively. Movies, high-profile TV productions and top ice shows use nothing but EZ Glide 350—proving the value, acceptance and great faith in the product.

How will skating on EZ Glide 350 affect my skating on ice?

According to the large number of coaches using EZ Glide 350 for training purposes, it intensifies practice and results in a far stronger performance on refrigerated ice. Training on EZ Glide 350 will develop a more technically advanced skater, encouraging a skater to perform their movements and skills in proper body form, which makes them stronger, faster and more agile on refrigerated ice. It also encourages a skater to be more aggressive in their approach toward specific movements and skills. This “energy” and speed carries forward onto refrigerated ice, resulting in better all-around performances.

Can I use my regular ice skates on EZ Glide 350 or do I need special equipment?

You do not need special equipment. Any figure, hockey, speed or rental skate works perfectly on EZ Glide 350 and the surface will not damage your blades.

How often will I need to sharpen my skates?

Sharpening skates more often on any synthetic ice product is not uncommon; however, the use of the EZ Glide Enhancer significantly reduces wear on the blades. This combined with the special material composition of the 350 product reduces the need for skate sharpening as often as would be necessary when utilizing another synthetic product or enhancer. Maintaining a clean EZ Glide surface will also extend the life of your blades and reduce sharpening considerably.

Product Specifications, Accessories and Services

The EZ Glide product line offers proven superior performance specifically with regards to glide distance, skill execution, product lifespan and user-friendliness. It is the most durable and versatile product on the market today! The preferred product of professionals and amateurs, it is the one we most highly recommend due to its many incredible advantages to the user.

EZ Glide 350® Commercial-Grade and EZ Glide NC™ Synthetic Ice Panels

Our commercial-grade EZ Glide 350 panels are used for heavy training/skating installations, public rinks and theatrical performances. They offer no restrictions or limitations with regards to skating performance—if it can be done on refrigerated ice, it can be done on EZ Glide 350! EZ Glide 350 panels are available in 1/4, 3/8, 1/2, 3/4 and 1 inch thicknesses. While most clients choose the Double-Locking (DL) DoveTail™ connection, the 350 panel is also available in Square Edge (all thicknesses) and Spline styles (for 1/2 inch thicknesses and up).

We also offer a non-commercial style panel, EZ Glide NC, which is designed specifically for residential light-duty hockey practice. EZ Glide NC is available in the 3/8 inch thickness with the Square Edge or DL DoveTail connection style. Additional thicknesses are available upon request.



Synthetic Ice Warehouse Panels

Synthetic Ice Warehouse panels offer another option for our clients. Very popular, each pre-owned panel is closely inspected prior to being entered in the Warehouse for resale. The Synthetic Ice Warehouse panels can be utilized for public skating, figure and hockey commercial training facilities, show skating and residential installations. Sold at a reduced rate, these panels are available in the 1/2 inch thickness, DoveTail style only, and are first come, first serve. Synthetic Ice Warehouse panels are limited in availability and are in high demand. Please call for an inventory list.



Double-Locking (DL) DoveTail Connection Style

Due to their user-friendliness, convenience and versatility, the most popular and safest connection style is our exclusive Double-Locking DoveTail. Installation is quickly accomplished by simply hammering the panels together with the installation mallet that is furnished with every purchase and rental. The Double-Locking (DL) DoveTail style panel is available in 1/4, 3/8, 1/2, 3/4 and 1 inch thicknesses, with the 3/8 and 1/2 inch being our most popular. Each standard panel measures 46 inches x 91 inches. We also offer panels measuring 46 inches x 46 inches, and additional custom sizes are available upon request. The unique engineering design of the EZ Glide Double-Locking (DL) DoveTail allows a wide variety of panel installation configuration options, extending your possibilities with unusual subfloor shapes.



Durable. Versatile. Affordable.

Visit our website!

EZGlide350.com



We stock thousands of figure and hockey skates



Grand opening public announcement for TV



Custom Options

EZ Glide 350 panels are offered in special order colors and with the option of having your logo printed on the surface of a single panel, or printed seamlessly over multiple panels as seen in the Smirnoff Ice photo below. Please call for details.

Products, Accessories and Services

Ice Rink Engineering is a full service company. We offer a wide variety of products and services to accommodate any project requirement. We assist our customers through the process of selecting and purchasing or renting the correct products for their application. We also offer services ranging from rink installation, operation management training, theatrical shows and more.

Synthetic Ice Rink Products Include

*EZ Glide 350 Commercial-Grade Synthetic Ice
EZ Glide NC Light-Duty Synthetic Ice
Ice Tec 310™ & SuperSlick HD™ Synthetic Ice
DoveTail, Spline & Square Edge Connection Styles
Environmentally Friendly EZ Glide Enhancer™
NHL & IIHF Synthetic Ice Goal Creases
Perimeter Edging Kits
Custom Printed Logo Panels
Commercial-Grade EZ Glide Enhancer Sprayers
Professional & Rental Figure & Hockey Skates
Rubber Matting
Rink Enclosures, Dasher Boards & Kick Plates
Skate Sharpeners & Components
Commercial Fog, Artificial Snow & Bubble Machines
Synthetic Ice Travel & Storage Crates*

Services Include

*Synthetic Ice Sales, Rentals & Installation
Refrigerated Ice Rink Sales, Installation & Service
Synthetic & Refrigerated Ice Engineering Services
On-Site Consulting Services
Skate Sharpening Services & Training
Rink Operations Training
Exhibition & Ice Show Production
Professional Show Skaters / Instructors
Private Skating Studio Rental
Figure & Hockey Skate Sales & Rentals
Refrigeration Mechanical Service
Refrigeration Technical Service
Figure & Hockey Skating Training Camps*

Each project, no matter how large or small is unique in and of itself.

If you require special assistance, we will be more than happy to accommodate you.

We will design an individual quote based on your needs.



High-profile outdoor rink



Custom panel printing

EZ Glide 350® Double-Locking DoveTail™ Panel Technology—Simply the best!



EZ Glide 350 Double-Locking (DL) DoveTail Panel... The Preferred Product

Ice Rink Engineering and Manufacturing, LLC offers a selection of synthetic ice products, and three unique connection styles—DL DoveTail, Square Edge and Spline.

Our most popular commercial-grade EZ Glide 350 panel in the Double-Locking (DL) DoveTail style is the product that training centers and entertainment production companies, including Disney On Ice, insist on for their projects when refrigerated ice is simply not an option. It is also, by far, the preferred product for the general public and commercial skating facilities.

Why Choose Our Exclusive Double-Locking DoveTail Panel?

Ice Rink Engineering and Manufacturing is the originator of the DoveTail design. Until recently, Ice Rink Engineering was the only synthetic ice company offering the DoveTail style panel, and although others have attempted to copy our unique design, it is still unsurpassed by anyone in this industry. Our exclusive DoveTail design has a unique Double-Locking feature manufactured into the DoveTail panel. **When installed correctly, EZ Glide 350 DL DoveTail panels will not separate vertically or horizontally.** This essential Double-Locking design feature is standard on all of our DoveTail panels and is not offered by any other synthetic ice company today.



Designed to withstand limitless installations and removals without fail, the Double-Locking design also eliminates any issues with expansion and contraction caused by temperature variances, a serious problem with other dovetail designs. Whether used indoors or out, it offers the most secure panel-to-panel connection, amplifying surface strength and integrity.

These panels are indestructible and will not break, warp or bend under any normal use, indoors or out. Additionally, the design allows for a variety of floor shapes and installation options not offered anywhere else.



Our exclusive Double-Locking (DL) DoveTail design has played an instrumental role in separating our DoveTail from the competition.

Visit our website!

EZGlide350.com



Our Double-Locking (DL) DoveTails make installation and removal of the panels very quick and simple, ensuring a secure and reliable surface in any weather, climate or location, be it desert conditions or sub-zero temperatures.

We are constantly researching the performance of our products through feedback from our customers—which has been outstanding! Our customers have discovered that our exclusive Double-Locking DoveTail design performs in leaps and bounds beyond others available on the market. The EZ Glide 350 DL DoveTail panel is the safest and most durable available because its unique design allows a figure skater to perform the same jumps, spins and footwork as on refrigerated ice with confidence, security and a trust in the product. Many hockey training centers throughout the world have installed the EZ Glide 350 DL DoveTail panels and report unmatched success in installation, maintenance and performance.

The Skater's Choice - The DoveTail style panel is the number one choice for hockey and figure skating, hockey training facilities, private skating studios, public skating venues and the entertainment world.

EZ Glide 350® and EZ Glide NC™—Outstanding Performance

Delivering Superior Results—Inexpensive. Low Maintenance. Supremely Effective.



Through continuous years of research and development, Ice Rink Engineering and Manufacturing has responded aggressively and eagerly to the shortcomings of the synthetics on the market, including those we have sold since the 1960's. Our newest and most popular products are EZ Glide NC and the commercial-grade EZ Glide 350 Double-Locking (DL) Dove-Tail™ panels. The EZ Glide product line is distinctive among all synthetic ice skating surfaces available on the market today. It is the leader in the marketplace and the overwhelming choice of the top names in the skating industry.

EZ Glide NC and EZ Glide 350 Double-Locking (DL) Panels

EZ Glide NC is a lightweight panel designed for low intensity residential hockey practice. It has all the same outstanding skating qualities as the commercial-grade EZ Glide 350 panel, with the exception of a less dense center core, making the panel less expensive to manufacture, and less expensive to ship. EZ Glide NC is only recommended for light-duty hockey practice, whereas the commercial-grade EZ Glide 350 DL DoveTail panel can be utilized for any and all types and styles of skating, both commercial and residential. Each EZ Glide 350 skating panel is comprised totally of the 350 skating material—no layers or laminates; and the material does not change its characteristics under extreme temperature conditions, unlike other synthetic ice products. This allows for skating on both sides of the product and many years of satisfaction. EZ Glide 350 is our top selling product and is chosen by consumers because of its versatility, user-friendliness, and most importantly, its extraordinary skating characteristics under the widest range of conditions. If it can be done on refrigerated ice, it can be done on EZ Glide 350!



For success, do as others do—go EZ Glide!

Panel Technology

When skating on refrigerated ice, one fact remains true: the more contact between a skater's blade and the skating surface, the faster the glide. This is not true of skating on synthetic surfaces; the less contact between the blade and the synthetic surface, the faster the glide. With this in mind, EZ Glide panels are designed with a special beaded surface which, when new, mimics a surface that has been seasoned from skating; thus reducing friction to the blades. The result is a faster, longer glide and better puck performance. This unique beading characteristic ensures that skating on EZ Glide is the same on day one as it is in year ten. As the surface is used, the beading is worn away and replaced with the normal scratches and scarring from the blades that continue to enhance skating speed.



Cutting Edge Technology

Visit our website!

EZGlide350.com



Long-Lasting

All EZ Glide 350 and NC skating surfaces are totally UV stable, making them perfect for indoor or outdoor use. They are warp resistant and will not change color or degrade even in permanent outdoor installations. They cannot be damaged by wind, rain, sleet or snow, nor will the performance of the surface be inhibited over time by sunlight or inclement weather. Both surfaces are manufactured as stress relieved polymers to ensure that they will always return to flat and level, if an event such as improper storage should cause them to warp or bow. This is one of many properties unique to EZ Glide skating surfaces. EZ Glide 350 comes with a 10 year limited warranty while EZ Glide NC comes with a 5 year limited warranty. The actual life expectancy has proven to be far longer.



Minimal Maintenance

There is very little maintenance, with the exception of keeping the surface clean. Suitable cleaning of the surface can be achieved using water only. Plain water does an efficient job cleaning the EZ Glide surface because dirt does not impregnate into the unique surface and the environmentally friendly EZ Glide Enhancer™ is totally water soluble.



Environmentally Friendly

EZ Glide synthetic ice skating surfaces and the EZ Glide Enhancer are all environmentally friendly products. All scrap material accumulated during the Spline, Square Edge and DoveTail production is reconstituted into the extrusion process. The EZ Glide Enhancer is EPA approved, safe, non-toxic and non-staining. It is not a silicone based product and when applied correctly, is undetectable on the surface.

EZ Glide Enhancer

A spray-on glide enhancer is included with every surface purchased or rented. We recommend misting the EZ Glide Enhancer over the surface to increase glide performance and reduce blade sharpening. It is very easy to apply and is only necessary occasionally and on an as-needed basis. It is possible to skate on any synthetic ice without enhancer, however, in order to achieve top performance and less blade wear, all synthetics will require an enhancer.

Outstanding Benefits

EZ Glide 350 and EZ Glide NC synthetic ice surfaces are affordable and have proven to be great, long lasting options for uses that do not justify the high cost of refrigerated systems. The EZ Glide product line is the most popular synthetic for skating and the product which most closely resembles refrigerated ice in skating performance. Anything that can be done on refrigerated ice can be done on EZ Glide 350! EZ Glide provides a unique opportunity for skaters to perfect their skills and technique, allowing them to be stronger skaters on refrigerated and synthetic ice. Both products have an outstanding, long lifespan with high performance in all categories for the consumer. EZ Glide 350 and EZ Glide NC are exceedingly beneficial in developing the skill level for every age. They are both great for applications indoors or out, in any kind of weather.

Appendix 5.N – Dog Park Amenities

Dog Park Amenity Examples:





Appendix 5.O- Tree Planting Detail

NOTES:

AT TIME OF PLANTING, PRUNE ONLY DEAD, DAMAGED AND CONFLICTING BRANCHES OR TO MEET LIMB HEIGHT REQUIREMENTS.

STAKE, WRAP, OR INSTALL TREE GUARDS
ONLY UPON THE APPROVAL OF THE
LANDSCAPE ARCHITECT.

SEE STAKING, WRAPPING AND TREE GUARD DETAILS

AT OR SLIGHTLY ABOVE GRADE. IN AREAS OF SLOWLY DRAINING SOILS, ROOT BALL MAY BE SET 3" OR 1/8 DEPTH OF ROOT BALL ABOVE SOIL LEVEL. DO NOT COVER THE TOP OF THE ROOT BALL WITH SOIL.

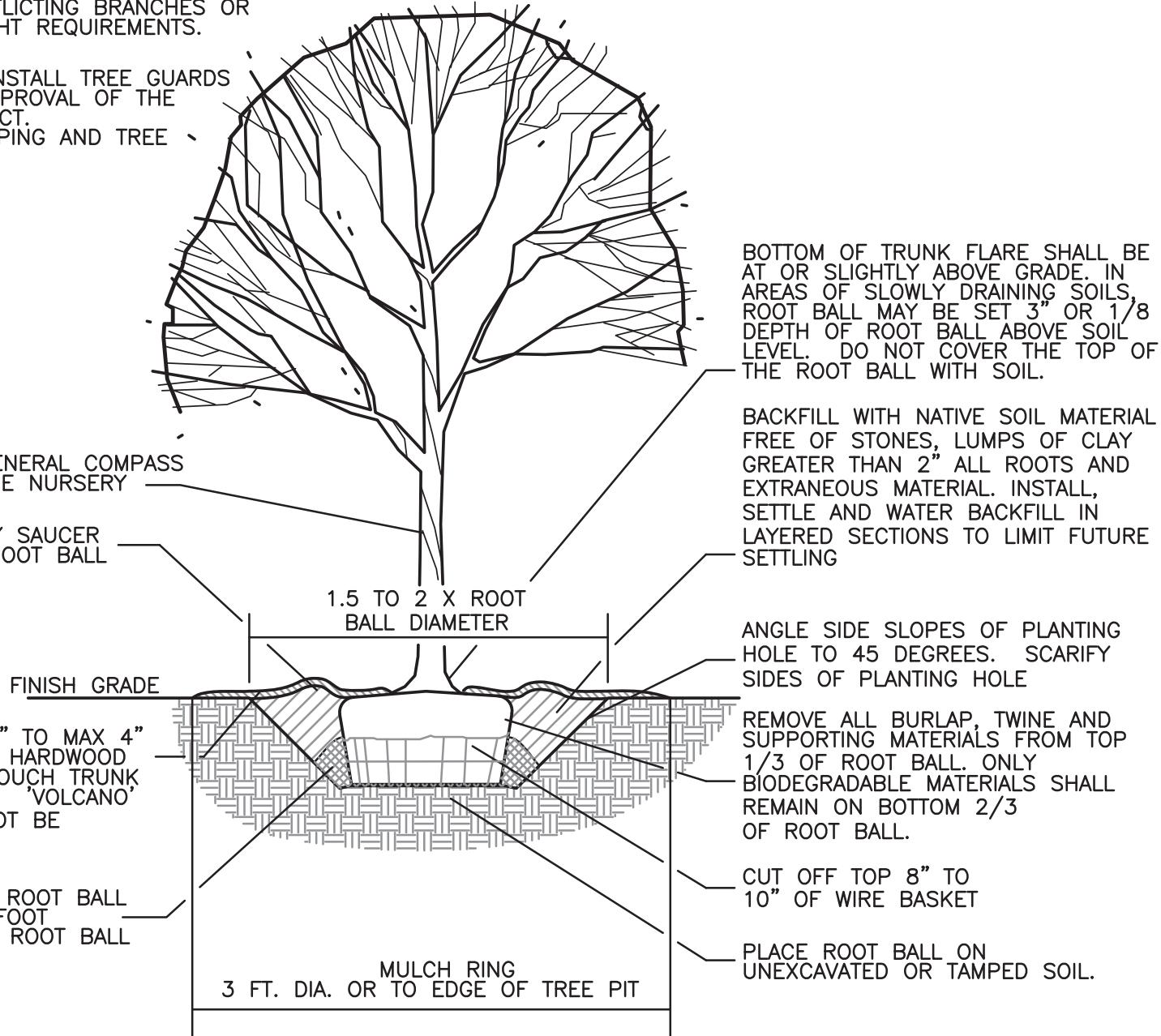
ORIENT TO SAME GENERAL COMPASS
DIRECTION AS IN THE NURSERY —

4" HIGH TEMPORARY SAUCER
BEYOND EDGE OF ROOT BALL

1.5 TO 2 X ROO
BALL DIAMETER

MULCH WITH MIN. 2" TO MAX 4"
SHREDDED ORGANIC HARDWOOD
MULCH. DO NOT TOUCH TRUNK
FLARE WITH MULCH. 'VOLCANO'
MULCHING SHALL NOT BE
PERMITTED.

TAMP SOIL AROUND ROOT BALL
BASE FIRMLY WITH FOOT
PRESSURE SO THAT ROOT BALL
DOES NOT SHIFT.



