

# BETHEL TOWNSHIP

## *Comprehensive Parks, Recreation, and Open Space Plan*

May 2024





**BETHEL**  
TOWNSHIP  
*Delaware County, PA*

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**SIMONE COLLINS LANDSCAPE ARCHITECTURE**

**ALBERT FEDERICO CONSULTING, LLC.**

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# INTRODUCTION

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## STUDY PURPOSE

The Parks, Recreation and Open Space Plan will serve as a blueprint for parks, open space and natural resource protection and preservation for the next 10 to 20 years.

The Parks, Recreation and, Open Space Plan: examines greenways, trails and sidewalks and recommends enhancements to this connectivity infrastructure; recommends a methodology for open space preservation and acquisition; makes suggestions for improved park facilities, operations, maintenance, and staffing; and suggests options for potential new recreational programs and activities. This plan also provides an implementation and funding strategy.

Park and trail usage has expanded greatly after the onset of the COVID-19 pandemic as people sought an escape in outdoor recreation and open space while being quarantined at their homes. Parks act as outlets to connect with nature and reduce mental stress. Moreover, they improve physical wellness and promote healthy lifestyles; reduce time off from work due to health reasons and can help lower health care costs for individuals.

In addition to individual benefits, these facilities provide a variety of community benefits as well. Parks, trails and open space promote a sense of community through events and park usage. They also act as high priority items when families decide in which community to purchase a home as a municipality's park and recreation system is often the physical face, or identity, of the community. They also provide small children and teenagers opportunities to engage in after-school activities and organizations.

Along with these individual and community benefits, parks, trail and open space provide environmental and economic benefits. These benefits can also be quantified to show the value they provide to communities. The report, *Return on Environment: The Economic Impact of Protected Open Space in Delaware County, Pennsylvania*, released in 2022 and prepared for the Delaware County Planning Department, estimated the economic value created by the open space in Delaware County. The report found that protected open space in the County

reduces costs by avoiding \$14.1 million in expenditures for water supply, water quality, flood mitigation, wildlife habitat protection, air pollution removal and the capture of carbon by trees. In addition, the report found that the activity that occurs in parks and open space results in \$153.4 million in avoided annual medical expenses as people who are active enjoy a range of physical and mental health benefits.

The report also found that \$52 million is spent annually due to protected open space. This spending includes expenses for the management and maintenance of open space, spending for goods produced on preserved farms and tourism-related spending. Recreational activity on open space in the area also creates an estimated 590 jobs which generate about \$20 million in salaries each year. In terms of residential property value, the report found that the total real estate premium credited to living within a half mile of protected open space is \$689 million.

The Parks, Recreation and Open Space Plan was completed in conjunction with the Comprehensive Plan Update and Shaffer Plan Design.

# PLAN MISSION STATEMENT

**"ENHANCE THE QUALITY, CONNECTIVITY, AND ACCESSIBILITY OF THE TOWNSHIP'S VALUABLE RECREATIONAL AND OPEN SPACE FACILITIES AND ENVIRONMENTAL RESOURCES TO MEET CURRENT AND FUTURE DEMANDS FOR RECREATION AND PROGRAMMING AND BENEFIT THE HEALTH, SAFETY AND WELFARE OF THE ENTIRE COMMUNITY."**

## GOALS

- Engage in an open and transparent exchange of ideas where all ideas are considered and where everyone's voice can be heard throughout the design process.
- Provide for the recreational needs of all age groups.
- Provide for the recreation needs of residents who are physically or developmentally challenged.
- Protect and enhance the Township's Park and Open Space.
- Consider new lands for protection.
- Create a sustainable plan for parks, recreation and open space.
- Provide equitable access and opportunities to all residents.
- Preserve cherished Township characteristics and valued natural resources.
- Plan for safe multi-modal connections between various Township park, recreation, and open space resources.

## OBJECTIVES

- Survey area residents to determine current perceptions and needs regarding park, recreation, and open space facilities and programs in the Township;
- Conduct public meetings to gather information, comments, and suggestions from residents, local organizations, and other stakeholders;
- Inventory existing parks, recreational facilities, preserved open space, trails, schools, private sector recreation providers and other important recreation destinations within the Township;
- Compare the existing inventory of park facilities with other similarly sized communities;
- Analyze current active and passive recreational facility use;
- Suggest ways to enhance existing and planned trails with additional connections to area recreational, employment, residential, shopping, and other destinations;
- Develop a phased implementation and funding strategy to make the plan a reality; and
- Ensure that all recommendations are socially, economically and environmentally sustainable.