TYPICAL B&B TREE PLANTING DETAIL

NOT TO SCALE

Appendix 5.P - Native Plants

| Common Name | Scientific Name | Bloom period / color | Size | Notes |
|--------------------------|--------------------------|--|------------------------------|--|
| Sunny Moist Sites | | | | |
| Trees | Red maple | Acer rubrum | Mar-Apr / red | 40-100' very adaptable to light and moisture conditions |
| | Serviceberries | Amelanchier species | Mar-May / white | 20-30' good fall color and edible berries |
| | Tuliptree | Liriodendron tulipifera | May-Jun / green & orange | 75-100' fast growing, nectar source, tulip-shaped flowers |
| | Eastern white pine | Pinus strobus | May / cones 5" | > 100' graceful shape with very high wildlife value |
| | White oak | Quercus alba | Mar-May / inconspicuous | 60-80' acorns feed a variety of wildlife, slow-growing |
| Shrubs | Eastern hemlock | Tsuga canadensis | Apr-May / cones ¾" | 60-80' evergreen, tolerates shade, PA's state tree symbol |
| | Summersweet | Clethra alnifolia | Jul-Aug / white or pink | 6-12' very fragrant, tolerates shade, supports pollinators |
| | Red-osier dogwood | Cornus sericea | May / white | 6-12' showy red stems, spreads to form colonies |
| | Winterberry | Ilex verticillata | May-Jun / red berries | 6-10' male and female plants needed for fruit production |
| | Red chokeberry | Photinia pyrifolia | Mar-May / white | 5-10' red fruits & fall color, can be pruned as a hedge |
| Perennials | Ninebark | Physocarpus opulifolius | May-Jul / pinkish white | 5-10' coppery fall color, papery peeling bark |
| | Swamp milkweed | Asclepias incarnata | Jul-Aug / rose | 2-6' lovely flowers, food for monarch butterfly caterpillars |
| | Joe-pye-weed | Eutrochium fistulosum (Eupatorium f.) | Aug-Sep / purple | 3-10' nectar source draws many pollinators |
| | Gaura | Gaura biennis | Jul-Sep / pink or white | 1-6' long-blooming, very attractive flowers |
| | Oxeye sunflower | Heliopsis helianthoides | Jul-Sep / yellow | 1-5' nectar for butterflies & bees, seeds for goldfinches |
| Trees | Great blue lobelia | Lobelia siphilitica | Jul-Oct / blue | 1-4' long blooming, nectar for hummingbirds & butterflies |
| | Bee-balm | Monarda didyma | Jul-Aug / red | 2-5' nectar for hummingbirds & butterflies, aromatic |
| | Wild blue phlox | Phlox divaricata | May-Jun / lilac | 1-2' aromatic showy, nectar source, dormant in summer |
| | Mountain mints | Pycnanthemum species | Jul-Aug / white | 15-36" aromatic, support butterflies, bees and other species |
| | New England aster | Sympyotrichum novae-angliae | Aug-Oct / purple | 2-6' tolerates drier soil |
| Shrubs | New York ironweed | Vernonia noveboracensis | Jul-Sep / purple | 3-6' tall, attractive nectar source for wet sites |
| | Culver's-root | Veronicastrum virginicum | Jun-Sep / white or pink | to 6' elegant spikes of flowers support butterflies |
| | Sunny Dry Sites | | | |
| | Red bud | Cercis canadensis | Apr-May / pink | 20-35' fixes nitrogen, 20-year average lifespan |
| | Eastern red-cedar | Juniperus virginiana | Apr-May / inconspicuous | 30-45' evergreen, sky blue fleshy berry-like cones |
| Perennials & Grasses | Blackgum | Nyssa sylvatica | Apr-May / inconspicuous | 30-75' dark blue fruits, scarlet early fall color |
| | Red oak | Quercus rubra | Apr-May / inconspicuous | 60-80' acorns feed wildlife |
| | Sassafras | Sassafras albidum | Apr-May / yellow | 30-50' dark blue fruits feed songbirds |
| | Black chokeberry | Photinia melanocarpa | Apr-May / white | 3-6' black fruits feed songbirds, red fall color |
| | New Jersey tea | Ceanothus americanus | May-Sep / creamy white | < 3' drought tolerant |
| Shrubs | Blueberries | Vaccinium species | May-Jun / white-pink | 2-12' Highbush & lowbush need acidic soils, edible fruit |
| | Blackhawk | Viburnum prunifolium | Apr-May / white | 8-15' blue-black fruits feed songbird and people |
| | Big bluestem grass | Andropogon gerardii | Jun-Sep / inconspicuous | 3-5' clump-forming, bronze fall & winter color |
| | Butterfly-weed | Asclepias tuberosa | May-Sep / orange | 1-3' food for monarch caterpillars, deep-rooted |
| | Blazing-star | Liatris spicata | Jul-Sep / purple | 2-6' showy flower spikes |
| Perennials | Wild bergamot | Monarda fistulosa | Jul-Aug / pink-violet | 2-5' nectar for hummingbirds & butterflies, aromatic |
| | Sundrops | Oenothera perennis | Jun-Aug / yellow | 1-2' long-blooming perennial, drought tolerant |
| | Switchgrass | Panicum virgatum | Jul-Sep / pink-red | 3-6' golden yellow-burgundy fall color, winter cover |
| | Virginia creeper vine | Parthenocissus quinquefolia | Jul-Aug / inconspicuous | 25-35' bluish-black berries with high wildlife value, fall color |
| | Beard-tongue | Penstemon digitalis | May-Jul / white | 2-5' meadow & border plant, long-blooming |
| Trees | Black-eyed Susan | Rudbeckia hirta | Jul-Sep / yellow | 2-3' long-blooming, readily available |
| | Little bluestem grass | Schizachyrium scoparium | Aug-Oct / inconspicuous | 2-4' blue-green in spring, coppery autumn color |
| | Goldenrods | Solidago species | Sep-Oct / yellow | 1-4' drought tolerant once established, many pollinators |
| | Indian-grass | Sorghastrum nutans | Aug-Sep / yellow anthers | 3-8' beautiful seed heads feed songbirds |
| | Shady Moist Sites | | | |
| Shrubs | Sugar maple | Acer saccharum | Apr-May / yellow | 60-75' adaptable to dry sites, outstanding fall color |
| | River birch | Betula nigra | Apr-May / brown catkins | 60-80' attractive peeling bark |
| | Flowering dogwood | Cornus florida | Apr-Jun / white or pink | 10-30' prefers acidic soils, red berries |
| | Pin oak | Quercus palustris | Apr-May / tan catkins | 60-70' red fall color, acorns feed wildlife |
| | Smooth alder | Alnus serrulata | Mar-Apr / yellow catkins | 6-10' high wildlife value |
| Perennials | Pagoda dogwood | Cornus alternifolia | May-Jun / white | 15-25' very high wildlife value, purple-red fall color |
| | Wild hydrangea | Hydrangea arborescens | Jun-Aug / white | 3-6' leaves poisonous |
| | Spicebush | Lindera benzoin | Mar-May / yellow | 6-12' aromatic, red fruits |
| | Rosebay | Rhododendron maximum | Jun-Jul / rose pink | 10-30' evergreen wildlife cover |
| | Jack-in-the-pulpit | Arisaema triphyllum | Apr-Jun / green-purple | 1-3' bright red berries in an unusual flower shape |
| Ferns | Wild ginger | Asarum canadense | Apr-May / maroon | < 1' semi-evergreen groundcover |
| | Dutchman's breeches | Dicentra cucullaria | Apr-May / white to cream | < 1' early nectar for bumblebees, dormant in summer |
| | Cardinal-flower | Lobelia cardinalis | Jul-Sep / scarlet | 2-5' nectar for hummingbirds & butterflies, usually biennial |
| | Golden ragwort | Packera aurea | Apr-Jul / yellow | 1-2' long-blooming, tolerates wet areas |
| | Jacob's ladder | Polemonium reptans | Apr-Jun / blue | 1-2' clumping ladder-like foliage, self-seeds |
| Shrubs | Foamflower | Tiarella cordifolia | Apr-Jul / white | 4-14" groundcover for deciduous woods, long-blooming |
| | Maidenhair fern | Adiantum pedatum | distinctive delicate texture | 1-2' great for woodland or rock gardens |
| | Wood ferns | Dryopteris species | lacy clump of fronds | 1-3' evergreen, some adaptable to drier sites |
| | Cinnamon fern | Osmunda cinnamomea | fertile fronds in Apr-May | 1-2' fertile fronds cinnamon brown, prefers acidic soils |
| | Interrupted fern | Osmunda claytoniana | distinctive fronds | 2-4' prefers acidic soils |
| Perennials | Christmas fern | Polystichum acrostichoides | evergreen, short rhizomes | 1-2' adaptable to drier sites |
| | Shady Dry Sites | | | |
| | Shagbark hickory | Carya ovata | May / green catkins | 60-80' golden yellow to orange fall color, sweet nuts |
| | Chestnut oak | Quercus montana | May-Jun / catkins | 50-75' acorns feed wildlife |
| | Hop-hornbeam | Ostrya virginiana | April / catkins | 35-50' nutlets in a loose papery cone resembling hops |
| Shrubs | Witch-hazel | Hamamelis virginiana | Sep-Nov / golden yellow | 8-20' fragrant, often multi-stemmed |
| | Pinkster-flower | Rhododendron periclymenoides | Apr-May / pink to white | 6-12' prefers acidic soils |
| | American hazelnut | Corylus americana | Mar-Apr / catkins | 10-15' nuts ripen in Aug-Sep. |
| | Arrow-wood viburnum | Viburnum dentatum | May-Jun / white | 3-15' a very variable and adaptable species |
| | Black cohosh | Actaea racemosa | Jun-Sep / white | 3-8' tapering spikes of flowers & interesting seed heads |
| Perennials | White snakeroot | Ageratina altissima (Eupatorium rugosum) | Jul-Oct / white | 2-3' nectar for butterflies & bees, hardy, spreading habit |
| | Wild columbine | Aquilegia canadensis | Apr-Jun / red & yellow | 1-3' supports hummingbirds, adaptable to sun and soil |
| | White wood aster | Eurybia divaricata | Jul-Oct / white | 1-3' showy fall flowers, thrives throughout PA |
| | Bigleaf aster | Eurybia macrophylla | Aug-Sep / pale blue-violet | 1-2' groundcover, larval food for pearl crescent butterfly |
| | Wood geranium | Geranium maculatum | Apr-Jul / lavender-pink | 1-2' adaptable to full sun, spreads slowly |
| Trees | Alumroot | Heuchera americana | May-Aug / greenish | 1-2' long-blooming, many cultivars |
| | Virginia bluebells | Mertensia virginica | Mar-Jun / blue | 1-2.5' early, long-blooming, supports early pollinators |
| | Partridge-berry | Mitchella repens | May-Jul / white | <1' groundcover, acidic soils, trailing stems, red fruits |
| | Mayapple | Podophyllum peltatum | May / white | 1-2' prefers acidic soils, rhizomes spread slowly |
| | Stonecrop | Sedum ternatum | Apr-Jun / greenish-white | <1' groundcover, adaptable to sun |
| Shrubs | Solomon's plume | Smilacina racemosa | May-Jul / white | 1-2' starry flowers, red berries, rhizomes spread |

Appendix 5.Q - Pickleball



Recommend Net Posts Extent 12 in. Outside Sideline
Recommend Line Widths = 2 in.

Net Height at Sideline = 36 in.
(34 in. at Center)

Non-Volley Line

Sideline

Baseline

Centerline

Non-Volley Zone

Left Service Area

Right Service Area

20 ft. (inclusive of lines)

10 ft.

(to middle of Centerline)

48 ft. 4 in.

14 ft.
(inclusive of lines)

7 ft.

15 ft.

44 ft.
(inclusive of lines)

Line Tolerances:

- Net line to outside of NVZ line: 7' +/- 1/8"
- Net line to outside of baseline: 22' +/- 1/4"
- Outside sideline to outside sideline: 20' +/- 1/4"
- Outside sideline to centerline: 10' +/- 1/8"
- Diagonal dimension to outside of lines: 48' 4" +/- 3/4"

Appendix 5.R - Invasive Plants - DCNR



**DCNR Invasive Exotic Plant Tutorial
for Natural Lands Managers**

Home
 Introduction to the Tutorial
 Introduction to the Problem
 Invasive Plants in PA - List & Fact Sheets
[Text only navigation and tutorial guidance questions](#)
 Introduction to Management
 Management Philosophy and Goal Setting
 Inventory, Mapping and Ranking (Assesment)
 Management Tools
 Species Management & Control
 Prevention & Early Detection
 Management Planning
 Monitoring & Evaluation
 Restoration
 Resources
 Suggestions

**Invasive Exotic Plants In Pennsylvania List**

- The basis for this list was the [DCNR Invasive Plants in Pennsylvania](#) list created as a brochure in 2000. The list was expanded to include species that were identified by the [DCNR Land Managers Survey on Invasive Plants](#) that was conducted in 2004, as well as species that were recommended for inclusion by experienced field botanists and ecologists working in PA. The list includes noxious weeds that are problematic for natural areas and those that are problematic for agricultural situations only were omitted.
- An important note about this list is that it has been developed strictly for education and information purposes. It is neither intended nor approved for use as a regulatory tool. Some plants on this list are important to agriculture, horticulture, and other commercial purposes. They are included on this list because they have been identified as having established in natural areas or have been identified as Watch List species (see below).
- The primary purpose of this list is to identify those plants that are invasive and cause damage to native plant communities. The intention is to foster [early detection](#) so that land managers can implement management actions to prevent exotics from becoming established. It is also intended to educate land managers and the public in an effort to eliminate the use of invasives in landscaping, restoration and enhancement projects.
-
-
-
- **Clicking the Fact Sheet or Management & Control link will open more information for each species.**

Trees (6)

| | | | |
|----------------|---|----------------------------|--|
| Norway maple | <i>Acer platanoides</i> | Fact Sheet | Management & Control |
| Sycamore maple | <i>Acer pseudoplatanus</i> | Fact Sheet | Management & Control |
| Tree-of-heaven | <i>Ailanthus altissima</i> | Fact Sheet | Management & Control |
| Princess tree | <i>Paulownia tomentosa</i> | Fact Sheet | Management & Control |
| Callery pear | <i>Pyrus calleryana</i> (and all cultivars) | Fact Sheet | Management & Control |
| Siberian elm | <i>Ulmus pumila</i> | Fact Sheet | Management & Control |

Shrubs (19)

| | | | |
|-----------------------|-------------------------------------|----------------------------|--|
| European black alder | <i>Alnus glutinosa</i> | Fact Sheet | Management & Control |
| Japanese barberry | <i>Berberis thunbergii</i> | Fact Sheet | Management & Control |
| European barberry | <i>Berberis vulgaris</i> | Fact Sheet | Management & Control |
| Russian olive | <i>Elaeagnus angustifolia</i> | Fact Sheet | Management & Control |
| Autumn olive | <i>Elaeagnus umbellata</i> | Fact Sheet | Management & Control |
| Winged Euonymus | <i>Euonymus alatus</i> | Fact Sheet | Management & Control |
| Border privet | <i>Ligustrum obtusifolium</i> | Fact Sheet | Management & Control |
| Common privet | <i>Ligustrum vulgare</i> | Fact Sheet | Management & Control |
| Amur honeysuckle | <i>Lonicera maackii</i> | Fact Sheet | Management & Control |
| Morrow's honeysuckle | <i>Lonicera morrowii</i> | Fact Sheet | Management & Control |
| Bell's honeysuckle | <i>Lonicera morrowii x tatarica</i> | Fact Sheet | Management & Control |
| Standish honeysuckle | <i>Lonicera standishii</i> | Fact Sheet | Management & Control |
| Tartarian honeysuckle | <i>Lonicera tatarica</i> | Fact Sheet | Management & Control |
| Common buckthorn | <i>Rhamnus cathartica</i> | Fact Sheet | Management & Control |
| Glossy buckthorn | <i>Rhamnus frangula</i> | Fact Sheet | Management & Control |
| Multiflora rose | <i>Rosa multiflora</i> | Fact Sheet | Management & Control |
| Wineberry | <i>Rubus phoenicolasius</i> | Fact Sheet | Management & Control |

| | | | |
|------------------|---|----------------------------|--|
| Japanese spiraea | <i>Spiraea japonica</i> | Fact Sheet | Management & Control |
| Guelder rose | <i>Viburnum opulus</i> var. <i>opulus</i> | Fact Sheet | Management & Control |

Forbs/Grasses (25)

| | | | |
|-----------------------|---|----------------------------|--|
| Goutweed | <i>Aegopodium podagraria</i> | Fact Sheet | Management & Control |
| Garlic mustard | <i>Alliaria petiolata</i> | Fact Sheet | Management & Control |
| Cheatgrass | <i>Bromus tectorum</i> | Fact Sheet | Management & Control |
| Spotted knapweed | <i>Centaurea maculosa</i> (syn. <i>C. biebersteinii</i>) | Fact Sheet | Management & Control |
| Greater celandine | <i>Chelidonium majus</i> | Fact Sheet | Management & Control |
| Canada thistle | <i>Cirsium arvense</i> | Fact Sheet | Management & Control |
| Poison hemlock | <i>Conium maculatum</i> | Fact Sheet | Management & Control |
| Crown vetch | <i>Coronilla varia</i> | Fact Sheet | Management & Control |
| Hairy willow herb | <i>Epilobium hirsutum</i> | Fact Sheet | Management & Control |
| Tall fescue | <i>Festuca elatior</i> | Fact Sheet | Management & Control |
| English ivy | <i>Hedera helix</i> | Fact Sheet | Management & Control |
| Orange day-lily | <i>Hemerocallis fulva</i> | Fact Sheet | Management & Control |
| Giant hogweed | <i>Heracleum mantegazzianum</i> | Fact Sheet | Management & Control |
| Dame's rocket | <i>Hesperis matronalis</i> | Fact Sheet | Management & Control |
| Purple loosestrife | <i>Lythrum salicaria</i> , <i>L. virgatum</i> | Fact Sheet | Management & Control |
| Japanese stilt grass | <i>Microstegium vimineum</i> | Fact Sheet | Management & Control |
| Star-of-Bethlehem | <i>Ornithogalum nutans</i> , <i>O. umbellatum</i> | Fact Sheet | Management & Control |
| Wild parsnip | <i>Pastinaca sativa</i> | Fact Sheet | Management & Control |
| Beefsteak plant | <i>Perilla frutescens</i> | Fact Sheet | Management & Control |
| Reed canary grass | <i>Phalaris arundinacea</i> | Fact Sheet | Management & Control |
| Common reed | <i>Phragmites australis</i> ssp. <i>australis</i> | Fact Sheet | Management & Control |
| Japanese knotweed | <i>Polygonum cuspidatum</i> , <i>P. sachalinense</i> | Fact Sheet | Management & Control |
| Lesser celandine | <i>Ranunculus ficaria</i> | Fact Sheet | Management & Control |
| Narrow-leaved cattail | <i>Typha angustifolia</i> | Fact Sheet | Management & Control |
| Hybrid cattail | <i>T. x glauca</i> (<i>T. ang.</i> x <i>T. latifolia</i>) | Fact Sheet | Management & Control |

Vines (7)

| | | | |
|----------------------|------------------------------------|----------------------------|--|
| Fiveleaf akebia | <i>Akebia quinata</i> | Fact Sheet | Management & Control |
| Porcelain-berry | <i>Ampelopsis brevipedunculata</i> | Fact Sheet | Management & Control |
| Oriental bittersweet | <i>Celastrus orbiculatus</i> | Fact Sheet | Management & Control |
| Japanese honeysuckle | <i>Lonicera japonica</i> | Fact Sheet | Management & Control |
| Mile-a-minute weed | <i>Polygonum perfoliatum</i> | Fact Sheet | Management & Control |
| Kudzu | <i>Pueraria lobata</i> | Fact Sheet | Management & Control |
| Periwinkle | <i>Vinca minor</i> | Fact Sheet | Management & Control |

Aquatics (3)

| | | | |
|------------------------|------------------------------|----------------------------|--|
| Eurasian water-milfoil | <i>Myriophyllum spicatum</i> | Fact Sheet | Management & Control |
| Curly pondweed | <i>Potamogeton crispus</i> | Fact Sheet | Management & Control |
| Water chestnut | <i>Trapa natans</i> | Fact Sheet | Management & Control |

Total = 60

Watch List (16)

These are species that are known to be widespread problems in other Mid-Atlantic states and have recently been reported, by experienced field botanists and a recent DCNR Survey conducted for State Parks and State Forests, as being established in some natural areas in PA. In addition, some of these species are significant problems in adjacent states and appear to be 'on the move' towards PA. Contact DCNR - Bureau of Forestry for assistance if you are dealing with a species that we have not included in this list.

| | | | |
|----------------------|-------------------------------|----------------------------|--|
| Butterfly bush | <i>Buddleja davidii</i> | Fact Sheet | Management & Control |
| Climbing euonymus | <i>Euonymus fortunei</i> | Fact Sheet | Management & Control |
| Japanese hops | <i>Humulus japonica</i> | Fact Sheet | Management & Control |
| Hydrilla | <i>Hydrilla verticillata</i> | Fact Sheet | Management & Control |
| Miscanthus | <i>Miscanthus sinensis</i> | Fact Sheet | Management & Control |
| Japanese pachysandra | <i>Pachysandra terminalis</i> | Fact Sheet | Management & Control |
| Corktrees | <i>Phellodendron</i> spp. | Fact Sheet | Management & Control |
| Rough bluegrass | <i>Poa trivialis</i> L. | Fact Sheet | Management & Control |

| | | | |
|---------------------|----------------------------|----------------------------|--|
| Bee-bee tree | <i>Tetradium daniellii</i> | Fact Sheet | Management & Control |
| Siebold viburnum | <i>Viburnum sieboldii</i> | Fact Sheet | Management & Control |
| Linden viburnum | <i>Viburnum dilatatum</i> | Fact Sheet | Management & Control |
| Doublefile viburnum | <i>Viburnum plicatum</i> | Fact Sheet | Management & Control |
| Black swallow-wort | <i>Vincetoxicum nigrum</i> | Fact Sheet | Management & Control |
| Japanese wisteria | <i>Wisteria floribunda</i> | Fact Sheet | Management & Control |
| Chinese wisteria | <i>Wisteria sinensis</i> | Fact Sheet | Management & Control |
| Yucca | <i>Yucca flaccida</i> | Fact Sheet | Management & Control |

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A pressing problem

Recognition of the problem of invasive plants is growing, at the same time as damage to native ecosystems is mounting. Identifying invasive plants and understanding the potential damage they can cause is essential to stopping their spread and protecting native vegetation. Recent publications and websites specifically about invasive plants and a good field guide can help you identify and manage invasive plants. Try to learn as much as possible about this issue. The Internet is an excellent way to access the rapidly growing body of information on this topic.

For more information

Contacts

PA Department of Agriculture, www.agriculture.state.pa.us/agriculture/cwp/view.asp?a=3&q=127347&agricultureNav=1

Penn State University Cooperative Extension Office Directory, www.extension.psu.edu/extmap.html.

Sea Grant Pennsylvania, www.pserie.psu.edu/seagrant/seagindex.htm.

Control

Alliance for the Chesapeake Bay - Citizens Guide to the Control of Invasive Plants in Wetland and Riparian Areas, <http://www.acb-online.org/pubs/projects/deliverables-251-1-2005.pdf>.

PA DCNR - Invasive Exotic Plant Tutorial for Natural Land Managers, www.dcnr.state.pa.us/forestry/invasivetutorial/index.htm

Maryland Native Plant Society Control of Invasive Non-Native Plants: A Guide for Gardeners and Homeowners in the Mid-Atlantic Region, <http://mdflora.org/publications/invasives.htm>.

Identification of Invasive and Native Plants

Alliance for the Chesapeake Bay Common Invasive Plants in Riparian Areas, www.dep.state.pa.us/dep/deputate/waterrmgt/wc/subjects/streamleaf/Docs/Invasive%20Plants.pdf.

Borman, S., R. Korth and J. Temte. 1997. Through the Looking Glass: A Field Guide to Aquatic Plants. Wisconsin Lakes Partnership. 248 pp.

Bowman's Hill Wildflower Preserve Fact Sheets, www.bhwp.org/native/invasive_plants.htm

Brown, Lauren. 1979. Grasses. An Identification Guide. Boston: Houghton Mifflin. ISBN# 0-395-27624-1.

National Park Service, and U.S. Fish and Wildlife Service. 2002. Plant Invaders of Mid-Atlantic Natural Areas. www.nps.gov/plants/alien/pubs/midalantic/

National Wildlife Federation Native Gardening and Invasive Plants Guide, http://enature.com/native_invasive/invasives.asp.

Newcomb, Lawrence. 1977. Newcomb's Wildflower Guide. Boston: Little, Brown, and Co. ISBN# 0-316-60441-0.

PA DCNR - Invasive Exotic Plant Tutorial for Natural Land Managers, www.dcnr.state.pa.us/forestry/invasivetutorial/index.htm.

Petrides, G.A. 1988. A Field Guide to Eastern Trees. Boston: Houghton Mifflin; Petersen Field Guide Series, No. 11. ISBN# 0-395-90455-2.

Rhoads, A.F. and T.A. Block. 2000. The Plants of Pennsylvania, An Illustrated Manual. University of Pennsylvania Press, Philadelphia. ISBN# 0-8122-3535-5

Rhoads, A.F. and T.A. Block. 2004. Trees of Pennsylvania: A Complete Reference Guide. University of Pennsylvania Press, Philadelphia.

USDA Forest Service Invasive Plants Field and Reference Guide: An Ecological Perspective of Plant Invaders of Forests and Woodlands, www.fs.fed.us/r9/wildlife/nnis/invasive-species-field-guide.pdf.

Westbrooks, R.G. 1998. Invasive Plants: Changing the Landscape of America, Factbook. Federal Interagency Committee for the Management of Noxious and Exotic Weeds (FICMNEW); Washington, D.C. 109 pp., U.S. Government Printing Office, Washington, D.C. 20402

Management

Federal Interagency Committee for the Management of Noxious and Exotic Weeds, www.fws.gov/ficmnew.

Invasive Plants in Pennsylvania



Commonwealth of Pennsylvania
Edward G. Rendell, Governor
Department of Conservation & Natural Resources
Michael DiBerardinis, Secretary

What is an invasive plant?

"Invasive plant" is a name for a species that has become a weed pest, a plant which grows aggressively, spreads, and displaces other plants. Invasive plants tend to appear on disturbed ground, and the most aggressive can actually invade existing ecosystems. Invasive plants are generally undesirable because they are difficult to control, can escape from cultivation, and can dominate whole areas. In short, invasive plant infestations can be extremely expensive to control, as well as environmentally destructive.

A small number of invasives are "native," meaning they occurred in Pennsylvania before settlement by Europeans but became aggressive after the landscape was altered. However, most invasive plants arrived from other continents and are often referred to as "exotic," "alien," "introduced," or "non-native" invasives. An aggressive plant freed from its environmental, pest, and disease limits, can become an invader of other ecosystems. This brochure lists the most troublesome invasive plants that occur in Pennsylvania and impact native plant communities.

Characteristics of invasive plants

Invasive plants are noted for their ability to grow and spread aggressively. Invasive plants can be trees, shrubs, vines, grasses, or flowers, and they can reproduce rapidly by roots, seeds, shoots, or all three. Invasive plants tend to:

- not be native to North America;
- spread, reproducing by roots or shoots;
- mature quickly;
- if spread by seed, produce numerous seeds that disperse and sprout easily;
- be generalists that can grow in many different conditions; and
- be exploiters and colonizers of disturbed ground.

Impact of invasive plants

The primary reason to not landscape with invasives is that they are degrading our native environments. In fact, second only to habitat loss, invasives are a major factor in the decline of native plants. Plants like Kudzu, Purple Loosestrife, and Garlic Mustard are displacing native plants and degrading habitat for native insects, birds, and animals. Endangered, rare, and threatened native species of plants and animals are especially at risk because they often

occur in such small populations that make them particularly vulnerable.

Another reason to avoid invasives is that invasive plants, even when grown in a cultivated yard, can spread, escape, and cause landscape maintenance weeding problems for years to come. In urban and suburban areas there is a good chance that the worst weeds on your property are escaped plants, like Japanese Honeysuckle, Multiflora Rose, Japanese Knotweed, and Oriental Bittersweet. In yards, gardens, fields, and parks these plants are very expensive to control.

What can I do?

The best insurance against future problems is to **avoid the use of known invasive plants** and educate others about the problems of invasives. This brochure lists many of the plants that are invasive in Pennsylvania. Plants on this list should be avoided because they can escape cultivation and aggressively move into surrounding ecosystems. One way to avoid invasives is to choose plants that are native to your area. Natives often are adapted to a specific environmental niche, and have natural controls that keep them in balance.

Minimize landscape disturbance. Invasive plants thrive on bare soil and disturbed ground where the native plant community has been displaced. The key to controlling invasives is to **protect healthy native plant communities**.

Use fertilizers wisely. Proper site preparation begins with a soil test before applying fertilizer. High nitrogen levels sometimes give an advantage to invasive species that are better adapted to using plentiful nutrients for explosive growth. For soil fertility, try using organic, slow-decomposing compost and mulches.

Have a land management plan for maintenance over time. Lawns, gardens, meadows and woodlands are maintained using vastly different techniques, but they all will need to be monitored and invasive plants removed. Land management plans provide guidelines on monitoring, assist in prioritizing removal and prevention goals and help track the progress of control work.

Scout your property annually for invasives or other problems. The best way to control invasive species populations is to prevent their spread. Prevention includes preventing them from going to seed, preventing them from spreading

vegetatively and preventing soil disturbance or other factors that would promote their growth. Listed in this brochure are further resources to help property owners.

Early detection of invasive plant populations minimizes the cost and effort needed to control them. Effective scouting or monitoring ensures problems are found while they are still small and easily controllable. Remove invasives when their densities are low or they still cover a small area. Invasive plant control works best where there is a functioning native plant community still in place, which can move back into the empty niche. Control options should be taken before invasive plants go to seed. They include mechanical removal by cutting or hand pulling, and herbicide control by trained individuals or homeowners carefully following label directions.

Replace invasive plants with native or non-invasive species. Invasives are good at exploiting bare soil and empty niches. When you remove an invasive plant, unless there is another plant substituted, the invasive will tend to come back (either by seed or resprouting). What grows at a site in the future depends largely on what is planted there now. It is important to fill that niche with a desirable plant that will provide seed for the future.

Remove invasives first when their densities are low. This gives the most immediate success because invasive plant control works best where there is a functioning native plant community still in place which can move right into the empty niche.

- Avoid using known invasive plants
- Minimize landscape disturbance
- Protect healthy native plant communities
- Use fertilizers wisely
- Have a land management plan for maintenance over time
- Scout regularly
- Remove invasive plants when they are present in low numbers or when they are confined to a small area before they become a problem
- Dispose of removed invasive plants wisely
- Replace invasive plants with native or noninvasive species
- Clean equipment that has been used in an area having invasive plants

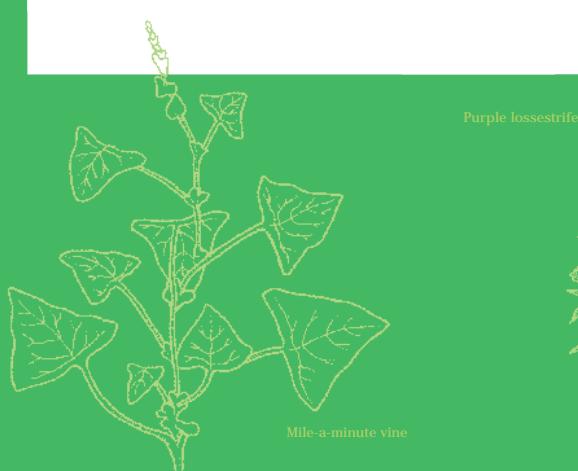
Invasive Plants in Pennsylvania

| SCIENTIFIC NAME | COMMON NAME | PLANT FORM | NOTES |
|--|------------------------|------------|--|
| The species below are serious threats to our native ecosystems. Many have been designed as "Noxious Weeds" by the PA Department of Agriculture and are also a major concern to our agricultural community. | | | |
| <i>Aegopodium podagraria</i> | Goutweed | Flower | Commonly planted in the past and escaped; spreads aggressively by roots |
| <i>Alliaria petiolata</i> | Garlic mustard | Flower | Invasive in many states; spreading aggressively in woodlands by seed |
| <i>Carduus nutans</i> | Musk thistle | Flower | PA Noxious Weed |
| <i>Cirsium arvense</i> | Canada thistle | Flower | PA Noxious Weed |
| <i>Cirsium vulgare</i> | Bull thistle | Flower | PA Noxious Weed |
| <i>Datura stramonium</i> | Jimsonweed | Flower | Sometimes cultivated; spreads by seed, PA Noxious Weed |
| <i>Galega officinalis</i> | Goatsrue | Flower | PA and Federal Noxious Weed |
| <i>Heracleum mantegazzianum</i> | Giant hogweed | Flower | PA and Federal Noxious Weed; sap can cause burning blisters |
| <i>Hesperis matronalis</i> | Dame's rocket | Flower | Planted in gardens; escaped and naturalized along roads; spreads by seed |
| <i>Lythrum salicaria, L. virgatum</i> | Purple loosestrife | Flower | Garden escape which has become invasive in many states; PA Noxious weed |
| <i>Myriophyllum spicatum</i> | Eurasian water-milfoil | Flower | Invasive in many states; aquatic |
| <i>Onthophagium nutans, umbellatum</i> | Star-of-Bethlehem | Flower | Common garden plant which has widely escaped |
| <i>Pastinaca sativa</i> | Wild parsnip | Flower | Found commonly along roadsides; widespread and abundant; spread by seed |
| <i>Perilla frutescens</i> | Beefsteak plant | Flower | Garden escape; widespread mostly along roadsides; spreads by seed |
| <i>Polygonum (Fallopia) cuspidatum</i> | Japanese knotweed | Flower | Invasive in many states; difficult to control; spreads by roots and seeds |
| <i>Ranunculus ficaria</i> | Lesser celandine | Flower | Spreads by roots and shoots; can be very aggressive in wetlands |
| <i>Trapa natans</i> | Water chestnut | Flower | Wetland plant; should not be introduced as it will escape, spread, and naturalize |
| <i>Bromus tectorum</i> | Cheatgrass | Grass | Annual grass; very invasive throughout the west; spreads by seed |
| <i>Microstegium vimineum</i> | Japanese stilt grass | Grass | Annual grass; invasive in many states; spreading through woodlands by seed |
| * <i>Miscanthus sinensis</i> | Maiden grass | Grass | Commonly planted ornamental grass which can escape and spread by seed |
| <i>Phalaris arundinacea</i> | Reed canary grass | Grass | Aggressive wetland grass; native and introduced strains; widespread and abundant |
| <i>Phragmites australis</i> | Common reed | Grass | Native and introduced strains; wetland grass which can form huge colonies |
| <i>Sorghum bicolor</i> ssp. <i>drummondii</i> | Shattercane | Grass | Grass; PA noxious weed |
| <i>Sorghum halepense</i> | Johnson grass | Grass | Grass; PA noxious weed; spreads by roots and seeds |
| * <i>Berberis thunbergii</i> | Japanese barberry | Shrub | Escaped from cultivation and invasive in many states; spread by birds |
| <i>Berberis vulgaris</i> | European barberry | Shrub | Escaped from cultivation; spread by birds |
| <i>Elaeagnus angustifolia</i> | Russian olive | Shrub | Escaped from plantings and invasive in many states; spread by birds |
| <i>Elaeagnus umbellata</i> | Autumn olive | Shrub | Escaped from plantings and invasive in many states; rapidly spread by birds |
| * <i>Euonymus alatus</i> | Winged Euonymus | Shrub | Escaped from plantings; invasive in moist forests |
| <i>Ligustrum obtusifolium</i> | Border privet | Shrub | Escaped from cultivation; seeds spread by birds |
| <i>Ligustrum vulgare</i> | Common privet | Shrub | Planted very commonly in the past and escaped; invasive in many states |
| <i>Lonicera maackii</i> | Amur honeysuckle | Shrub | Escaped from plantings; seeds spread by birds |
| <i>Lonicera morrowii</i> | Morrow's honeysuckle | Shrub | Escaped from plantings and invasive in many states; seeds spread by birds |
| <i>Lonicera morrowii</i> x <i>tatarica</i> | Bell's honeysuckle | Shrub | Escaped from cultivation |
| <i>Lonicera standishii</i> | Standish honeysuckle | Shrub | Escaped from plantings; seeds spread by birds |
| <i>Lonicera tatarica</i> | Tartarian honeysuckle | Shrub | Escaped from plantings; seeds spread by birds |
| <i>Rhamnus catharticus</i> | Common buckthorn | Shrub | Becoming a problem in PA |
| <i>Rhamnus frangula</i> | Glossy buckthorn | Shrub | Becoming a problem in PA |
| <i>Rosa multiflora</i> | Multiflora rose | Shrub | Invasive in many states; seeds spread by birds; PA noxious weed |
| <i>Rubus phoenicolasius</i> | Wineberry | Shrub | Common bramble; not cultivated; spreads by seed |
| * <i>Spiraea japonica</i> | Japanese spiraea | Shrub | Frequently planted; escaped in some areas |
| * <i>Viburnum opulus</i> var. <i>opulus</i> | Guilder rose | Shrub | Resembles native <i>Viburnum trilobum</i> which it replaces; both are cultivated and planted |
| * <i>Acer platanoides</i> | Norway maple | Tree | Commonly planted and escaped; invasive in many states; wind spreads prolific seeds |
| <i>Acer pseudoplatanus</i> | Sycamore maple | Tree | Escaped from cultivation; wind spreads prolific seeds |
| <i>Ailanthus altissima</i> | Tree-of-heaven | Tree | Invasive in many states; wind spreads prolific seeds |
| <i>Paulownia tomentosa</i> | Empress tree | Tree | Prolific seeds fall to start new seedlings |
| * <i>Pyrus calleryana</i> | Callery pear | Tree | Commonly planted street tree; becoming a problem as an escape |
| <i>Ulmus pumila</i> | Siberian elm | Tree | Escaped from cultivation |
| <i>Akebia quinata</i> | Fiveleaf akebia | Vine | Escaped from cultivation and becoming a major problem in the Philadelphia area |
| <i>Ampelopsis brevipedunculata</i> | Porcelain-berry | Vine | Escaped from cultivation; spread by birds |
| <i>Celastrus orbiculatus</i> | Oriental bittersweet | Vine | Escaped from cultivation and invasive in many states; spreading rapidly (by birds) |
| <i>Lonicera japonica</i> | Japanese honeysuckle | Vine | Invasive in many states |
| <i>Polygonum perfoliatum</i> | Mile-a-minute vine | Vine | Range expanding, PA Noxious weed |
| <i>Pueraria lobata</i> | Kudzu | Vine | Invasive in many states; PA Noxious weed |

This list of invasive species is not meant to be definitive, but rather a guideline to some of the most troublesome species that degrade native plant communities in Pennsylvania. These species were chosen from a more extensive list compiled from adjacent state or regional lists of invasive plant species. Input was sought from experienced individuals familiar with Pennsylvania's flora from a field perspective. For a more extensive list of invasive species, please contact DCNR, Bureau of Forestry, P.O. Box 8552, Harrisburg, PA 17105-8552.

SITUATIONAL INVASIVES: Some plants become problematic invasive species to a given area. For example, some species are commonly planted for quick groundcover but can be a serious problem when planted, seed or discarded near native herbaceous communities. These situational invasives require greater care and monitoring when planted near native plant communities. These species include: Crown-Vetch, Coronilla varia; English Ivy, Hedera helix; 'Tall fescue, Festuca elatior; *Orange day-lily, Hemerocallis fulva, Periwinkle, Vinca minor; and Chinese and Japanese wisteria, Wisteria sinensis and W. floribunda.

(ASTERIX): An asterix (*) denotes that the species has cultivars that are not known to be invasive. Cultivars are cultivated varieties of plant species bred for predictable attributes like shorter height, showier flowers, or colored foliage. An example is Norway Maple 'Crimson King' grown for its reddish leaves; this cultivar is not known to be invasive. Another example are the day lilies which have a host of cultivars that are not known as invasives. If you choose to plant a cultivar of an invasive species, ask a PA certified horticulturalist (PCH), your Penn State extension agent, or a professional horticulturist about the cultivar's potential to be invasive.



Purple loosestrife



Mile-a-minute vine



Japanese knotweed

Invasive Plants in Pennsylvania



Invasive plants are plants which grow quickly and aggressively, spreading and displacing other plants. Invasives are usually introduced by people either accidentally or on purpose, into a region far from their native habitat.

What is an Invasive Plant?

What Can I Do?

Moderate Threats

Serious Threats

Threats to Southeastern Pennsylvania

Other Sources



What is an Invasive Plant?

"Invasive plant" is a name for a species that has become a weed pest, a plant which grows aggressively, spreads, and displaces other plants. Invasive plants tend to appear on disturbed ground, and the most aggressive can actually invade existing ecosystems. Invasive plants are generally undesirable because they are difficult to control, can escape from cultivation, and can dominate whole areas. In short, invasive plant infestations can be extremely expensive to control, as well as environmentally destructive. A small number of invasives are "native," meaning they occurred in Pennsylvania before settlement by Europeans but became aggressive after the landscape was altered. However, most invasive plants arrived from other continents and are often referred to as "exotic," "alien," "introduced," or "nonnative" invasives. An aggressive plant freed from its environmental, pest, and disease limits, can become an invader of other ecosystems.



Characteristics of Invasive Plants

Invasive plants are noted for their ability to grow and spread aggressively. Invasive plants can be trees, shrubs, vines, grasses, or flowers, and they can reproduce rapidly by roots, seeds, shoots, or all three. Invasive plants tend to:

- not be native to North America;
- spread, reproducing by roots or shoots;
- mature quickly; if spread by seed, produce numerous seeds that disperse and sprout easily;
- be generalists that can grow in many different conditions;
- and be exploiters and colonizers of disturbed ground.

Impact of Invasive Plants

The primary reason to **not** landscape with invasives is that they are degrading our native environments. In fact, second only to habitat loss, invasives are a major factor in the decline of native plants. Plants like Kudzu, Purple Loosestrife, and Garlic Mustard are displacing native plants and degrading habitat for native insects, birds, and animals. Endangered, rare,

and threatened native species of plant and animals are especially at risk because they often occur in such small populations that make them particularly vulnerable.

Another reason to avoid invasives is that invasive plants, even when grown in a cultivated yard, can spread, escape, and cause landscape maintenance weeding problems for years to come. In urban and suburban areas there is a good chance that the worst weeds on your property are escaped plants, like Japanese Honeysuckle, Multiflora Rose, Japanese Knotweed, and Oriental Bittersweet. In yards, gardens, fields, and parks these plants are very expensive to control.



What Can I Do about Invasive Plants?

The best insurance against future problems is to avoid the use of known invasive plants and educate others about the problems of invasives. This web site lists many of the plants that are invasive in Pennsylvania. Plants on this list should be avoided because they can escape cultivation and aggressively move into surrounding ecosystems. One way to avoid invasives is to choose plants that are native to your area. Natives often are adapted to a specific environmental niche, and have natural controls that keep them in balance.

Minimize landscape disturbance. Invasive plants thrive on bare soil and disturbed ground where the native plant community has been displaced. The key to controlling invasives is to protect healthy native plant communities.

Use fertilizers wisely. Proper site preparation begins with a soil test before applying fertilizer. High nitrogen levels sometimes give an advantage to invasive species that are better adapted to using plentiful nutrients for explosive growth. For soil fertility, try using organic, slow-decomposing compost and mulches

Have a land management plan for maintenance over time. It makes sense when designing a property to plan for future maintenance. Lawns are maintained by weekly mowing, while gardens are often hand-weeded. Meadows in Pennsylvania may need to be mowed every year. Woodlands are probably the lowest-maintenance landscape, but they too will need to be monitored and invasive plants removed.

Scout your property annually for invasives or other problems. The best way to control invasives is prevention, and prevention can only happen through vigilance. Listed on this web site are resources to help property owners.

Remove invasives before they are a problem. Effective scouting or monitoring means that problems are found while they are still small and easily controllable. For instance, do not let invasive plants go to seed. Mechanical removal through digging or cutting is preferred. Large populations of invasives may need to be stopped chemically with spot applications of herbicide by trained individuals or by homeowners carefully following label instructions.

Replace invasive plants with native or noninvasive species. Invasives are good at exploiting bare soil and empty niches. When you remove an invasive plant, unless there is another plant substituted, the invasive will tend to come right back. What grows in the future depends largely on what is there now; so it is important to fill that niche with a desirable plant that will provide seed for the future.

Remove invasives first when their densities are low. This gives the most immediate success because invasive plant control works best where there is a functioning native plant community still in place which can move right into the empty niche.

- Avoid using known invasive plants
- Minimize landscape disturbance
- Protect healthy native plant communities
- Use fertilizers wisely
- Have a land management plan for maintenance over time
- Scout (and keep scouting)

- Remove invasives before they become a problem
- Replace invasive plants with native or noninvasive species
- Remove invasives first when their densities are low

Moderate Threats

The following species are invasive plants that are known to invade our native plant communities and are deserving of our vigilance.



Pennsylvania Regions

Six Pennsylvania Regions were used to show state distribution:

SE = Southeast **SC** = Southcentral **SW** = Southwest

NE = Northeast **NC** = Northcentral **NW** = Northwest

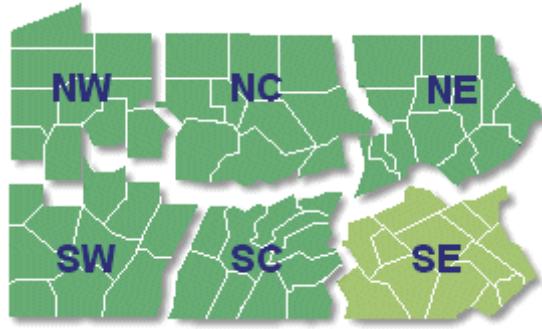
Freq. = Frequent Occ. = Occasional Rare

| Scientific Name | Common Name | Plant Form | Pennsylvania Distribution |
|---|------------------------|------------|--|
| <i>Aegopodium podagraria</i> | Goutweed | Flower | Freq: SE; Occ: SC, SW, NE, NC, NW Notes: Commonly planted in the past and escaped; spreads aggressively by roots |
| <i>Bromus tectorum</i> | Cheatgrass | Grass | Freq: SE, SC; Occ: SW, NE, NW; Rare: NC Notes: Annual grass; very invasive throughout the west; spreads by seed |
| <i>Hesperis matronalis</i> | Dame's rocket | Flower | Freq: SE, SC, SW, NE; Occ: NC, NW Notes: Planted in gardens; escaped and naturalized along roads; spreads by seed |
| <i>Myriophyllum spicatum</i> | Eurasian water-milfoil | Flower | Freq: SE, NW; Occ: NE; Rare: SC, SW Notes: Invasive in many states; aquatic |
| <i>Ornithogallum nutans, umbellatum</i> | Star-of-Bethlehem | Flower | Freq: SE, SC, SW Notes: Common garden plant which has widely escaped |
| <i>Pastinaca sativa</i> | Wild parsnip | Flower | Freq: SE, SC, SW; Occ: NE, NC, NW Notes: Found commonly along roadsides; widespread and abundant; spread by seed |
| <i>Perilla frutescens</i> | Beefsteak plant | Flower | Freq: SE, SC Notes: Garden escape; widespread mostly along roadsides; spread by seed |
| <i>Phalaris arundinacea</i> | Reed canary grass | Grass | Freq: SE, SC, SW; Occ: NE, NC, NW Notes: Aggressive wetland grass; native and introduced strains; widespread and abundant |
| <i>Ranunculus ficaria</i> | Lesser celandine | Flower | Freq: SE; Rare: SC, SW Notes: Spreads by roots and shoots; can be very aggressive in wetlands |
| <i>Berberis thunbergii</i> | Japanese barberry | Shrub | Freq: SE, SC, NE; Occ: SW, NC, NW Notes: Escaped from cultivation and invasive in many states; spread by birds |
| <i>Berberis vulgaris</i> | European barberry | Shrub | Freq: SE; Occ: SC, SW, NE, NC, NW Notes: Escaped from cultivation; spread by birds |
| <i>Elaeagnus angustifolia</i> | Russian olive | Shrub | Occ: SE, SC, SW Notes: Escaped from plantings and invasive in many states; spread by birds |
| <i>Ligustrum obtusifolium</i> | Border privet | Shrub | Freq: SE, SC; Occ: SW, NE, NW; Rare: NC Notes: Escaped from cultivation; seeds spread by birds |
| <i>Ligustrum vulgare</i> | Common privet | Shrub | Freq: SE, SC; Occ: SW, NE Notes: Planted very commonly in the past and escaped; invasive in many states |
| <i>Lonicera Morrowii x tatarica</i> | Bell's honeysuckle | Shrub | Occ: SE, SC, NW Notes: Escaped from cultivation |
| <i>Rhamnus catharticus</i> | Common buckthorn | Shrub | Freq: SE, SC; Occ: SW Notes: Becoming a problem in PA |

| | | | |
|---|------------------|-------|-----------------------------|
| <i>Rhamnus frangula</i> | Glossy buckthorn | Shrub | Occ: SE, SC, SW, NE, NC, NW |
| Notes: Becoming a problem in PA | | | |
| <i>Rubus phoenicolasius</i> | Wineberry | Shrub | Freq: SE, SC; Occ: SW |
| Notes: Common bramble; not cultivated; spread by seed | | | |
| <i>Ulmus pumila</i> | Siberian elm | Tree | Occ: SE, SC; Rare: SW |
| Notes: Escaped from cultivation | | | |
| <i>Akebia quinata</i> | Fiveleaf akebia | Vine | Occ: SE; Rare: SC |
| Notes: Escaped from cultivation | | | |
| <i>Ampelopsis brevipedunculata</i> | Porcelain-berry | Vine | Occ: SE, SW |
| Notes: Escaped from cultivation | | | |

Serious Threats

The species below are the most serious threats or worst offenders to our native ecosystems. Many have been designed as "Noxious Weeds" by the Pennsylvania Department of Agriculture and are also a major concern to our agricultural community.