# TOWNSHIP PROFILE

Bethel Township is located in southern Delaware County and encompasses 5.4 square miles.

Originally home to Lenni-Lenape Native Americans, Bethel Township was settled by European Quakers in 1683 and was the smallest of the original townships of Chester County. In 1789, the Township was incorporated into Delaware County with a population of approximately 222 as of the 1790 census and grew modestly throughout the 18th and 19th centuries. The Township attracted industry in 1879 in the form of garnet mines, the genesis of the Garnet Valley region namesake. The Township grew steadily beginning in the early 1900s and would experience its greatest growth between 1990 and 2000, when the population nearly doubled. An 1819 relic of the Township's agrarian past, Booth Farm is listed on the National Register of Historic Places.

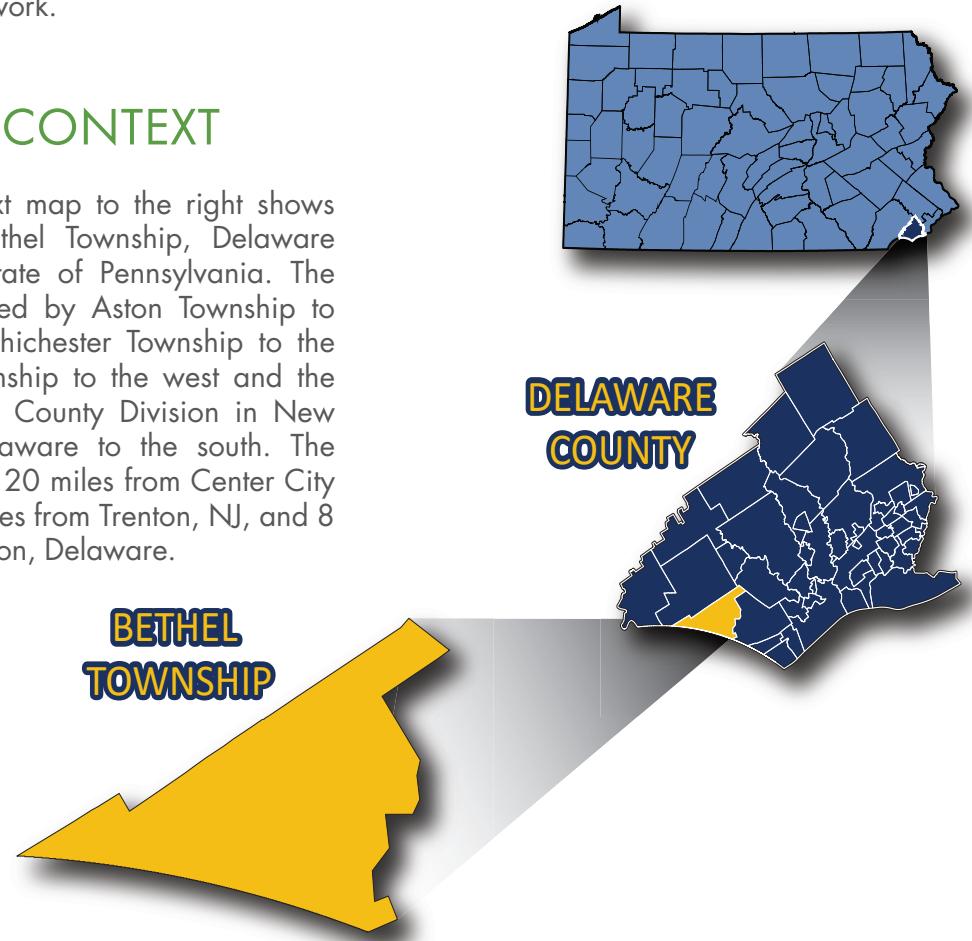
Bethel Township is served by the Garnet Valley School District, with Bethel Springs Elementary School located within the Township.

Bethel is a township of the second class, governed by a five-member Board of Supervisors. Members are elected at large for six-year terms; positions include a Chair, Vice Chair and three Supervisors. The Board is responsible for appointing the Township Manager and the general governance of the Township.

Residents of the Township enjoy the facilities at the three existing parks: Bethel Community Park, Jack King Park and John Adkinson Park. Public trails within the Township are located at Jack King and John Adkinson Parks, with a nature trail located on the Bethel Springs site. Private trails are located within residential developments. The recently acquired Shaffer Preserve is planned for passive features, including a trail network.