Pennsylvania Regions

Six Pennsylvania Regions were used to show state distribution:

SE = Southeast **SC** = Southcentral **SW** = Southwest

NE = Northeast **NC** = Northcentral **NW** = Northwest

Freq. = Frequent Occ. = Occasional Rare

| Scientific Name | Common Name | Plant Form | Pennsylvania Distribution |
|---|----------------------|------------|---|
| <i>Alliaria petiolata</i> | Garlic mustard | Flower | Freq: SE, SC, SW, NW; Occ: NE |
| Notes: Invasive in many states; spreading aggressively in woodlands by seed | | | |
| <i>Carduus nutans</i> | Musk thistle | Flower | Freq: SE, SC, SW, NE, NC, NW |
| Notes: PA noxious Weed | | | |
| <i>Cirsium arvense</i> | Canada thistle | Flower | Freq: SE, SC, SW, NE, NC, NW |
| Notes: PA noxious Weed | | | |
| <i>Cirsium vulgare</i> | Bull thistle | Flower | Freq: SE, SC, SW, NE, NC, NW |
| Notes: PA noxious Weed | | | |
| <i>Datura stramonium</i> | Jimsonweed | Flower | Freq: SE, SC, SW; Occ: NE |
| Notes: Sometimes cultivated; spreads by seed, PA Noxious Weed | | | |
| <i>Galega officinalis</i> | Goatsrue | Flower | Rare: SE |
| Notes: PA and Federal Noxious Weed, on location in SE PA | | | |
| <i>Heracleum mantegazzianum</i> | Giant hogweed | Flower | Rare: NW |
| Notes: PA and Federal Noxious Weed, sap can cause burning blisters | | | |
| <i>Lythrum salicaria, L. virgatum</i> | Purple loosestrife | Flower | Freq: SE; Occ: SC, SW, NE, NC, NW |
| Notes: Garden escape which has become invasive in many states; PA noxious Weed | | | |
| <i>Microstegium vimineum</i> | Japanese stilt grass | Grass | Freq: SE; Occ: SC |
| Notes: Annual grass; invasive in many states; spreading through woodlands by seed | | | |
| <i>Phragmites australis</i> | Common reed | Grass | Freq: SE; Occ: SC, SW, NE, NW |
| Notes: Native and introduced strains; wetland grass which can form huge colonies | | | |
| <i>Polygonum (Fallopia) cuspidatum</i> | Japanese knotweed | Flower | Freq: SE; Occ: SC, SW, NE, NW; Rare: NC |
| Notes: Invasive in many states; difficult to control; spreads by roots and seeds | | | |
| <i>Sorghum bicolor</i> ssp. <i>drummondii</i> | Shattercane | Grass | Freq: SE; Occ: SC, NC |

| *Alliaria petiolata* | Garlic mustard | Flower | Freq: SE, SC, SW, NW; Occ: NE |
| Notes: Invasive in many states; spreading aggressively in woodlands by seed | | | |
| *Carduus nutans* | Musk thistle | Flower | Freq: SE, SC, SW, NE, NC, NW |
| Notes: PA noxious Weed | | | |
| *Cirsium arvense* | Canada thistle | Flower | Freq: SE, SC, SW, NE, NC, NW |
| Notes: PA noxious Weed | | | |
| *Cirsium vulgare* | Bull thistle | Flower | Freq: SE, SC, SW, NE, NC, NW |
| Notes: PA noxious Weed | | | |
| *Datura stramonium* | Jimsonweed | Flower | Freq: SE, SC, SW; Occ: NE |
| Notes: Sometimes cultivated; spreads by seed, PA Noxious Weed | | | |
| *Galega officinalis* | Goatsrue | Flower | Rare: SE |
| Notes: PA and Federal Noxious Weed, on location in SE PA | | | |
| *Heracleum mantegazzianum* | Giant hogweed | Flower | Rare: NW |
| Notes: PA and Federal Noxious Weed, sap can cause burning blisters | | | |
| *Lythrum salicaria, L. virgatum* | Purple loosestrife | Flower | Freq: SE; Occ: SC, SW, NE, NC, NW |
| Notes: Garden escape which has become invasive in many states; PA noxious Weed | | | |
| *Microstegium vimineum* | Japanese stilt grass | Grass | Freq: SE; Occ: SC |
| Notes: Annual grass; invasive in many states; spreading through woodlands by seed | | | |
| *Phragmites australis* | Common reed | Grass | Freq: SE; Occ: SC, SW, NE, NW |
| Notes: Native and introduced strains; wetland grass which can form huge colonies | | | |
| *Polygonum (Fallopia) cuspidatum* | Japanese knotweed | Flower | Freq: SE; Occ: SC, SW, NE, NW; Rare: NC |
| Notes: Invasive in many states; difficult to control; spreads by roots and seeds | | | |
| *Sorghum bicolor* ssp. *drummondii* | Shattercane | Grass | Freq: SE; Occ: SC, NC |

| | | | |
|---|--|--|--|
| Notes: Grass; PA noxious Weed <i>Sorghum halepense</i> Johnson grass Grass Freq: SE; Occ: SC, SW, NE, NW Notes: Grass; PA noxious Weed; spreads by roots and seeds | | | |
| <i>Elaeagnus umbellata</i> Autumn olive Shrub Freq: SE, SC; Occ: SW; Rare: NE, NW Notes: Escaped from plantings and invasive in many states; rapidly spread by birds | | | |
| <i>Lonicera maackii</i> Amur honeysuckle Shrub Occ: SE, SC, NW Notes: Escaped from plantings; seeds spread by birds | | | |
| <i>Lonicera morrowii</i> Morrow's honeysuckle Shrub Freq: SE, SC, SW; Occ: NE, NC, NW Notes: Escaped from plantings and invasive in many states; seeds spread by birds | | | |
| <i>Lonicera standishii</i> Standish honeysuckle Shrub Occ: SE Notes: Escaped from plantings; seeds spread by birds | | | |
| <i>Lonicera tartarica</i> Tartarian honeysuckle Shrub Freq: SE, SC, SW; Occ: NE, NW Notes: Escaped from plantings; seeds spread by birds | | | |
| <i>Rosa multiflora</i> Multiflora rose Shrub Freq: SE, SC, SW; Occ: NE, NC, NW Notes: Invasive in many states; seeds spread by birds; PA noxious Weed | | | |
| <i>Acer platanoides</i> Norway maple Tree Freq: SE; Occ: SE, SW Notes: Commonly planted and escaped; invasive in many states; wind spreads prolific seeds | | | |
| <i>Ailanthus altissima</i> Tree-of-heaven Tree Freq: SE, SC; Occ: SW Notes: Invasive in many states; wind spreads prolific seeds | | | |
| <i>Celastrus orbiculatus</i> Oriental bittersweet Vine Freq: SE, SC, SW; Rare: NE, NW Notes: Escaped from cultivation and invasive in many states; spreading rapidly (by birds) | | | |
| <i>Lonicera japonica</i> Japanese honeysuckle Vine Freq: SE, SC; Occ: SW, NE Notes: Invasive in many states | | | |
| <i>Polygonum perfoliatum</i> Mile-a-minute vine Vine Freq: SE; Rare: SW Notes: Range expanding; PA Noxious Weed | | | |
| <i>Pueraria lobata</i> Kudzu Vine Freq: SE; Rare: SW Notes: Invasive in many states; PA Noxious Weed | | | |

Other Sources

Recognition of the problem of invasive plants is growing, at the same time as damage to native ecosystems is mounting. Identifying invasive plants and understanding the potential damage they can cause is essential to stopping their spread and protecting native vegetation. Recent publications specifically on invasive plant control and a good field guide can help identify and avoid planting invasive plants. Try to learn as much as possible about this issue. The Internet is an excellent way to access the rapidly growing body of information on this topic.

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New England Wild Flower Society www.newfs.org/invasive/invasive.htm

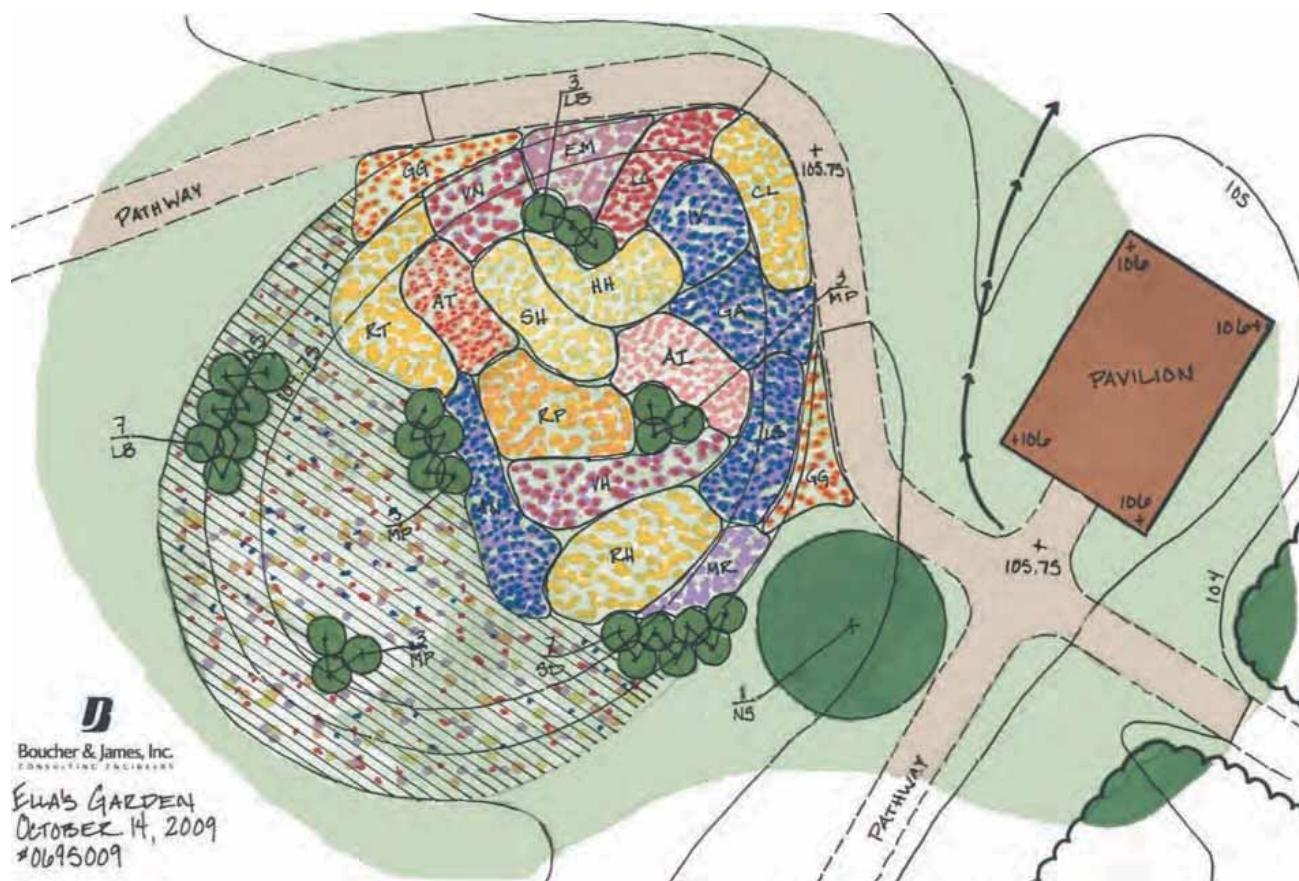
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www.dcr.state.va.us/dnh/invproj.htm



Appendix 5.S - Rain Garden

Rain Garden Example – Ella's Garden, Kingston Park, Lower Saucon Township



BMP 6.4.5: Rain Garden/Bioretention

RECHARGE GARDEN / BIORETENTION BED



A Rain Garden (also called Bioretention) is an excavated shallow surface depression planted with specially selected native vegetation to treat and capture runoff.

| <u>Key Design Elements</u> | <u>Potential Applications</u> |
|--|---|
| <ul style="list-style-type: none"> ▪ Flexible in terms of size and infiltration ▪ Ponding depths generally limited to 12 inches or less for aesthetics, safety, and rapid draw down. Certain situations may allow deeper ponding depths. ▪ Deep rooted perennials and trees encouraged ▪ Native vegetation that is tolerant of hydrologic variability, salts and environmental stress ▪ Modify soil with compost. ▪ Stable inflow/outflow conditions ▪ Provide positive overflow ▪ Maintenance to ensure long-term functionality | Residential: Yes Commercial: Yes Urban: Yes Industrial: Yes Retrofit: Yes Highway/Road: Yes |
| | <u>Stormwater Functions</u> Volume Reduction: Medium Recharge: Med./High Peak Rate Control: Low/Med. Water Quality: Med./High |
| | <u>Water Quality Functions</u> TSS: TP: 85% 85% NO3: 30% |

Other Considerations

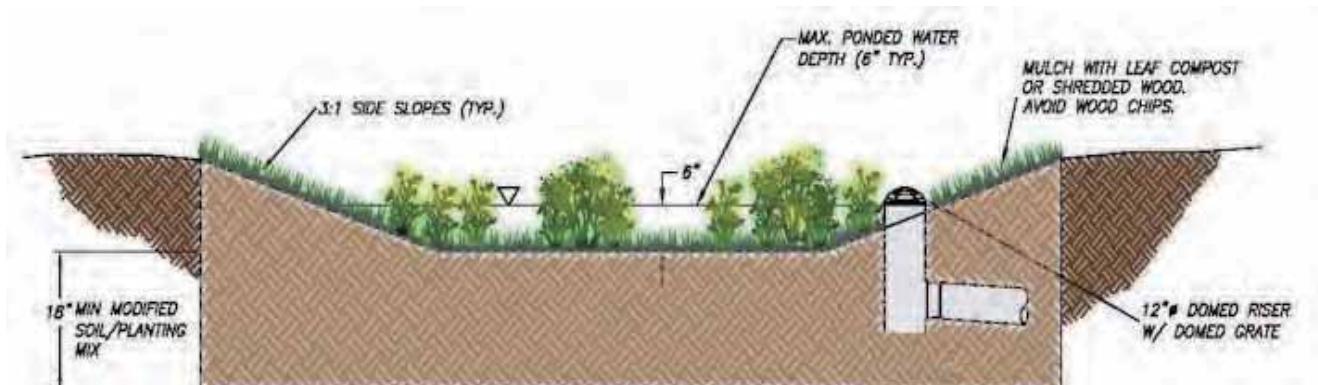
- **Protocol 1. Site Evaluation and Soil Infiltration Testing** and **Protocol 2. Infiltration Systems Guidelines** should be followed, see Appendix C

Description

Bioretention is a method of treating stormwater by pooling water on the surface and allowing filtering and settling of suspended solids and sediment at the mulch layer, prior to entering the plant/soil/microbe complex media for infiltration and pollutant removal. Bioretention techniques are used to accomplish water quality improvement and water quantity reduction. Prince George's County, Maryland, and Alexandria, Virginia have used this BMP since 1992 with success in many urban and suburban settings.

Bioretention can be integrated into a site with a high degree of flexibility and can balance nicely with other structural management systems, including porous asphalt parking lots, infiltration trenches, as well as non-structural stormwater BMPs described in Chapter 5.

The vegetation serves to filter (water quality) and transpire (water quantity) runoff, and the root systems can enhance infiltration. The plants take up pollutants; the soil medium filters out pollutants and allows storage and infiltration of stormwater runoff; and the bed provides additional volume control. Properly designed bioretention techniques mimic natural ecosystems through species diversity, density and distribution of vegetation, and the use of native species, resulting in a system that is resistant to insects, disease, pollution, and climatic stresses.



Rain Gardens / Bioretention function to:

- Reduce runoff volume
- Filter pollutants, through both soil particles (which trap pollutants) and plant material (which take up pollutants)
- Recharge groundwater by infiltration
- Reduce stormwater temperature impacts
- Enhance evapotranspiration
- Enhance aesthetics
- Provide habitat

Primary Components of a Rain Garden/Bioretention System

The primary components (and subcomponents) of a rain garden/bioretention system are:

Pretreatment (optional)

- Sheet flow through a vegetated buffer strip, cleanout, water quality inlet, etc. prior to entry into the Rain Garden

Flow entrance

- Varies with site use (e.g., parking island versus residential lot applications)
- Water may enter via an inlet (e.g., flared end section)
- Sheet flow into the facility over grassed areas
- Curb cuts with grading for sheet flow entrance
- Roof leaders with direct surface connection
- Trench drain
- Entering velocities should be non-erosive.

Ponding area

- Provides temporary surface storage of runoff
- Provides evaporation for a portion of runoff
- Design depths allow sediment to settle
- Limited in depth for aesthetics and safety

Plant material

- Evapotranspiration of stormwater
- Root development and rhizome community create pathways for infiltration
- Bacteria community resides within the root system creating healthy soil structure with water quality benefits
- Improves aesthetics for site
- Provides habitat for animals and insects
- Reinforces long-term performance of subsurface infiltration
- Should be tolerant of salts if in a location that would receive snow melt chemicals

Organic layer or mulch

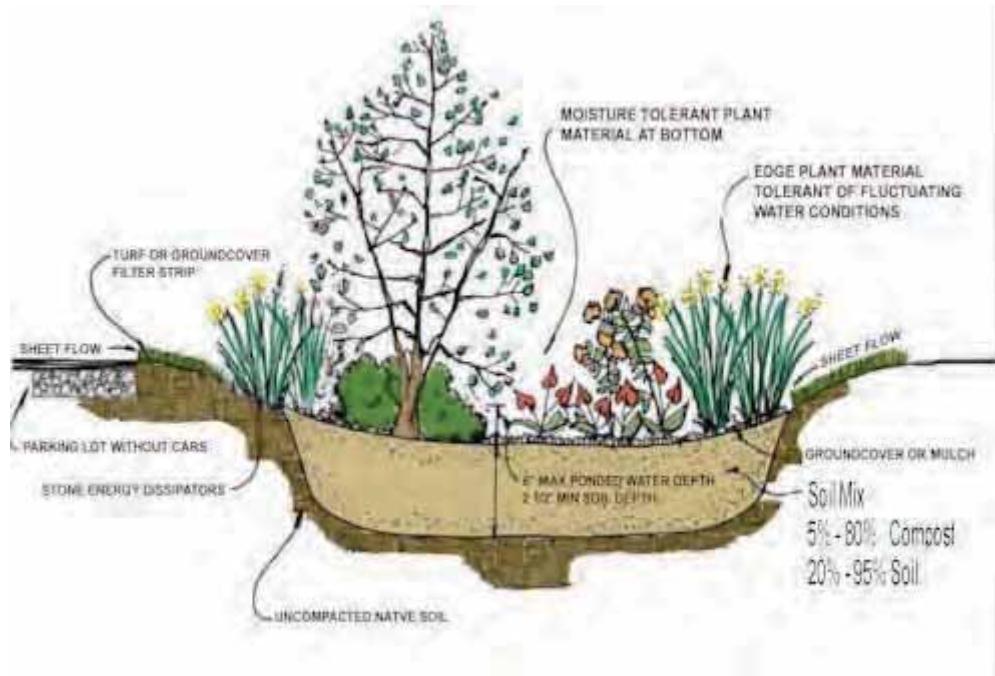
- Acts as a filter for pollutants in runoff
- Protects underlying soil from drying and eroding
- Simulates leaf litter by providing environment for microorganisms to degrade organic material
- Provides a medium for biological growth, decomposition of organic material, adsorption and bonding of heavy metals
- Wood mulch should be shredded - compost or leaf mulch is preferred.

Planting soil/volume storage bed

- Provides water/nutrients to plants
- Enhances biological activity and encourages root growth
- Provides storage of stormwater by the voids within the soil particles

Positive overflow

- Will discharge runoff during large storm events when the storage capacity is exceeded. Examples include domed riser, inlet, weir structure, etc.
- An underdrain can be included in areas where infiltration is not possible or appropriate.



Variations

Generally, a Rain Garden/Bioretention system is a vegetated surface depression that provides for the infiltration of relatively small volumes of stormwater runoff, often managing stormwater on a lot-by-lot basis (versus the total development site). If greater volumes of runoff need to be managed or stored, the system can be designed with an expanded subsurface infiltration bed or the Bioretention area can be increased in size.

The design of a Rain Garden can vary in complexity depending on the quantity of runoff volume to be managed, as well as the pollutant reduction objectives for the entire site. Variations exist both in the components of the systems, which are a function of the land use surrounding the Bioretention system.

The most common variation includes a gravel or sand bed underneath the planting bed. The original intent of this design, however, was to perform as a filter BMP utilizing an under drain and subsequent discharge. When a designer decides to use a gravel or sand bed for volume storage under the planting bed, then additional design elements and changes in the vegetation plantings should be provided.

Flow Entrance: Curbs and Curb Cuts



Flow Entrance: Trench Drain



Positive Overflow: Domed Riser



Positive Overflow: Inlet



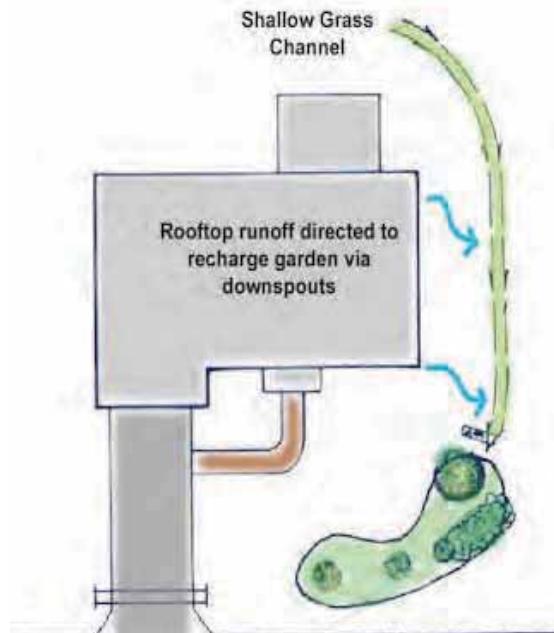
Applications

Bioretention areas can be used in a variety of applications: from small areas in residential lawns to extensive systems in large parking lots (incorporated into parking islands and/or perimeter areas).

- **Residential On-lot**

Rain Garden (Prince George's County)

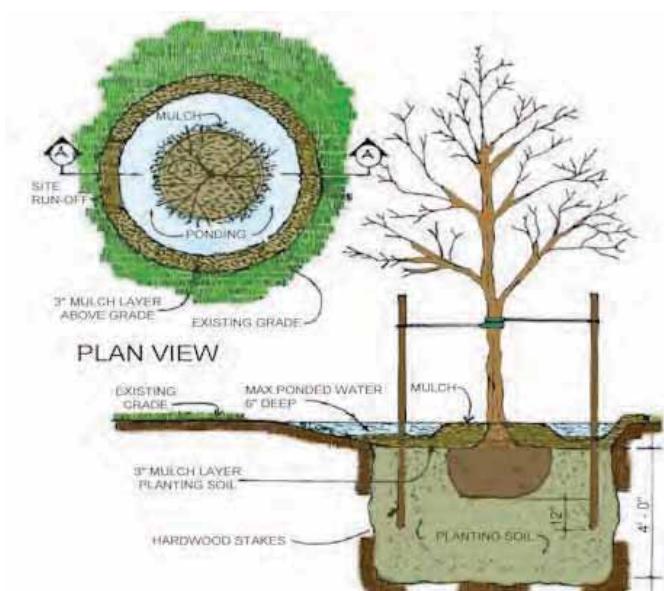
Simple design that incorporates a planting bed in the low portion of the site



- **Tree and Shrub Pits**

Stormwater management technique that intercepts runoff and provides shallow ponding in a dished mulched area around the tree or shrub.

Extend the mulched area to the tree dripline



- **Roads and highways**



- **Parking Lots**
- **Parking Lot Island Bioretention**



- **Commercial/Industrial/Institutional**

In commercial, industrial, and institutional situations, stormwater management and greenspace areas are limited, and in these situations, Rain Gardens for stormwater management and landscaping provide multifunctional options.

- **Curbless (Curb cuts) Parking Lot Perimeter Bioretention**

The Rain Garden is located adjacent to a parking area with no curb or curb cuts, allowing stormwater to sheet flow over the parking lot directly into the Rain Garden. Shallow grades should direct runoff at reasonable velocities; this design can be used in conjunction with depression storage for stormwater quantity control.



- **Curbed Parking Lot Perimeter Bioretention**



- **Roof leader connection from adjacent building**



Design Considerations

Rain Gardens are flexible in design and can vary in complexity according to water quality objectives and runoff volume requirements. Though Rain Gardens are a structural BMP, the initial siting of bioretention areas should respect the Integrating Site Design Procedures described in Chapter 4 and integrated with the preventive non-structural BMPs.

It is important to note that bioretention areas are not to be confused with constructed wetlands or wet ponds which permanently pond water. Bioretention is best suited for areas with at least moderate infiltration rates (more than 0.1 inches per hour). In extreme situations where permeability is less than 0.1 inches per hour, special variants may apply, including under drains, or even constructed wetlands.

Rain Gardens are often very useful in retrofit projects and can be integrated into already developed lots and sites. An important concern for all Rain Garden applications is their long-term protection and maintenance, especially if undertaken in multiple residential lots where individual homeowners provide maintenance. In such situations, it is important to provide some sort of management that insures their long-term functioning (deed restrictions, covenants, and so forth).

1. Sizing criteria

- a. **Surface area** is dependent upon storage volume requirements but should generally not exceed a maximum loading ratio of 5:1 (impervious drainage area to infiltration area; see Protocol 2. Infiltration Systems Guidelines (Appendix C) for additional guidance on loading rates.)
- b. **Surface Side slopes** should be gradual. For most areas, maximum 3:1 side slopes are recommended, however where space is limited, 2:1 side slopes may be acceptable.
- c. **Surface Ponding depth** should not exceed 6 inches in most cases and should empty within 72 hours.
- d. **Ponding area** should provide sufficient surface area to meet required storage volume without exceeding the design ponding depth. The subsurface storage/infiltration bed is used to supplement surface storage where feasible.
- e. **Planting soil depth** should generally be at least 18" where only herbaceous plant species will be utilized. If trees and woody shrubs will be used, soil media depth may be increased, depending on plant species.

2. **Planting Soil** should be a loam soil capable of supporting a healthy vegetative cover. Soils should be amended with a composted organic material. A typical organic amended soil is combined with 20-30% organic material (compost), and 70-80% soil base (preferably topsoil). Planting soil should be approximately 4 inches deeper than the bottom of the largest root ball.
3. **Volume Storage Soils** should also have a pH of between 5.5 and 6.5 (better pollutant adsorption and microbial activity), a clay content less than 10% (a small amount of clay is beneficial to adsorb pollutants and retain water), be free of toxic substances and unwanted plant material and have a 5 –10% organic matter content. Additional organic matter can be added to the soil to increase water holding capacity (tests should be conducted to determine volume storage capacity of amended soils).

4. Proper **plant selection** is essential for bioretention areas to be effective. Typically, native floodplain plant species are best suited to the variable environmental conditions encountered. If shrubs and trees are included in a bioretention area (which is recommended), at least three species of shrub and tree should be planted at a rate of approximately 700 shrubs and 300 trees per acre (shrub to tree ratio should be 2:1 to 3:1). An experienced landscape architect is recommended to design native planting layout.
5. **Planting periods** will vary, but in general trees and shrubs should be planted from mid-March through the end of June, or mid-September through mid-November
6. A maximum of 2 to 3 inches of shredded **mulch** or leaf compost (or other comparable product) should be uniformly applied immediately after shrubs and trees are planted to prevent erosion, enhance metal removals, and simulate leaf litter in a natural forest system. Wood chips should be avoided as they tend to float during inundation periods. Mulch / compost layer should not exceed 3" in depth so as not to restrict oxygen flow to roots.
7. Must be designed carefully in areas with **steeper slopes** and should be aligned parallel to contours to minimize earthwork.
8. Under drains should not be used except where in-situ soils fail to drain surface water to meet the criteria in Chapter 3.

Detailed Stormwater Functions

Infiltration Area

Volume Reduction Calculations

The storage volume of a Bioretention area is defined as the sum total of 1. and the smaller of 2a or 2b below. The surface storage volume should account for at least 50% of the total storage. Inter-media void volumes may vary considerably based on design variations.

1. Surface Storage Volume (CF) = Bed Area (ft²) x Average Design Water Depth
- 2a. Infiltration Volume = Bed Bottom area (sq ft) x infiltration design rate (in/hr) x infiltration period (hr) x 1/12.
- 2b. Volume = Bed Bottom area (sq ft) x soil mix bed depth x void space.

Peak Rate Mitigation

See Chapter 8 for Peak Rate Mitigation methodology, which addresses link between volume reduction and peak rate control.

Water Quality Improvement

See Chapter 8 for Water Quality Improvement methodology, which addresses pollutant removal effectiveness of this BMP.

Construction Sequence

The following is a typical construction sequence; however, alterations might be necessary depending on design variations.

1. Install temporary sediment control BMPs as shown on the plans.
2. Complete site grading. If applicable, construct curb cuts or other inflow entrance but provide protection so that drainage is prohibited from entering construction area.
3. Stabilize grading within the limit of disturbance except within the Rain Garden area. Rain garden bed areas may be used as temporary sediment traps provided that the proposed finish elevation of the bed is 12 inches lower than the bottom elevation of the sediment trap.
4. Excavate Rain Garden to proposed invert depth and scarify the existing soil surfaces. Do not compact in-situ soils.
5. Backfill Rain Garden with amended soil as shown on plans and specifications. Overfilling is recommended to account for settlement. Light hand tamping is acceptable if necessary.
6. Presoak the planting soil prior to planting vegetation to aid in settlement.
7. Complete final grading to achieve proposed design elevations, leaving space for upper layer of compost, mulch or topsoil as specified on plans.
8. Plant vegetation according to planting plan.
9. Mulch and install erosion protection at surface flow entrances where necessary.



Maintenance Issues

Properly designed and installed Bioretention areas require some regular maintenance.

- While vegetation is being established, pruning and weeding may be required.
- Detritus may also need to be removed every year. Perennial plantings may be cut down at the end of the growing season.
- Mulch should be re-spread when erosion is evident and be replenished as needed. Once every 2 to 3 years the entire area may require mulch replacement.
- Bioretention areas should be inspected at least two times per year for sediment buildup, erosion, vegetative conditions, etc.
- During periods of extended drought, Bioretention areas may require watering.
- Trees and shrubs should be inspected twice per year to evaluate health.

Cost Issues

Rain Gardens often replace areas that would have been landscaped and are maintenance-intensive so that the net cost can be considerably less than the actual construction cost. In addition, the use of Rain Gardens can decrease the cost for stormwater conveyance systems at a site. Rain Gardens cost approximately \$5 to \$7 (2005) per cubic foot of storage to construct.

Specifications

The following specifications are provided for informational purposes only. These specifications include information on acceptable materials for typical applications, but are by no means exclusive or limiting. The designer is responsible for developing detailed specifications for individual design projects in accordance with the project conditions.

1 Vegetation - See Appendix B

2 Execution

- a. Subgrade preparation
 1. Existing sub-grade in Bioretention areas shall NOT be compacted or subject to excessive construction equipment traffic.
 2. Initial excavation can be performed during rough site grading but shall not be carried to within one feet of the final bottom elevation. Final excavation should not take place until all disturbed areas in the drainage area have been stabilized.
 3. Where erosion of sub-grade has caused accumulation of fine materials and/or surface ponding in the graded bottom, this material shall be removed with light

4. equipment and the underlying soils scarified to a minimum depth of 6 inches with a York rake or equivalent by light tractor.
5. Bring sub-grade of bioretention area to line, grade, and elevations indicated. Fill and lightly regrade any areas damaged by erosion, ponding, or traffic compaction. All bioretention areas shall be level grade on the bottom.
5. Halt excavation and notify engineer immediately if evidence of sinkhole activity or pinnacles of carbonate bedrock are encountered in the bioretention area.

b. Rain Garden Installation

1. Upon completion of sub-grade work, the Engineer shall be notified and shall inspect at his/her discretion before proceeding with bioretention installation.
2. For the subsurface storage/infiltration bed installation, amended soils should be placed on the bottom to the specified depth.
3. Planting soil shall be placed immediately after approval of sub-grade preparation/bed installation. Any accumulation of debris or sediment that takes place after approval of sub-grade shall be removed prior to installation of planting soil at no extra cost to the Owner.
4. Install planting soil (exceeding all criteria) in 18-inch maximum lifts and lightly compact (tamp with backhoe bucket or by hand). Keep equipment movement over planting soil to a minimum – **do not over compact**. Install planting soil to grades indicated on the drawings.
5. Plant trees and shrubs according to supplier's recommendations and only from mid-March through the end of June or from mid-September through mid-November.
6. Install 2-3" shredded hardwood mulch (minimum age 6 months) or compost mulch evenly as shown on plans. Do not apply mulch in areas where ground cover is to be grass or where cover will be established by seeding.
7. Protect Rain Gardens from sediment at all times during construction. Hay bales, diversion berms and/or other appropriate measures shall be used at the toe of slopes that are adjacent to Rain Gardens to prevent sediment from washing into these areas during site development.
8. When the site is fully vegetated and the soil mantle stabilized the plan designer shall be notified and shall inspect the Rain Garden drainage area at his/her discretion before the area is brought online and sediment control devices removed.
9. Water vegetation at the end of each day for two weeks after planting is completed.

Contractor should provide a one-year 80% care and replacement warranty for all planting beginning after installation and inspection of all plants.

AGRICULTURAL ALTERNATIVES

Community-supported Agriculture

Community-supported agriculture (CSA) is a concept designed to encourage relationships between consumers and growers and for consumers to become more knowledgeable about the way their food is grown. A CSA addresses the concern that the average distance that food travels from farm to consumer in the United States is approximately 1,300 miles. Another advantage of obtaining food locally is that the money stays within the local community.

CSAs began to develop on the East Coast of the United States in the mid-1980s. Today, it is estimated that between 30,000 and 50,000 U.S. consumers belong to a CSA. Examples of CSAs range from smaller operations with three to twenty members to larger CSAs with hundreds of members or subscribers.

The Principle Behind a CSA

A CSA involves consumers who support a farmer financially by paying for a share of the farm's production prior to each growing season. The arrangement allows farmers to buy the seeds, transplants, and other inputs

This publication was developed by the Small and Part-time Farming Project at Penn State with support from the U.S. Department of Agriculture-Extension Service.



they need for the growing season, and pay their farm labor without waiting until harvest to generate revenue.

By paying for food prior to planting, CSA members essentially assume the risk of crop failure or pest or disease problems and understand that a refund will not be issued in the event that no crops are harvested. If a crop is lost or is of poor quality, the farmer is able to continue to operate. These anticipated problems can be managed with proper planning and risk management strategies. A benefit for farmers who become involved in a CSA is that they can develop a long-term relationship with their members, one that may encourage members to support farmers by renewing their memberships each year.

Many small-scale or part-time growers could use a CSA rather than an auction to sell much of their produce. CSAs offer a more structured and scheduled distribution for products than auctions with growers receiving a predetermined price instead of relying on unpredictable auction sales. A CSA, however, will require much more time and organization than selling at an auction. A CSA requires advertising, planning production to have products available on a consistent basis, scheduling delivery or pick times and places, and educating the customer. Many



CSA producers also sell at farmers' markets and advertise the CSA during market time.

Calculating Share Fees

Share price is calculated based on the final number of CSA members. Once this number is determined, a grower can divide total operating costs (including the owner's labor, management, and any debt service related to the enterprise) by the number of shareholders to calculate the final share price. Therefore, members should be made aware that share prices published in the fall may be an estimate of what will actually be charged at the beginning of the season, when all members have joined. If a member has a working share, he or she should be informed of the value of this type of share. When work is provided for a reduced price, the details of that work and the reduction in cost should reflect that work.

Several methods exist for calculating payments for shares and portions of shares. If scheduled payments (monthly, quarterly, or other predetermined schedule) are used, an additional fee for billing should be considered. Instead of dividing the share cost equally among payments, consider a discount scheme to encourage shareholders to pay for the entire share prior to planting. Adding an interest charge may be necessary to compensate you for the additional time you will need to prepare invoices and update shareholder accounts.

Products Included

On average, most CSAs offer an assortment of eight to twelve vegetables, herbs, and fruits each week for a summer share. A weekly share typically consists of five to seven pounds of vegetables. Winter shares, if offered, are usually distributed just once a month due to lower volume and selection available. Items that members do not have an interest in can be placed on a table for other members to take.

During certain weeks there may not be enough of a particular produce item available to distribute to all members. One option is to divide the shares into two groups and distribute the harvest to each group on alternate weeks. In years when the harvest is more than members can use, excess can be donated to a food bank or sold to a local restaurant. Another option is to allow members to purchase additional fruits and vegetables that they can preserve for use throughout the off-season months. Certain farmers have developed a practice of trading what they grow with other farmers who grow other produce items or sell meat, fish, fowl, dairy products, honey, and bread products, thus expanding the range of products available to its CSA customers.

CSA Workload

The number of hours a farmer will work during the CSA season varies greatly depending on the mix of crops and other products offered. Typically it takes a minimum of 15 to 20 hours per week during startup, up to 60 hours per week during the peak planting and harvesting period, and 20 to 30 hour per week during harvest and wrap-up in the fall. A farmer who is currently growing crops for the wholesale market will probably need at least one year to transition his or her farm (or a portion of the farm) to a CSA. During this time period, the farmer will need to assess the likelihood that he or she will succeed as a CSA farmer by observing as many different CSA operations as possible. In addition, the first year should focus on supplying the wholesale market while determining a budget for the proposed CSA and the number of shares that will be needed to support the operation.

Several questions will need to be answered during this transition phase:

- How do I feel about dealing directly with customers or members?
- What production practices will I need to change?
- Am I comfortable with the additional management necessary to operate a CSA?
- How much production will be needed to support the CSA?
- Do I have enough labor to operate the CSA?

As with any new venture, it will be necessary to concentrate on promotional activities, such as press releases, newspaper articles, distribution of flyers, and other methods, to help prospective members learn about the CSA. It may even be necessary to recruit more members than needed, as it is very possible that not all those who initially express an interest will actually purchase a share.

CSA Member Involvement

As mentioned previously, one important aspect of a CSA is building a connection between members and the farm where their food is produced. A stronger bond can be built if members are encouraged to visit the farm and socialize with other members. Members who have a working share (in exchange for a reduced price members work a certain number of hours at the farm each week) may be more likely to visit with others and form a strong connection with the farm. For other members, a social occasion such as a potluck or harvest celebration can help them feel that they are actually a part of the CSA.

Another method of making members aware of what is happening at the farm is creating a newsletter that can be distributed with the share. The newsletter can contain announcements, list what is included in the current share

(and what will be available in coming weeks), include some sample recipes, and provide a calendar of future activities. The practice of developing a newsletter may also help reduce a number of common questions. Instead of inquiring about what they can expect in their July share, or when they can expect sweet corn, a brief article in June's newsletter can help answer these anticipated questions.

Having members work on the CSA creates a higher risk for the grower due to the increased liability should a member be injured, so you may consider having members perform nonfield activities such as creating and distributing the newsletter, assisting at distribution sites, or supervising product pickup at the farm. Members could also be encouraged to research, compile, or contribute recipes for the newsletter. Growers need to contact their insurance provider and have a detailed risk management plan before they proceed with involving members in these and other tasks. Your insurance provider may view members working on the farm as employees, which will have a major impact on the cost of workers' compensation insurance.

Common Types of CSAs and Members' Commitment

The concept of the CSA is fairly basic: encourage a relationship between consumers and local farmers that can develop and prosper. In order to begin the process of creating a CSA, it will be necessary for farmers to determine how much control they desire and how much input they want from the CSA members and who should be in charge of the planning, promotion, harvesting, and social activities. Certainly, if a farmer does not enjoy a constant interaction with consumers, it may be wise to consider a CSA model that enlists the help of a core group. It is possible to tailor a CSA to meet the needs of all parties involved and focus on the principle of offering fresh, local produce.

As can be expected, the level of community involvement differs among CSAs. Larger CSAs or CSAs with a farmer who prefers to have more control of member involvement may prefer to enact a subscription or farmer-driven type of CSA. Organization of such a CSA would require the farmer to assume a majority of the responsibility, including hiring and training paid employees. Usually, subscription holders would have little involvement with the CSA other than being responsible for picking up their share. This is a popular form of a CSA. However, with one of the main goals of a CSA being the formation of a bond between consumer and farmer, a question arises as to how this can still be achieved.

CSAs that include members in the organization and daily operations are referred to as shareholder- or consumer-driven CSAs. Such CSAs could be organized by either the farmer or by members who would then hire the

farmer and decide what to grow. This type of organization takes a great deal of member commitment to organize teams who will assist with fieldwork, determine the share, and arrange the distribution schedule. Core group members could also plan and implement events and group activities, arrange for childcare for members when they are working at the farm, distribute announcements and publicity materials, and recruit and accept/approve potential shareholders. Core group members will need to oversee various administration tasks such as budgets, compiling and printing annual reports, and developing and distributing newsletters and other announcements. Other duties include making decisions about purchases for the CSA and how to finance expensive items.

Another type of CSA organization is called a farmer-consumer cooperative. In this arrangement, both parties own the land and other resources, such as buildings and equipment. As with the shareholder model, this type of CSA requires a high level of consumer involvement. A core group would be needed to work with the farmer on issues such as fieldwork, distribution, marketing, and recruitment.

For farmers who are interested in pursuing the idea of developing a CSA but would welcome the involvement of another farmer, there have been examples of farmer cooperatives serving a consumer population. This type of CSA would include the involvement of two or more farmers, each of whom would provide CSA members with a different assortment of goods. Both CSA members and the cooperating farmers can benefit from this increased product offering. If one farmer is experiencing a potential shortage or crop failure, surplus goods from the other farmers can serve as a substitute. In addition, this type of arrangement allows consumers to purchase more items from their CSA and reduce the number of other shopping trips they would need to make.

It will be valuable to consult your attorney and insurance agent prior to establishing a CSA and describe how you plan to organize and implement the operation. The business structure you choose and the insurance products you choose will help with reducing your risk management concerns. Having these concerns addressed prior to beginning operation will help alleviate stress should an accident or another emergency arise.

One of the biggest struggles of a CSA effort is to convince potential members that "it's not just about the vegetables." This quote has been reprinted in countless articles and promotional materials that are used to inform consumers about what CSAs have to offer those who join. Certainly, the offer of fresh, local produce is the component of this venture that first attracts consumer attention. However, the potential to help support local farmers who care about their community is another aspect that appeals to loyal CSA members. This serves as an added benefit for shareholders who desire to become

more involved with this opportunity and actually share in creating a better environment for their families and their community.

Possible CSA Members

A CSA, like any organization or association, will appeal to some consumers but not others. Though not necessarily the rule, potential members may already be involved in the community and have an interest in sustainable food production, farmland preservation, or other environmental causes. Potential members may also be people who are concerned about how food is grown, active at the local level in food production or other activities that affect their community, vegetarians, and have chemical sensitivities.

Unlikely CSA Members

Though this consumer may have the same involvement in local causes, this person may not consume large amounts of produce, may be a picky eater, and may not be receptive to new or unfamiliar greens and vegetables. Other possible differences exist between the two categories. A likely member has been described as being the type of person who is creative with produce and is able to fling open the refrigerator and plan a meal using what is already at hand. An unlikely member would need to look through cookbooks or search the web to find recipes that incorporate various food products. These people may not be able to use all the produce in the share due to lack of knowledge and may leave the CSA if they feel they are wasting food by not eating all of the share's contents. Distributing recipes with their weekly share will assist this type of member.

Recruitment and Retention of CSA Members

Though several methods can be used to attract new members, a common way of promoting a CSA is to post flyers in co-ops, at farmers' markets, churches, environmental clubs or organizations, or at members' worksites. Flyers could announce upcoming informational sessions and include contact information for the CSA farm. If the farmer or other CSA spokesperson speaks at venues where consumers are audience members, an announcement can be made that describes the CSA, where it is located, the website address and contact information, and that the CSA is accepting applications for membership.

More traditional means of promotion can also be used to target potential members. A press release or a short article about the CSA could be submitted to the local or community paper. An opportunity may arise for a CSA representative to be interviewed by a local television reporter about the benefits of buying local produce

and, that by joining a CSA, consumers can be assured that they will receive a consistent supply of produce throughout the growing season.

Social media offers many marketing opportunities for the farmer and the CSA because the likely CSA member probably has a presence on one or several social media sites. This is another method that can be used to keep members informed and updated on current events at the CSA. Be advised that any negative postings will have a major impact on the CSA, so keeping members satisfied is critical if a social media presence is used.

As an incentive to join, potential members could be offered trial shares or discounts based on the number of friends they convince to join the CSA. Another inexpensive way to promote the CSA is to create a logo for the farm and to customize t-shirts and tote bags. These can then be distributed to members. When they wear these items in public, it serves as another way to promote the CSA. Make sure that such items have as much pertinent contact information as possible included. Using quotes (with permission) from satisfied members in advertising is a tool many CSAs could use.

As with any organization or association, it is not only necessary to initially recruit members but also to make an effort to retain them each year. In an effort to retain members, farmers could take certain actions to make them feel like they are a part of the farm by organizing festivals, picking berries, providing input on what crops are produced, giving canning demonstrations, and hosting farm visits for children to learn how the farm operates. If members show an interest in helping with administrative tasks, they could be asked to join the CSA advisory group or to chair a festival or event held at the CSA farm.

Requesting member feedback throughout the season is crucial for a CSA's continued success. By surveying members and asking whether their experience met their expectations, the farmer and core group members can better understand problems members encountered during the season and focus on areas that need improvement. If a suggestion box is available or surveys are distributed regularly during the season, certain changes could be made very quickly. If a survey is not administered until the season's end, the farmer would not be able to implement any changes until the following year. As a result, the CSA risks losing members if their needs are not being met. Retaining members is much easier than recruiting new members each year.

If members do not renew their membership for the following year, they should be contacted to find out why they chose not to renew. Again, this information is very valuable to improving the CSA experience. If the reason they did not renew their membership was in response to an unfavorable experience, the farmer can investigate the situation and make an effort to improve the deficiency.

Members' Expectations and Actual Conditions

It would only be logical for members to expect good, healthy, and, quite possibly, organically grown food in each share. Farmers must realize that even though they have received payment up front, the product they distribute must be of reasonable quality. Although the product often may not be as attractive as produce found in a grocery store, it should compare favorably in taste and quality. Members and growers must realize that the product may have a visual flaw, but it is still good quality. Below are some steps that can be taken to prevent or at least help minimize some common problems that can occur between farmers and shareholders.

POTENTIAL PROBLEM #1

Shareholders complain that vegetables are dirty and have insect damage, or they see insects on the produce.

Potential Solution

Farmers should explain that a reduction in pesticides used on the farm will result in more insects, both pests and beneficials, being visible on their produce. Dirty vegetables are easy to clean, but the CSA may not be able to afford to employ laborers to clean all the produce before it is distributed. A minimum level of washing can solve many of these problems.

POTENTIAL PROBLEM #2

Members are required to work at the farm (certain CSAs require this). They don't express an interest in tasks assigned and would prefer to just purchase produce from the CSA.

Potential Solution

Expectations of members should be stated prior to signing the contract. Members should understand that a work requirement may be used to keep costs low and also to help foster community. Members may take more pride in their work and think differently about vegetables if they are involved in the growing and harvesting process. A multiple-choice question on the contract will allow the farmer to match interests with tasks and skills if members are required to provide work for a reduction in share cost. The option of paying more just to purchase vegetables would be a good option for people who have time constraints or are not interested in working on the farm.

POTENTIAL PROBLEM #3

Members are given vegetables and other products they are not familiar with and don't know how to prepare.

Potential Solution

Farmers should give members a schedule of what produce will be available in the future and a leaflet describing the produce with suggestions on how to use items in food preparation. In addition, recipes for the item can be included in a newsletter or at distribution and farmers can also create cookbooks for purchase.

POTENTIAL PROBLEM #4

Members feel that they are receiving too many vegetables in their share and worry about waste.

Potential Solution

Farmers can suggest that extra vegetables be left in a common area for other members to take, or they can donate the unused vegetables to local food banks or give them to friends and neighbors.

POTENTIAL PROBLEM #5

Members feel disconnected with the farm and have no sense of community.

Potential Solution

Farmers should include information packets about the farm, have core members plan festivals, or request that members work on the farm for a certain number of hours each month to build community.

POTENTIAL PROBLEM #6

Members in northern climates expect certain vegetables (for example, tomatoes and sweet corn) to be included in their early season shares.

Potential Solution

Farmers should create a chart that depicts when the products will be available and distributed to members. Farmers may also want to use season-extending production practices (e.g., floating row covers, plastic mulch, and high tunnels) to produce a limited amount of certain vegetables.

Certain CSAs have a goal of serving a demographically diverse group of members. On first inspection, it may seem that CSAs are only suitable for wealthy consumers due to the price of a share. There is a movement among some CSAs, however, to provide lower-income consumers with the opportunity of joining a CSA. This can be facilitated in several ways:

- Higher income members can choose to support lower income shares by paying more.

- Assistance can be provided by higher income members or church groups.
- Share prices can be reduced for members who work on the farm (be aware that potential low-income members may not have the ability to take time off from work or may have transportation issues).
- Food stamps can be accepted for partial payment of shares (note that food stamp payments can only be made two weeks prior to delivery of food).
- Shares can be donated to a food bank and other emergency food systems.
- Farmers can accept payment on a monthly basis from lower income members.

Distribution

Other than a pickup site at the farm, some CSAs deliver shares to a centralized site that is more convenient for members living far from the farm, such as a farmers' market, church, or community park. Home delivery may also be an option. A CSA can also have an agreement with a local food co-op to serve as an alternative pickup location. Not only is this more convenient for the shareholder, but the food co-op may also benefit from the additional foot traffic.

Whatever option is chosen, the farmer should include the cost of delivery and labor for providing this service in the price of the share, as well as be very specific about the day and time that the delivery will be made and how long CSA employees will remain at the site. If the farmer realizes that members are having difficulty getting there at the predetermined delivery time, the farmer will need to adjust the delivery time or determine if this level of service is actually feasible, knowing the number of employees at the farm and the workload.

Added Benefits

Aside from individual members benefiting from their interaction with CSAs, there are advantages for other groups as well. With homeschooling serving as an option for many families throughout the United States, CSAs can serve as a destination or outdoor classroom for these children. By coordinating with a local chapter of a homeschooling association, farmers and core group members alike can introduce students to how a CSA farm operates, the role of the farm in the community, and volunteer opportunities at the farm.

Though members may be well aware of what their CSA offers, many CSAs strive to inform the public about the cost of food production, processing, packaging, transportation, and waste disposal/recycling. Some CSA

growers believe that if the community is involved with planning, planting, harvesting, and packaging the crops, then they will be more likely to support such an effort. When they put time and energy into a project that they feel benefits the environment, it may encourage them to become active members.

CSAs provide consumers with a valuable opportunity to obtain fresh, local produce from farmers who enjoy growing food for people in their communities. Understanding who is likely to join a CSA from both the farmer's and consumer's perspective is invaluable to both parties and helps ensure a positive relationship. When potential CSA members are aware of what is required of them in addition to their cost for the share, they can better determine whether this opportunity truly meets their needs. A simple contract should be developed by the farmer in consultation with an attorney that outlines these expectations, as well as opportunities and the rewards they receive each week in their share.

CSA Member Contract

A member's contract should include the following:

1. Name and contact information for the CSA
2. The member's name and contact information
3. Signature line with a declaration that states, by signing, the member understands that they have read and agree with the contents of the contract (also include what will happen if the farmer or member breaks the contract)

Other information should be included such as the cost and type of share offered (summer and/or winter). In addition, members should be given options as to when the money for the share is due, if a payment plan is available, and in what form the member will make the payment. If volunteer hours are required, a list of possible tasks should be included along with the number of hours members need to contribute each week, so that members can choose and schedule their tasks when they submit the contract and payment. The contract should also include a clause what is expected in the event of a crop failure, including how the farmer will address the failure to deliver goods.

Risk Management

As with any new venture, you should create a business plan or update your current plan. More information concerning business planning can be found in *Agricultural Alternatives: Developing a Business Plan*. You should also discuss (in detail) your plans with your attorney and insurance provider. You may be required to purchase

workers' compensation insurance and increase your product liability insurance. Your current business structure may also need to be revised to accommodate the additional risk of having the public visiting or working on your farm.

You should consider several risk management strategies for your operation. First, it is important that you insure your facilities and equipment. This may be accomplished by consulting your insurance agent or broker. Second, you may want to insure your income through a crop insurance program called AGR-Lite. To use AGR-Lite you must have 5 years of Internal Revenue Service (IRS) Schedule F forms. If your business structure is either a C or an S corporation, the necessary information can be entered into a Schedule F for crop insurance purposes. You can then contact an agent who sells crop insurance and insure the income of your operation. For more on agricultural business insurance, see *Agricultural Alternatives: Agricultural Business Insurance*. For more information concerning crop insurance, contact a crop insurance agent or check the Pennsylvania crop insurance education website at extension.psu.edu/crop-insurance.

Good Agricultural Practices and Good Handling Practices

Good Agricultural Practices (GAPs) and Good Handling Practices (GHPs) are voluntary programs that you may wish to consider for your operation. The idea behind these programs is to ensure a safer food system by reducing the chances for foodborne illnesses resulting from contaminated products reaching consumers. Also, several major food distribution chains are beginning to require GAPs- and GHPs-certified products from their producers. These programs set standards for worker hygiene, use of manure, and water supply quality.

These handling practices require an inspection from your state Department of Agriculture (or other third party in your State) and there are fees associated with the inspection. Prior to an inspection, you will need to develop and implement a food safety plan and designate a member of your team to oversee this plan. You will need to have any water supply used by your workers or for crop irrigation and pesticide application checked at least twice each year. A checklist of the questions to be asked during the inspection can be found at www.ams.usda.gov/fv/gapghp.htm. For more information about GAPs and GHPs, contact your local extension office or your Department of Agriculture.

Environmental Regulations

All agricultural operations in Pennsylvania, including small-scale and part-time farming enterprises, operate under the Pennsylvania Clean Streams Law. A specific part of this law is the Nutrient Management Act. Portions of the act may or may not pertain to your operation, depending on whether you have livestock on your farm. However, all operations may be a source of surface water or groundwater pollution. Because of this possibility, you should contact your local Soil and Water Conservation District to determine what regulations may pertain to your operation.

For More Information

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Appendix 5.U - Riparian Buffer Plantings

TREES

| | Ecological Benefits | Description/Habitat | Site Conditions | Characteristics |
|--|--|---|---|--|
| Black Willow <i>Salix nigra</i> | Supports native pollinators, twigs eaten by larger mammals Fibrous root system and tolerance of wet conditions prevent stream banks from eroding. | Deciduous lowland tree, grows in moist and saturated soils along streams, rivers and other floodplain or wetland areas. Easy to establish from cuttings. | Soil pH: 5.0-8.0 Type: Clay, loam, sand Moisture: Moist-Wet Light: ☀️☀️● | Flowers: Male and Female greenish catkins, Apr-Jun Fruit: Seeds, after 10 yrs Fall Color: Insignificant Height: 10'-40' |
| Red Maple <i>Acer rubrum</i> | Early flowering time supports native pollinators in the spring and the seeds and twigs are eaten by birds and mammals. It is often used in site rehabilitation | Maples are very adaptable, living in swamps and drier upland areas. The bright-red fall color is aesthetically pleasing. | Soil pH: 5.5-7.0 Type: Clay, loam, sand Moisture: Moist-Wet Light: ☀️☀️● | Flowers: Red rarely yellow, Mar-May Fruit: Red, winged seeds, May-Jul Fall Color: True to its name, leaves turn bright red Height: 20'-40' |
| Silver Maple <i>Acer saccharinum</i> | Provide seeds and nesting sites for birds, early pollen producer. Rapid growth makes it beneficial in reclamation areas, but may shade out other species. | Lowland riparian tree, lives in well-drained, moist soils in floodplains and along water sources. Feathery canopy appearance. Subject to breakage. | Soil pH: 5.5-7.0 Type: Clay, loam, sand Moisture: Moist-Wet Light: ☀️☀️● | Flowers: Greenish/reddish, short clusters, Feb-May Fruit: Winged seeds Apr-Jun Fall Color: Pale yellow Height: 40'-60' |
| American Sycamore <i>Platanus occidentalis</i> | Animals eat twigs, cavities provide shelter, shade Good for rehabilitating sites with saturated soils, may shade out smaller species | Large, fast growing trees, with an open, irregular crown and distinguishing bark. They tolerate a range of conditions, mainly growing around rivers and lakes | Soil pH: 5.0-6.5 Type: Loam, sand Moisture: Moist-Wet Light: ☀️☀️● | Flowers: Small, brown globe heads Apr-Jun Fruit: Small, hairy, Oct-winter, available for animals Fall Color: Yellowish brown Height: 50'-130' |
| Tulip Poplar <i>Liriodendron tulipifera</i> | Provides pollen for native insects and fruits and twigs for mammals Often planted in restoration but shouldn't be overused since rapid growth pushes out other plants | Known for its fast, straight growth and the attractive, tulip-like flowers. It grows best in lowland areas with well-drained, loose texture soils. | Soil pH: 4.5-7.5 Type: Loam, sand Moisture: Moist Light: ☀️☀️● | Flowers: Orange/green, tulip-like, very show and fragrant, May-Jun. Fruit: Slim, Sept-Oct Fall Color: Golden yellow Height: 70'-100' |
| Swamp White Oak <i>Quercus bicolor</i> | Provides shelter and shade, as well as food (acorns) for animals, very valuable for wildlife | Swamp white oaks are large deciduous trees. Leaves feature two-toned color on the top and bottom*. They live in swamps and along stream edges. | Soil pH: 4.3-6.5 Type: Clay, loam, sand Moisture: Moist-Wet Light: ☀️☀️● | Flowers: Catkins, male(red), female (green/yellow), Mar-May Fruit: Acorns, fall Fall Color: Gold brown/red Height: 60'-70' |
| Yellow Birch <i>Betula alleghaniensis</i> | Provides food and shelter for songbirds Commonly used riparian tree enjoy wetter conditions and grow fairly rapidly | Displaying beautiful fall color, yellow birch is a tree with attractive, papery bark and open canopy. Lives along streams, ponds, rivers, and swamps | Soil pH: 4.0-8.0 Type: Clay, loam Moisture: Moist-Wet Light: ☀️● | Flowers: Yellow Green, Apr-May Fruit: Green to tan, cone-like, July-Oct Fall Color: Yellow Height: 60'-80' |

☀️ Full sun
☀️● Partial sun
● Full shade

SHRUBS

| | Ecological Benefits | Description/Habitat | Site Conditions | Characteristics |
|---|--|---|---|---|
| Buttonbush <i>Cephaelanthus occidentalis</i> | Provides for native insects and pollinators. They are good for erosion control along stream banks. | Button bush is a small to medium-sized shrub, growing in marshes, forest wetlands, and along bodies of fresh water. Can grow in shade but needs sun to flower | Soil pH: 6.1-8.5 Type: Clay, loam, sand Moisture: Moist-Wet Light: ☀️☀️● | Flowers: Distinctive dense, round clusters of white flowers, Jul-Aug Fruit: Green/brown, Sep-Jan Fall Color: Insignificant Height: 3'-10' |
| Northern Spicebush <i>Lindera benzoin</i> | Food for birds and butterflies, all parts are edible and aromatic leaves and berries can be used to make tea | The spicebush grows in forested areas, along streams and in floodplains | Soil pH: 4.5-6.5 Type: Clay, loam, sand Moisture: Moist-Wet Light: ☀️● | Flowers: Small and yellow, before leaves, Mar-May Fruit: Bright red berries, Sep-Oct Fall Color: Golden-yellow Height: 3'-15' |
| Red-Osier Dogwood <i>Cornus sericea</i> | Wildlife eat twigs and the fruit are eaten by birds. The shrubby, multi-stemmed structure provides great nesting sites for birds and small mammals. (Can also be used in Zone 3) | Red Osier dogwoods are shrubby lowland plants know for their bright red stems | Soil pH: 4.5-6.0 Type: Clay, loam, sand Moisture: Moist-Wet Light: ☀️● | Flowers: White, flat-topped clusters May-Aug Fruit: White, Jul-Oct Fall Color: Reddish green with bright red stems that add color in winter Height: To 10' |
| Silky Dogwood <i>Cornus amomum</i> | Provides for songbirds, waterfowl, and mammals. (Can also be used in Zone 3) | Shrubby dogwood that likes forested wetlands, stream and pond banks | Soil pH: 4.5-6.0 Type: Clay, loam, sand Moisture: Moist-Wet Light: ☀️● | Flowers: White, flat-topped clusters May-Aug Fruit: White, Jul-Oct Fall Color: Reddish green with bright red stems that add color in winter Height: To 10' |
| Swamp Rose <i>Rosa palustris</i> | Edible fruit provides for song birds, small mammals and insects | This thorny plant tolerates flooding. Its showy flowers are aesthetically pleasing. | Soil pH: 4.0-7.0 Type: Clay, loam Moisture: Moist-Wet Light: ☀️☀️● | Flowers: Pink, Jun-Aug Fruit: Red berry, Jul-Mar Fall Color: Height: 8' |
| Southern Arrowwood <i>Viburnum dentatum (V. recognitum)</i> | Dark berries attract birds and small mammals like chipmunks | Densely leaved and often used in landscaping, due to its form. Straight stems, nice structure in winter. Likes wooded floodplains and stream banks with loamy soil. | Soil pH: 5.1-6.5 Type: Clay, loam, sand Moisture: Dry-Wet Light: ☀️☀️● | Flowers: White, May-Jun Fruit: Blue/black berry, Sep-Nov Fall Color: Reddish purple Height: 10'-15' |
| Winterberry Holly <i>Ilex verticillata</i> | Although poisonous to humans, berries provide food for birds and mammals in winter | Thrives in fresh tidal and shrub swamps and forested wetlands | Soil pH: 4.3-6.5 Type: Clay, loam, sand Moisture: Moist-Wet Light: ☀️☀️● | Flowers: Greenish white, Jun-Jul Fruit: Red berries, Aug-Feb, persist into winter Fall Color: Yellow, brown Height: 6'-12' |

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These are also great places to find more information on the listed native species!

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A SHORT LIST OF SUGGESTED BUFFER PLANTS

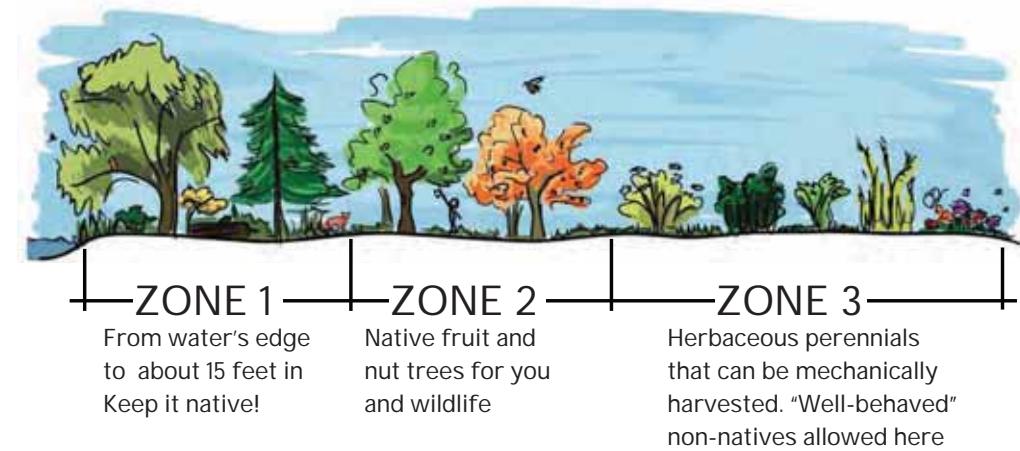
ZONE 1

A native riparian forested area planted with trees and shrubs offers long-term stream and watershed health



Of course, some maintenance is involved (like removing invasives). However, there's no harvesting of products in this zone since it's crucial in providing for your **growing** ecosystem! Functions of this zone include bank stabilization, slowing down runoff, encouraging more infiltration, and providing food, shelter, and shade for the local wildlife, fish, and beneficial insects. This zone is also a future source of large woody material for stream habitat.

If you need to use chemicals such as herbicide or pesticides, be purposeful in selection and application. Use "aquatic rated" kinds to prevent damaging aquatic life.



TREES

| | Ecological/ Human Benefits | Potential Products/Income | Habitat/ Site Conditions | Description/ Characteristics |
|--|---|---|--|---|
| Black Walnut  | <i>Juglans nigra</i> The black walnut provides edible nuts for human and animals as well as lumber as a long-term product. | Nutmegs, shells, oils, syrup In shell-\$9.25/lb. Shelled-\$12/lb. Mature trees produce 6,000 lb nuts/acre/year x 10\$/lb=\$60,000/acre/year | Soil pH: 5.5-8.0 Type: Clay, loam, sand Moisture: Moist-Wet Light: ☀ Wet, riparian soils and should be planted near species that are juglone tolerant* | Coarse, sharp-looking branches, spreading head Flowers: Catkins, Apr-Jun Fruit: Nut, large spherical husk, Oct-Nov Fall Color: First to drop leaves and last to leaf out Height: 70'-100' |
| Sweet Crab Apple  | <i>Malus coronaria</i> Fleshy fruits are too sour for people to eat raw but provide food for wildlife and attracts pollinators. The tangling branches provide nesting sites for birds. | Varied production, 6bushels of apples/tree and 100 trees/acre, \$30/bushel, \$18,000 per acre | Soil pH: 6.0-7.5 Type: Clay, loam, sand Moisture: Moist-Wet Light: ☀ Forest edges, rock streams and fields | Broad, irregular crown, occasionally multi-trunked Flowers: Pink, highly fragrant April to May Fruit: Yellow/green Sep-Nov Fall Color: Yellow/red Height: 15'-30' |
| Pawpaw  | <i>Asimina triloba</i> Fruit eaten by mammals. Although native, it tastes "tropical" with a custard-y texture, and is eaten fresh or used in desserts. | Fresh fruit: \$2/lb wholesale, \$3+/lb retail Frozen Pulp: \$6/lb retail Jam: \$6/6oz jar retail | Soil pH: 5.0-7.0 Type: Clay, loam, sand Moisture: Moist-Wet Light: ☀ Grows in depressional areas with rich, moist soil | Tree with large leaves and a full, egg-shaped head Flowers: Purple, Apr-May Fruit: Yellow/green stubby bananas, Aug-Oct Fall Color: Yellow-red Height: to 10' |
| Persimmon  | <i>Diospyros virginiana</i> Fruit eaten by almost all birds and mammals, as well as humans | Fresh-\$2.75/lb retail, frozen-\$8+/lb retail, dried-\$1+/lb retail, \$4,125/acre estimate using \$2.75/lb | Soil pH: 5.0-7.0 Type: Clay, loam, sand Moisture: Moist-Wet Light: ☀ Grows in dry to moist soils and prefers drier, open areas | Small tree Flowers: Yellowish, May-Jun Fruit: Orange, size of a large cherry, Aug-Oct Fall Color: Orange/yellow Height: 30'-50' |
| Downy Service Berry  | <i>Amelanchier arborea</i> Food for birds and mammals, fruits are eaten by over 50 species of wildlife. Berries can also be used for making jam if the birds haven't eaten them all. | Est. \$15,000/acre for berries | Soil pH: 4.5-7.0 Type: Clay, loam, sand Moisture: Moist-Wet Light: ☀ Wooded areas with moist, well-drained soils, tolerates drier conditions | Medium-sized tree or multi-trunked shrub, open canopy Flowers: White clusters, Mar-June Fruit: Red berries, June Fall Color: orange/gold and red/green Height: 15'-25' |

 Full sun  Partial sun  Full shade

SHRUBS

| | Ecological/ Human Benefits | Potential Products/Income | Habitat/ Site Conditions | Description/ Characteristics |
|---|---|---|--|--|
| Black Raspberry  | <i>Rubus occidentalis</i> A brambly, native shrub that produces black raspberry fruits for people to eat, as well as the wildlife. The brambles also provides nesting sites for small mammals and birds. | Harvested: \$1.50-3.50/pint; Pick-your-own-\$3-\$5/lb Net return varies widely, up to \$27,000/acre depending on yield and price/acre | Soil pH: 6.8 Or less Type: Clay, loam, sand Moisture: Moist-Wet Light: ☀ Likes sandy, moist or dry soils that are slightly acidic, along stream banks | Brambly, stemming shrub with purplish stems and thorns Flowers: March to June Fruit: Black berries, June to August Fall Color: Insignificant Height: To 6' |
| Common Elderberry  | <i>Sambucus canadensis</i> A native shrub provides fruit for wildlife and helps with erosion control along stream banks. Considered "Nature's Medicine Chest" | Juice: \$15-\$17/1oz jar Syrup: \$18/4oz jar retail Wine \$10-\$13/bottle Cough Drops: \$2.50/15 retail | Soil pH: 5.0-7.0 Type: Clay, loam, sand Moisture: Moist-Wet Light: ☀ Tolerant of a range of conditions, prune heavily in winter to maintain thick form | Large, dense, and fast-growing, attractive flowers Flowers: White, flat-topped, June-July Fruit: Purple/black, Aug-Oct Fall Color: Insignificant Height: 3'-13' |
| Black Chokeberry  | <i>Aronia melanocarpa</i> Small tree or shrub that provides food for birds and mammals | Possible \$10-\$12/lb (mid-west Iowa markets) \$0.50-\$1.25/lb shipping to value-added producers | Soil pH: 6.5-8.0 Type: Clay, loam, sand Moisture: Moist-Wet Light: ☀ Lowland woods, swamps, bogs, moist thickets | Upright, spreading deciduous shrub, attractive flowers Flowers: White, flat-topped, May Fruit: Berries, black, summer/fall Fall Color: Crimson Height: 3'-6' |
| Highbush Blueberry  | <i>Vaccinium corymbosum</i> A native shrub that provides fruit for birds and mammals. Potential products are raw fruit and jams. | \$2-\$5/pint (\$3,000-\$18,000/acre, depending on pints/acre) \$.65-\$1.50/lb to processor | Soil pH: 4.5-7.5 Type: Clay, loam, sand Moisture: Moist-Wet Light: ☀ Forested wetlands, swamps, bogs, rock outcroppings | Twiggly, thicket-forming shrub with nice fall color Flowers: May-June Fruit: Blue/black berries Jun-Sept Fall Color: Bright red Height: To 12' |
| American Hazelnut  | <i>Corylus americana</i> Nuts are great source of income. Provide a great source of fiber, sold in the shell or shelled, or made into flours, candies, butters, and oils | In-shell: \$3/lb wholesale Shelled: \$6/8oz retail Oils \$8/8oz jar retail | Soil pH: 5.5-7.0 Type: Clay, loam, sand Moisture: Moist-Wet Light: ☀ Rich, well-drained soils, forests, disturbed areas | Dense, deciduous shrub with one main stem, thicket-forming Flowers: May-June Fruit: Nuts, ragged husk, Jul-Sept Fall Color: Bright yellow to deep red Height: To 10' |
| Beach Plum  | <i>Prunus maritima</i> Marsh | Require cross-pollination, used in jams and sold at farmers markets | Frozen or whole: \$6/lb Fruit must be cleaned | Low, spreading, and scraggly shrub or tree Flowers: White, May Fruit: Purple, Aug-Sep Fall Color: Red/orange Height: To 5' |

SOURCES

Information Sources:

<http://www.wildflower.org/plants>
<http://plants.usda.gov/>
Trees and shrubs George A. Petrides
DEP riparian buffer guide 2010
Native Plans for Wildlife Habitat and Conservation Landscaping: Chesapeake Bay Watershed. US Fish and Wildlife Service & Chesapeake Bay Foundation office
<http://www.missouribotanicalgarden.org/PlantFinder>
<https://www.arborday.org/TREES/treeguide>

These are also great places to find more information on the listed native species!

Picture Sources:

(a is top picture, b is bottom picture)

Black Walnut
a http://herbarium.desu.edu/arboretum/scientific_names/Juglans_nigra/index.html
b http://www.florafinder.com/Species/Juglans_nigra.php
Sweet Crab Apple
a <https://redslipperdairy.wordpress.com/2010/03/19/lovely-spring/>
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b <http://www.photorobg.com/photos/plants/wildedible/photo154elderberry.html>
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a https://en.wikipedia.org/wiki/Vaccinium_corymbosum
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a http://www.treetopics.com/corylus_americana/comprframe.htm
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A SHORT LIST OF SUGGESTED BUFFER PLANTS

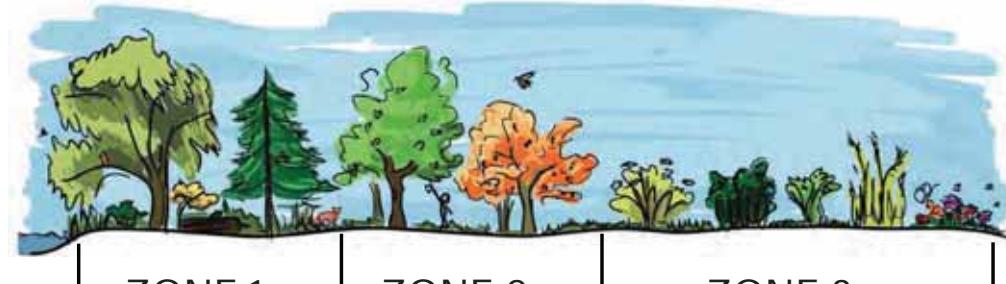
ZONE 2

An area planted with native fruit and nut trees for harvesting, selling, and personal consumption



Incorporating edibles into your buffer really increases the benefits of planting one. Not only do fruit and nut trees provide people with home-grown food, but these lovely natives will attract plenty of wildlife. Using these suggested plant species and others, you can customize your buffer to fit your needs AND improve water quality and wildlife habitat!

Of course, maintenance is essential to ensuring your trees are yielding maximumly so the use of aquatic and environmentally safe pesticides, herbicides, and fertilizers may be used. Using chemicals that pollute the waterways **counteracts** the purpose of the buffer, so think before you apply.



ZONE 1

From water's edge
to about 15 feet in
Keep it native!

ZONE 2

Native fruit and
nut trees for you
and wildlife

ZONE 3

Herbaceous perennials
that can be mechanically
harvested. "Well-behaved"
non-natives allowed here

TREES & SHRUBS

| | Ecological Benefits/ Potential products | Description/Habitat | Site Conditions | Characteristics |
|--|---|---|---|--|
| Witch Hazel  | <i>Hamamelis virginiana</i> A small tree or shrub. Game birds and mammals eat the twigs, buds and leaves. Has medicinal purposes. Woody floral* | Noted for fall/winter bloom. Witch hazel is shade tolerant, growing in rich, well-drained acidic soils. It is often multi-trunked with an open crown. | Soil pH: 5.5-6.5 Type: Clay, loam, sand Moisture: Dry-Moist Light:  | Flowers: Yellow, Sept-Dec Fruit: Tan capsule, Oct-Nov Fall Color: Golden Height: 15'-30' |
| Pussy Willow  | <i>Salix discolor</i> Eaten by wildlife, but is well-known for its fuzzy catkins which are often cut and sold on the floral market. Woody floral* | Small ornamental tree or shrub with upright, spreading stems. Grows in full sun in damp lowlands, short-lived but fast growing. | Soil pH: Acidic Type: Clay, loam, sand Moisture: Moist-Wet Light:  | Flowers: Fuzzy catkins, aesthetically pleasing, Feb-May Fruit: Brown Fall Color: Not notable Height: 15'-25' |
| Curly Willow  | <i>Salix mustardana</i> The curly willow provides twigs for animals to eat, "curled" branches are aesthetically pleasing and can cut and sold. Woody floral* | Small ornamental with interesting branching tree grows in wetter conditions | Soil pH: Type: Clay, loam, sand Moisture: Moist-Wet Light:  | Flowers: Yellow Fruit: Fall Color: Golden Height: To 30' |
| Hops (Hoptree)  | <i>Ptelea trifoliata</i> The Hoptree provides sweet nectar for native bees and butterflies and seeds for birds and mammals. Its fruit is available through the winter. The seed can be used to replace hops in beer. | The tree tolerates a range of soil conditions, often growing in gravelly or sandy soils with a near neutral pH in full sun to full shade. | Soil pH: Type: Clay, loam, sand Moisture: Dry-Moist Light:  | Flowers: Small, green clusters, May-Jun Fruit: Flat, circular, papery, Sept-spring Fall Color: Yellow Height: 10'-20' |
| Flowering Quince  | <i>Chaenomeles speciosa</i> A non-native flowering shrub that attracts wildlife like rabbits and humming birds. Woody floral. | Small, multi-stemmed shrub with showy flowers, very aesthetically pleasing in a hedge row. Is not picky about soil but requires full sun | Soil pH: Wide range Type: Wide range Moisture: Wide range Light:  | Flowers: Showy, red, March (before leaves) Fruit: Yellow/green, fall Fall Color: Height: 6'-10' |
| Chinese Chestnut  | Provides nuts and shelter for wildlife, as well as shade. Potential, unidentified market for nuts which can also be eaten by humans | A medium-sized, wide spreading tree with dense shade. Grows in moist, well-drained soils. Resistant to the Chestnut blight | Soil pH: Slightly acidic Type: Clay, loam, sand Moisture: Dry-Moist Light:  | Flowers: yellow/white catkins Fruit: Nut in husk, Sep-Oct Fall Color: Height: 40'-60' |
| American Holly  | <i>Ilex opaca</i> This iconic evergreen tree provides winter berries that are mostly eaten by song birds. Woody floral* | The aesthetically pleasing tree has notable, prickly leaves. It enjoys growing in sandy wooded areas. | Soil pH: 4.0-7.5 Type: Clay, loam Moisture: Moist Light:  | Flowers: White, May-Jun Fruit: Red berries Fall Color: Evergreen Height: 15'-50' |

 Full sun  Partial sun  Full shade

TREES & SHRUBS

| | Ecological Benefits/ Potential products | Description/Habitat | Site Conditions | Characteristics |
|---|---|--|---|---|
| Wild Hydrangea  | <i>Hydrangea arborescens</i> A plant grown for aroma and aesthetics, but is also beneficial for pollinators and insects. Woody floral* | Wild hydrangeas are a fast-growing, short-lived understory shrub with showy flowers. Its natural habitat is on rocky banks and ravines | Soil pH: 6.1-8.5 Type: Loam, sand Moisture: Moist Light:  | Flowers: Green/white, Jun-Aug Fruit: Brown, late summer Fall Color: Insignificant Height: 3'-6' |
| Red-Osier Dogwood  | <i>Cornus sericea</i> Wildlife eat twigs and the fruit are eaten by birds. Attracts pollinators. The shrubby, nesting Woody floral* | Shrubby, multi-stemmed lowland plants with showy flowers and fruit Yellow Twig Dogwood <i>Cornus sericea "Flaviramea"</i> Similar to Red-Osier but with bright yellow stems | Soil pH: 4.5-6.0 Type: Clay, loam, sand Moisture: Moist-Wet Light:  | Flowers: White, flat-topped clusters May-Aug Fruit: White, Jul-Oct Fall Color: Reddish green, bright red stems add color in winter Height: To 10' |
| Silky Dogwood  | <i>Cornus amomum</i> Provides for songbirds, waterfowl, and mammals. (Can also be used in Zone 1) | Shrubby dogwood that likes forested wetlands, stream and pond banks | Soil pH: 4.5-6.0 Type: Clay, loam, sand Moisture: Moist-Wet Light:  | Flowers: White, flat-topped clusters May-Aug Fruit: White, Jul-Oct Fall Color: Reddish green with bright red stems that add color in winter Height: To 10' |
| Highbush Blueberry  | <i>Vaccinium corymbosum</i> A native shrub that provides fruit for birds and mammals. Potential products are raw fruit and jams. | \$2-\$5/pint (\$3,000-\$18,000/acre, depending on pints/acre) \$65-\$150/lb to processor | Soil pH: 4.5-7.5 Type: Clay, loam, sand Moisture: Moist-Wet Light:  | Twiggly, thicket-forming shrub with nice fall color Flowers: May-June Fruit: Blue/black berries Jun-Sep Fall Color: Bright red Height: To 12' |

*Woody florals
Cuttings can be taken every 2-3 years and sold to the floral/crafts industry

Cuttings: \$0.37-\$0.45/stem retail
Wreaths: \$45+ each retail

HERBACEOUS PLANTS

| | | | | |
|---|--|--|---|---|
| Canada Mayflower  | <i>Maianthemum canadense</i> A small, perennial understory plant that grows in northern forests | Flowers: White clusters, Spring-Summer Fruit: Red berries Height: 2-6" | Bee Balm  | Flowers: Dense head with red bracts, Jul-Sep Fruit: nut-like Height: 1-5' |
| Cardinal Flower  | <i>Lobelia cardinalis</i> Aesthetic plant that grows on stream banks and damp meadows, attracts pollinators and hummingbirds, biennial must be reseeded | Flowers: Scarlet, Jul-Oct Fruit: Height: 2-5' | Native Wildflowers and Grasses  | A band of native flowers and grasses can be a first line of defense in "buffering" the effects of runoff. They can be planted for aesthetics and to attract wildlife and pollinators. Native Milkweed varieties (pictured) in particular, provide food and shelter for Monarch butterflies. |
| Common Milkweed  | <i>Asclepias syriaca</i> | | | |

SOURCES

Information Sources:

<http://www.wildflower.org/plants>
<http://plants.usda.gov/>
Trees and shrubs George A. Petrides
DEP riparian buffer guide 2010
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<https://www.arborday.org/TREES/treeguide>

These are also great places to find more information on the listed native species!

Picture Sources:

(a is top or left picture, b is bottom or right)

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A SHORT LIST OF SUGGESTED BUFFER PLANTS

ZONE 3

The “working” part of your buffer, allowing mechanical harvesting and planting of your crops



This zone offers the most flexibility in what you want to plant and how you want to maintain and harvest your crops. Species planted here can be edibles, biomass crops, plants providing wildlife benefits, industrial uses, or just for aesthetic beauty. Lower-growing grasses and wildflowers can attract a variety of native pollinators.

As always, use chemicals carefully and don't use anything that will pollute the water.

Planting non-native species may be considered but have a plan to control its spread and prevent it from becoming invasive.



ZONE 1

From water's edge
to about 15 feet in
Keep it native!

ZONE 2

Native fruit and
nut trees for you
and wildlife

ZONE 3

Herbaceous perennials
that can be mechanically
harvested. “Well-behaved”
non-natives allowed here

BMP 6.7.2: Landscape Restoration



Landscape Restoration is the general term used for actively sustainable landscaping practices that are implemented outside of riparian (or other specially protected) buffer areas. Landscape Restoration includes the restoration of forest (i.e. reforestation) and/or meadow and the conversion of turf to meadow. In a truly sustainable site design process, this BMP should be considered only after the areas of development that require landscaping and/or revegetation are minimized. The remaining areas that do require landscaping and/or revegetation should be driven by the selection and use of vegetation (i.e., native species) that does not require significant chemical maintenance by fertilizers, herbicides, and pesticides..

- Minimize traditional turf lawn area
- Maximize landscape restoration area planted with native vegetation
- Protect landscape restoration area during construction
- Prevent post-construction erosion through adequate stabilization
- Minimize fertilizer and chemical-based pest control programs
- Creates and maintains porous surface and healthy soil.
- Minimize mowing (two times per year)
- Reduced maintenance cost compared to lawn

Commercial: Yes
Ultra Urban: Limited
Industrial: Yes
Retrofit: Yes
Highway/Road: Yes

Stormwater Functions

Volume Reduction: Low/Med.
Recharge: Low/Med.
Peak Rate Control: Low/Med.
Water Quality: Very High

Water Quality Functions

TSS: 85%
TP: 85%
NO₃: 50%

Other Considerations

- Soil investigation recommended
- Soil restoration may be necessary

Description

In an integrated stormwater management plan, the landscape is a vital factor, not only in sustaining the aesthetic and functional resources of a site, but also in mitigating the volume and rate of stormwater runoff.

Sustainable landscaping, or Landscape Restoration, is an effective method of improving the quality of site runoff. This often overlooked BMP includes the restoration of forest and/or meadow or the conversion of turf to meadow.

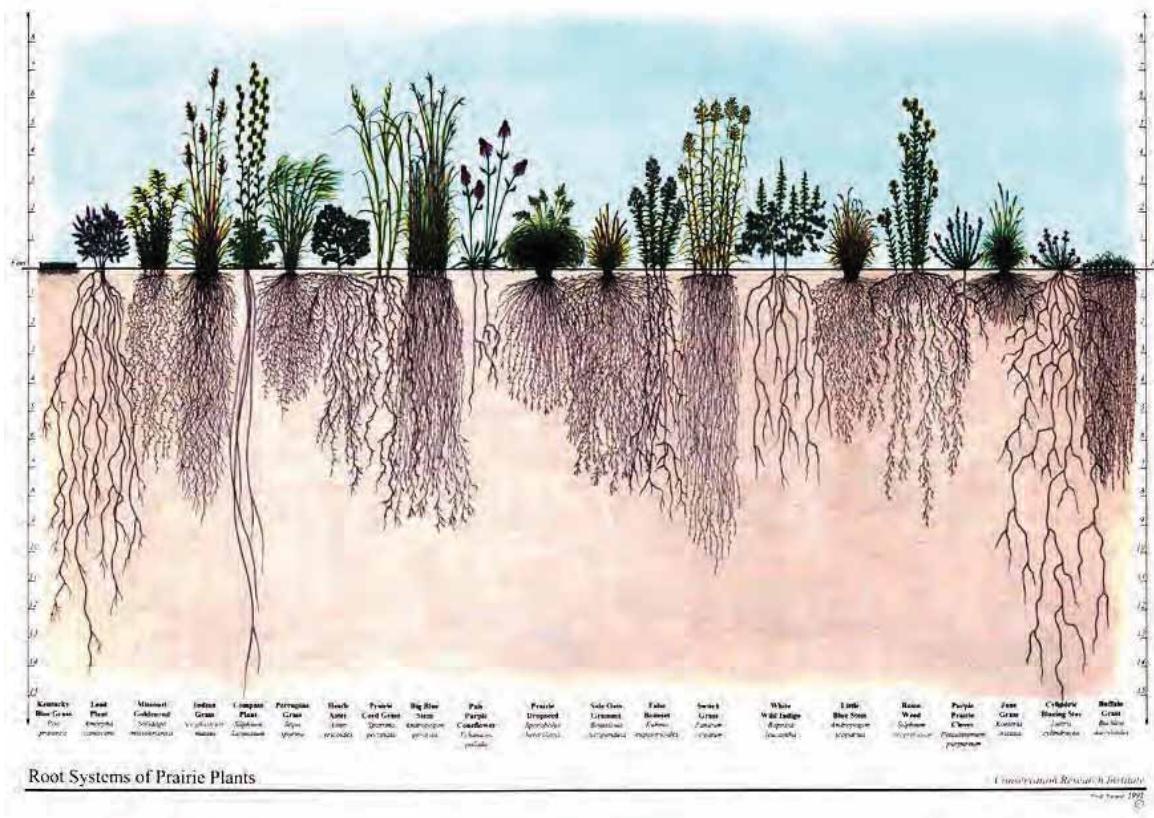


Landscape Restoration involves the careful selection and use of vegetation that does not require significant chemical maintenance by fertilizers, herbicides and pesticides. Implicit in this BMP is the assumption that native species have the greatest tolerance and resistance to pests and require less fertilization and chemical application than do nonnative species. Furthermore, since native grasses and other herbaceous materials often require less intensive maintenance efforts (i.e. mowing or trimming), their implementation on a site results in less biomass produced.

Native species are customarily strong growers with stronger and denser root and stem systems, thereby generating less runoff. If the objective is revegetation with woodland species, the longer-term effect is a significant reduction in runoff volumes, with increases in infiltration, evapotranspiration, and recharge, when contrasted with a conventional lawn planting. Peak rate reduction also is achieved. Similarly, meadow reestablishment is also more beneficial than a conventional lawn planting, although not so much as the woodland landscape. Again, these benefits are long term in nature and will not be forthcoming until the species have had an opportunity to grow and mature (one advantage of the meadow is that this maturation process requires considerably less time than a woodland area). Native grasses also tend to have substantially deeper roots and more root mass than turf grasses, which results in:

- A greater volume of water uptake (evapotranspiration)
- Improved soil conditions through organic material and macropore formation
- Provide for greater infiltration

Landscape architects specializing in the local plant community are usually able to identify a variety of species that meet these criteria. Other sources of advice may be county conservation districts, watershed associations and other conservation groups. As the selection of such materials begins at the conceptual design stage, where lawns are eliminated or avoided altogether and landscaping species selected, Landscape Restoration can generally result in a site with reduced runoff volume and rate, as well as significant nonpoint source load reduction/prevention.



Landscape Restoration can improve water quality by minimizing application of fertilizers and pesticides/herbicides. Given the high rates of chemical application which have been documented at newly created lawns for both residential and nonresidential land uses, eliminating the need for chemical application is important for water quality. Of special importance here is the reduction in fertilization and nitrate loadings. For example, Delaware's *Conservation Design for Stormwater Management* lists multiple studies that document high fertilizer application rates, including both nitrogen and phosphorus, in newly created landscapes in residential and nonresidential land developments. Expansive lawn areas in low density single-family residential subdivisions as well as large office parks typically receives intensive chemical application, both fertilization and pest control, which can exceed application rates being applied to agricultural fields. Avoidance of this nonpoint pollutant source is an important water quality objective.

Variations

- Meadow
- No-mow lawn area
- Woodland restoration
- Removal of existing lawn to reduce runoff volume
- Buffers between lawn areas and wetlands or stream corridors
- Replacement of "wet" lawn areas difficult to mow
- Replacement of hard to maintain lawns under mature trees

Applications

- Forested Landscape/Restoration
- Suburban / Developing Landscape
- Urban Landscape
- Meadow Restoration
- Conversion of Turf to Meadow

Design Considerations

1. The recommended guidelines for Landscape Restoration are very closely related to those of Riparian Buffer Restoration (RBR) (BMP 6.7.1). Specifically, Landscape Restoration overlaps with the guidelines for Zones 2 and 3 in typical RBR. As with RBR, it is essential for successful Landscape Restoration that site conditions be well understood, objectives of the landowner considered, and the appropriate plants chosen for the site. These are all tasks that should be completed in the early planning stages of a project. For a summary of the nine steps recommended for the planning stages of a restoration project, see BMP 6.7.1- Riparian Buffer Restoration. Included in this nine-step process are: analysis of site soils/natural vegetative features/habitat significance/topography/etc., determination of restoration suitability, and site preparation.
2. In those sites where soils have been disturbed or determined inadequate for restoration (based on analysis), soil amendments are needed. Soil amendment and restoration is the process of restoring compromised soils by subsoiling and/or adding a soil amendment, such as compost, for the purpose of reestablishing its long-term capacity for infiltration and pollution removal. For more information on restoring soils, see BMP 6.7.3 Soil Amendments and Restoration.
3. “Native species” is a broad term. Different types of native species landscapes may be created, from meadow to woodland areas, obviously requiring different approaches to planting. A native landscape may take several forms in Pennsylvania, ranging from reestablishment of woodlands with understory plantings to reestablishment of meadow. It should be noted that as native landscapes grow and mature, the positive stormwater benefits relating to volume control and peak rate control increase. So, unlike highly maintained turf lawns, these landscapes become much more effective in reducing runoff volumes and nonpoint source pollutants over time.
4. Minimizing the extent of lawn is one of the easiest and most effective ways of improving water quality. Typical (i.e. compacted) lawns on gentle slopes can produce almost as much runoff as pavement. In contrast to turf, “natural forest soils with similar overall slopes can store up to 50 times more precipitation than neatly graded turf.” (Arendt, Growing Greener, pg. 81) The first step in sustainable site design is to limit the development footprint as much as possible, preserving natural site features, such as vegetation and topography. If lawn areas are desired in certain areas of a site, they should be confined to those areas with slopes less than 6%.



5. Meadow restoration may be used alone or in combination with a forest restoration. The native meadow landscape provides a land management alternative that benefits stormwater management by reducing runoff volume and nonpoint source pollutant transport. Furthermore, meadow landscapes vastly reduce the need for maintenance, as they do not require frequent mowing during the growing season. Because native grasses and flowers are almost exclusively perennials, properly installed meadows are a self-sustaining plant community that will return year after year.

Meadows can be constructed as a substitute to turf on the landscape, or they can be created as a buffer between turf and forest. In either situation, the meadow restoration acts to reduce runoff as well as reduce erosion and sedimentation. Meadow buffers along forests also help reduce off-trail pedestrian traffic in order to avoid creating paths which can further concentrate stormwater.

The challenge in restoring meadow landscapes is a lack of effective establishment and maintenance methods. Native grasses and flowers establish more slowly than weeds and turf grass. Therefore, care must be taken when creating meadow on sites where weed or other vegetative communities are well established. It may take a year or more to prepare the site and to get weeds under control before planting. Erosion prone sites should be planted with a nurse crop (such as annual rye) for quick vegetation establishment to prevent seed and soil loss. Steep slopes and intermittent water courses should be stabilized with erosion blankets, selected to mitigate expected runoff volumes and velocities. Additionally, seed quality is extremely important to successful establishment. There is tremendous variation among seed suppliers, seeds should be chosen with a minimum percent of non-seed plant parts.

6. Conversion of turf grass areas to meadow is relatively simple and has enormous benefits for stormwater management. Though turf is inexpensive to install, the cost of maintenance to promote an attractive healthy lawn is high (requiring mowing, irrigation, fertilizer, lime and



herbicides) and its effects are detrimental to water quality. Turf areas are good candidates for conversion to meadow as they typically have lower density of weed species. The conversion of turf to meadow requires that all turf be eliminated before planting, and care must be taken to control weed establishment prior to planting.

7. Forest restoration includes planting of appropriate tree species (small saplings) with quick establishment of an appropriate ground cover around the trees in order to stabilize the soil and prevent colonization of invasive species. Reforestation can be combined with other volume control BMPs such as retentive berthing, vegetated filter strips and swales.

Plant selection should mimic the surrounding native vegetation and expand on the native species composition already found on the site. A mixture of native trees and shrubs is recommended and should be planted once a ground cover is established.

8. In terms of woodland areas, DCNR's *Conservation Design for Stormwater Management* states, "...a mixture of young trees and shrubs is recommended.... Tree seedlings from 12 to 18 inches in height can be used, with shrubs at 18 to 24 inches. Once a ground cover crop is established (to offset the need for mowing), trees and shrubs should be planted on 8-foot centers, with a total of approximately 430 trees per acre. Trees should be planted with tree shelters to avoid browse damage in areas with high deer populations, and to encourage more rapid growth." (p.3-50).

Initial watering and weekly watering during dry periods may be necessary during the first growing season. As tree species grow larger, both shrubs and ground covers recede and yield to the more dominant tree species. The native tree species mix of small inexpensive saplings should be picked for variety and should reflect the local forest communities. Annual mowing to control invasives may be necessary, although the quick establishment of a strong-growing ground cover can be effective in providing invasive control. Native meadow planting mixes also are available. A variety of site design factors may influence the type of vegetative community that is to be planned and implemented. In so many cases, the "natural" vegetation of Pennsylvania's communities is, of course, woodland.

9. Ensure adequate stabilization. Adequate stabilization is extremely important as native grasses, meadow flowers, and woodlands establish more slowly than turf. Stabilization can be achieved for forest restoration by establishing a ground cover before planting of trees and shrubs. When creating meadows, it may be necessary to plant a fast growing nurse crop with meadow seeds for quick stabilization. Annual rye can be planted in the fall or spring with meadow seeds and will establish quickly and usually will not present a competitive problem. Erosion prone sites should be planted with a nurse crop and covered with weed-free straw mulch, while steep slopes and areas subject to runoff should be stabilized with erosion control blankets suitable for the expected volume and velocity of runoff.



Volume Reduction Calculations and Peak Rate Mitigation

Areas designated for landscape restoration should be considered as “Meadow, good condition” in stormwater calculations.

Water Quality Improvement

See Section 8 for Water Quality Improvement methodology, which addresses pollutant removal effectiveness of this BMP.

Construction Sequence

Forest restoration installation follows closely the procedure outlined in BMP 6.7.1- Riparian Buffer Restoration. Refer to BMP 6.7.1 for detailed information, with the understanding that species selection for upland forest restoration will differ from that for riparian restoration.

Meadow installation should proceed as follows:

1. SELECT SITE

- Confirm site is suitable for restoration, should be sunny, open and well-ventilated. Meadow plants require at least a half a day of full sun.
- Obtain landowner permission

2. ANALYZE SITE

- Evaluate site's physical conditions (soil attributes, geology, terrain)
- Evaluate site's vegetative features (desirable and undesirable species, native species, sensitive habitats). Good candidates for meadow plantings include areas presently in turf, cornfields, soybean fields, alfalfa fields and bare soils from new construction.
- Areas with a history of heavy weed growth may require a full year or longer to prepare for planting.
- Beware of residual herbicides that may have been applied to agricultural fields. Always check the herbicide history of the past 2-3 years and test the soils if in doubt.

3. PLANT SELECTION

- Select plants that are well adapted to the specific site conditions. Meadow plants must be able to out compete weed species in the first few years as they become established.

4. PREPARE SITE

- All weeds or existing vegetation must be eliminated prior to seeding.
- Perennial weeds may require year long smothering, repeated sprayings with herbicides, or repeated tillage with equipment that can uproot and kill perennial weeds.

5. PLANTING DAY

- Planting can take place from Spring thaw through June 30 or from September 1 through soil freeze-up (“dormant seeding”)
- Planting in July and August is generally not recommended due to the frequency of drought during this time.
- Seeding can be accomplished by a variety of methods: no-till seeder for multi-acre planting; broadcast seeder; hand broadcast for small areas of one acre or less.
- Seed quality is critical and a seed mix should be used with a minimum percentage of non-seed plant parts.

6. SITE MAINTENANCE (additional information below)

- Assign responsibilities for watering, weeding, mowing, and maintenance
- Monitor site regularly for growth and potential problems

Maintenance Issues

Meadows and Forests are low maintenance but not “no maintenance”. They usually require more frequent maintenance in the first few years immediately following installation.

Forest restoration areas planted with a proper cover crop can be expected to require annual mowing in order to control invasives. Application of a carefully selected herbicide (Roundup or similar glyphosate herbicide) around the protective tree shelters/tubes may be necessary, reinforced by selective cutting/manual removal, if necessary. This initial maintenance routine is necessary for the initial 2 to 3 years of growth and may be necessary for up to 5 years until tree growth and tree canopy begins to form, naturally inhibiting weed growth (once shading is adequate, growth of invasives and other weeds will be naturally prevented, and the woodland becomes self-maintaining). Review of the new woodland should be undertaken intermittently to determine if replacement trees should be provided (some modest rate of planting failure is usual).

Meadow management is somewhat more straightforward; a seasonal mowing or burning may be required, although care must be taken to make sure that any management is coordinated with essential reseeding and other important aspects of meadow reestablishment. In the first year weeds must be carefully controlled and consistently mowed back to 4-6 inches tall when they reach 12 inches in height. In the second year, weeds should continue to be monitored and mowed and rhizomatous weeds should be hand treated with herbicide. Weeds should not be sprayed with herbicide as the drift from the spray may kill large patches of desirable plants, allowing weeds to move in to these new open areas. In the beginning of the third season, the young meadow should be burned off in mid-spring. If burning is not possible, the meadow should be mowed very closely to the ground instead. The mowed material should be removed from the site to expose the soil to the sun. This helps encourage rapid soil warming which favors the establishment of “warm season” plants over “cool season” weeds.

Cost Issues

Landscape restoration cost implications are minimal during construction. Seeding for installation of a conventional lawn is likely to be less expensive than planting of a “cover” of native species, although when contrasted with a non-lawn landscape, “natives” often are not more costly than other nonnative landscape species. In terms of woodland creation, somewhat dated (1997) costs have been provided by the *Chesapeake Bay Riparian Handbook: A Guide for Establishing and Maintaining Riparian Forest Buffers*:

\$860/acre trees with installation
\$1,600/acre tree shelters/tubes and stakes
\$300/acre for four waterings on average

In current dollars, these values would be considerably higher, well over \$3,000/acre for installation costs. Costs for meadow reestablishment are lower than those for woodland, in part due to the

elimination of the need for shelters/tubes. Again, such costs can be expected to be greater than installation of conventional lawn (seeding and mulching), although the installation cost differences diminish when conventional lawn seeding is redefined in terms of conventional planting beds.

Cost differentials grow greater when longer term operating and maintenance costs are taken into consideration. If lawn mowing can be eliminated, or even reduced significantly to a once per year requirement, substantial maintenance cost savings result, often in excess of \$1,500 per acre per year. If chemical application (fertilization, pesticides, etc.) can be eliminated, substantial additional savings result with use of native species. These reductions in annual maintenance costs resulting from a native landscape reestablishment very quickly outweigh any increased installation costs that are required at project initiation. Unfortunately, because developers pay for the installation costs and longer term reduced maintenance costs are enjoyed by future owners, there is reluctance to embrace native landscaping concepts.

Specifications

The following specifications are provided for information purposes only. These specifications include information on acceptable materials for typical applications, but are by no means exclusive or limiting. The designer is responsible for developing detailed specifications for individual design projects in accordance with the project conditions.

Vegetation – See Appendix B

References

Bowman's Hill Wildflower Preserve, Washington Crossing Historic Park, PO Box 685, New Hope, PA 18938-0685, Tel (215) 862-2924, Fax (215) 862-1846, Native plant reserve, plant sales, native seed, educational programs, www.bhwp.org

Morris Arboretum of the University of Pennsylvania; 9414 Meadowbrook Avenue, Philadelphia, PA 19118, Tel (215) 247-5777, www.upenn.edu/morris, PA Flora Project Website: Arboretum and gardens (some natives), educational programs, PA Flora Project, www.upenn.edu/paflora

Pennsylvania Department of Conservation and Natural Resources; Bureau of Forestry; PO Box 8552, Harrisburg, PA 17105-8552, Tel (717)787-3444, Fax (717)783-5109, Invasive plant brochure; list of native plant and seed suppliers in PA; list of rare, endangered, threatened species.

Pennsylvania Native Plant Society, 1001 East College Avenue, State College, PA 16801
www.pawildflower.org

Western Pennsylvania Conservancy; 209 Fourth Avenue, Pittsburgh, PA 15222, Tel (412) 288-2777, Fax (412) 281-1792, www.paconserve.org

Conservation Design for Stormwater Management (DNREC and EMC)

Stream ReLeaf Plan and Toolkits

The Once and Future Forest – Leslie Sauer

Forestry Best Management Practices for Water Quality – Virginia Department of Forestry

Chesapeake Bay Riparian Handbook: A Guide for Establishing and Maintaining Riparian Forest Buffers (1997)

Arendt, R. *Growing Greener*. Island Press, November 1999.

Diboll, Neil. Five Steps to Successful Prairie Meadow Establishment. Windstar Wildlife Institute.

Penn State College of Agricultural Sciences, Agricultural Research and Cooperation Extension. “Pennsylvania Wildlife No. 12: Warm-season Grasses and Wildlife” and “Pennsylvania Wildlife No. 5: Meadows and Prairies: Wildlife-friendly Alternatives to Lawn”

Appendix 6.A - Funding Opportunities

Funding in the form of grants and loans is provided through local, state and national organizations year-round. Below is a list of potential funding sources that should be pursued for the planning, design and construction of the recommendations made in the Upper Providence Township Master Park Plan.

- **Schuylkill Highlands Mini-Grant Program**

This mini-grant program is open to municipalities within the Schuylkill Highlands Region and primarily funds projects that support natural resource-based conservation and nature-based tourism. Project examples include habitat improvement, restoration projects for riparian buffers, capital improvements for trails, boardwalks, and stream crossings. Nature-based tourism projects include trail connectors to and from rivers, destinations, historic sites, cultural sites, natural sites and recreational trail amenities as well as trail amenities, gateway signage, river access points, and capital improvements for passive recreation.

- Request Amount: \$25,000 Max.
- Match: 1:1 match with at least half of the required match in cash

- **Transportation Alternatives Set-Aside Program (TA Set-Aside)**

The *Pennsylvania Department of Transportation* administers funding assistance for alternative transportation programs and projects that improve accessibility and mobility, public transportation and school links, recreation and environmental mitigation.

- Request Amount: \$50,000 minimum construction cost; Not to exceed \$1 Million unless regional or of statewide significance
- Match: None required

- **Multimodal Transportation Funds Program**

The *Pennsylvania Department of Transportation* and the *Department of Community & Economic Development* provides grants for projects that support safe and reliable transportation systems and encourage economic development. Supported projects develop or rehabilitate transportation assets for communities including but not limited to lighting, sidewalks, pedestrian safety, and streetscapes, as well as improving connectivity and/or utilization of existing assets.

- Request Amount: \$100,000 - \$3,000,000
- Match: 30% Cash

- **Greenways, Trails, and Recreation Program (GTRP)**

The *Pennsylvania Department of Community & Economic Development* administers funds from the Marcellus Legacy Fund for the planning, acquisition, development, rehabilitation, and repair of greenways, recreational trails, open space, park and beautification projects.

- Request Amount: Not to exceed \$250,000
- Match: 15% Cash/Equivalent

- \$100 application fee
- **Community Conservation Partnership Program (C2P2) *Trails***
The *Pennsylvania Department of Conservation & Natural Resources* presently offers matching grants for the planning, acquisition, construction, enhancement, and maintenance of multi-use trails and trail-related facilities. This can include, but is not limited to, interpretive signs, trail amenities, access roads and parking areas, and equipment required to build and maintain trails.
 - Request Amount: Reasonable requests
 - Match: 50%
- **Community Conservation Partnership Program (C2P2) *Community Recreation and Conservation Planning***
The *Pennsylvania Department of Conservation & Natural Resources* presently offers matching grants to prepare for future planning, acquisition, development, and management of parks, recreation facilities, critical habitat, open space, natural areas, greenways, and river/watershed passageways.
 - Request Amount: Reasonable requests
 - Match: 50%
- **Community Conservation Partnership Program (C2P2) *Park Rehabilitation and Development***
The *Pennsylvania Department of Conservation & Natural Resources* presently offers matching grants for the rehabilitation and development of public parks, both indoor and outdoor recreation facilities, small communities, greenways, and river conservation and restoration projects.
 - Request Amount: Reasonable requests
 - Match: 50%
- **Community Conservation Partnership Program (C2P2) *Peer Circuit Rider Program***
The *Pennsylvania Department of Conservation & Natural Resources* presently offers matching grants for expanding the local capacity for parks, recreation, and conservation through the partnership of municipalities, counties, and government councils and the hiring of a shared professional who is jointly funded by the formal partnership, commission, or authority.
 - Request Amount: Reasonable requests
 - Match: 10%
- **Community Conservation Partnership Program (C2P2) *State and Regional Partnerships Funds***
The *Pennsylvania Department of Conservation & Natural Resources* presently offers matching grants for the formation of collaborative initiatives that improve the capacity to develop and manage park and recreation facilities and advance conservation of resources through education, training, and implementation.
 - Request Amount: Reasonable requests

- Match: Varies
- **MONTCO 2040: Implementation Grant Program**

Montgomery County's comprehensive plan, MONTCO 2040: A Shared Vision, provides matching grant funds for projects that support the plan's themes of Connected Communities, Sustainable Places, and Vibrant Economy. Projects include acquisitions and development of trails and trail facilities/amenities, along with further developments that improve community walkability and placemaking.

 - Request Amount: Up to \$200,000
 - Match: 20% local match
- **PECO Green Region Open Space Program**

Administered by *Natural Lands*, this program provides grants for municipalities in SE PA to preserve, protect, and improve open spaces. Eligible projects include: the acquisition of conservation easements or land for open space; habitat or capital improvements for passive recreation; and developing or updating open space plans.

 - Request Amount: Not to exceed \$10,000; can fund up to 50% of eligible activities
 - Match: Minimum 50% Cash
- **Redevelopment Assistance Capital Program (RACP)**

The *Pennsylvania Office of the Budget* administers funds from the Commonwealth for regional economic development, civic, cultural, recreational, and historical improvements through acquisition and construction projects.

 - Request Amount: \$1,000,000 minimum total project cost
 - Match: 50% non-stat
- **Regional Trails Program**

The *Delaware Valley Regional Planning Commission* (DVRPC) provides grants from the William Penn Foundation to plan, design, and construct multi-use trails which assist in completing the Greater Philadelphia's trail network, the Circuit. Projects that contribute to connecting trails across the region and provide access to waterways are also supported, and can range from initial feasibility studies to the construction of trails.

 - Request Amount: N/A (Phase V funding ranged from \$25,000-\$325,636)
 - Match: N/A
- **Rivers, Trails, and Conservation Assistance Program**

The *National Park Services* provides funding assistance to support resource conservation and recreation projects throughout the United States of America. The program links national conservation and recreation planning professionals with applicants to design, conserve and improve natural and recreational opportunities and connect the public to these resources.

 - Request Amount: N/A

- Match: N/A
- **Transportation and Community Development Initiative (TCDI)**
The *Delaware Valley Regional Planning Commission* offers grants for projects which analyze, plan, or design regional transportation systems that work to improve transportation efficiency, environmental protection, and quality of life for municipal residents and visitors. These grants promote projects that focus on public transit and alternative modes of transportation (bicycle and pedestrian) and growth management that aim to foster beneficial residential and commercial growth, while preserving lands and improving centers.
 - Request Amount: \$25,000 – soft cap of \$100,000; \$175,000 for multi-municipal
 - Match: 20%; 5% of which must be in-kind
- **Doppelt Family Trail Development Fund**
Rails to Trails Conservancy administers funds from the Doppelt Family Trail Development Fund to support the implementation and improvement of multi-use trails. Originally established in 2015 from an initial grant donation from the Doppelt Family, RTC awards around \$85,000 to 4-6 trail projects via a competitive grant round.
 - Request Amount: \$5,000 - \$50,000
 - Match: N/A