## REGIONAL CONTEXT

The regional context map to the right shows the relationship Bethel Township, Delaware County, and the State of Pennsylvania. The Township is bordered by Aston Township to the north, Upper Chichester Township to the east, Concord Township to the west and the Brandywine Census County Division in New Castle County, Delaware to the south. The Township is roughly 20 miles from Center City Philadelphia, 52 miles from Trenton, NJ, and 8 miles from Wilmington, Delaware.



## MAJOR ROUTES

Major routes within the Township are U.S. Route 322 (Conchester Highway), PA Route 261 (Foulk Road) and PA Route 491 (Naamans Creek Road). Route 322 runs in an east-west direction, bisecting the northern portion of the Township. It runs eastward to I-95 in the City of Chester and westward past Downingtown, Chester County, Lancaster County and Lebanon County toward Harrisburg. Route 261 runs in a north-south direction through the middle of the Township and Route 491 runs east-west in the southern section of the Township and connects to points in Delaware.

U.S. Route 1 is located north of the Township and is accessed via Route 322. I-95 is located east of the Township and is also accessed via Route 322. Both Route 1 and I-95 provide access to Philadelphia, which is northeast of the Township.

## WATERWAYS

The West Branch of Naamans Creek flows through the southeastern portion of the Township. It enters the Township from Upper Chichester, passes by the Rock Creek development and terminates just past Marsh Road. The West Branch converges with the main branch of Naamans Creek approximately 1.5 east of the Township border in Lower Chichester. Tributaries of the East Branch of Naamans Creek, including Spring Run, flow through the eastern portion of the Township. One tributary passes by the southern edge of Shaffer Preserve and terminates before Foulk Road. A small portion of the Southern Branch of Naamans Creek enters the Township from Delaware and terminates right before Zebley Road.

Green Creek flows through the northern portion of the Township, entering from Concord Township and flowing past Route 322 and Bethel Road before terminating within the Buckeye Pipeline site. Green Creek converges with the West Branch of Chester Creek approximately 1 mile north of the Township border.

## REGIONAL TRAILS

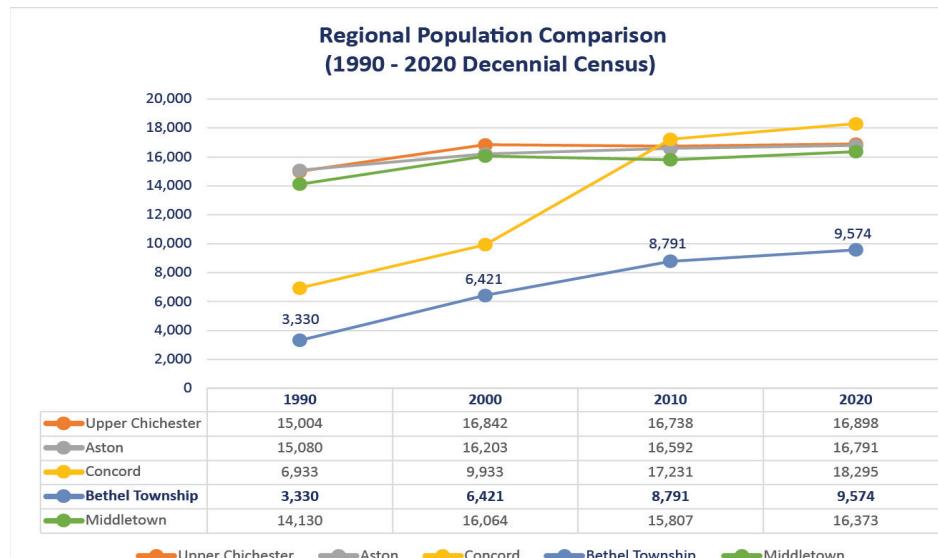
### The Garnet Valley Greenway

The Garnet Valley Greenway is planned for the north of the Township along the PECO right-of-way that passes just south of the SiteOne Landscape Company. The eastern terminus of the Greenway will be in Trainer Borough where it will connect to the East Coast Greenway and the western terminus will be in Concord Township where it will connect with the planned Octoraro Trail. The Garnet Valley Greenway will traverse through Concord Township, Bethel Township, Upper Chichester Township and Trainer Borough.

# DEMOCRAPHICS

## POPULATION AND PROJECTIONS

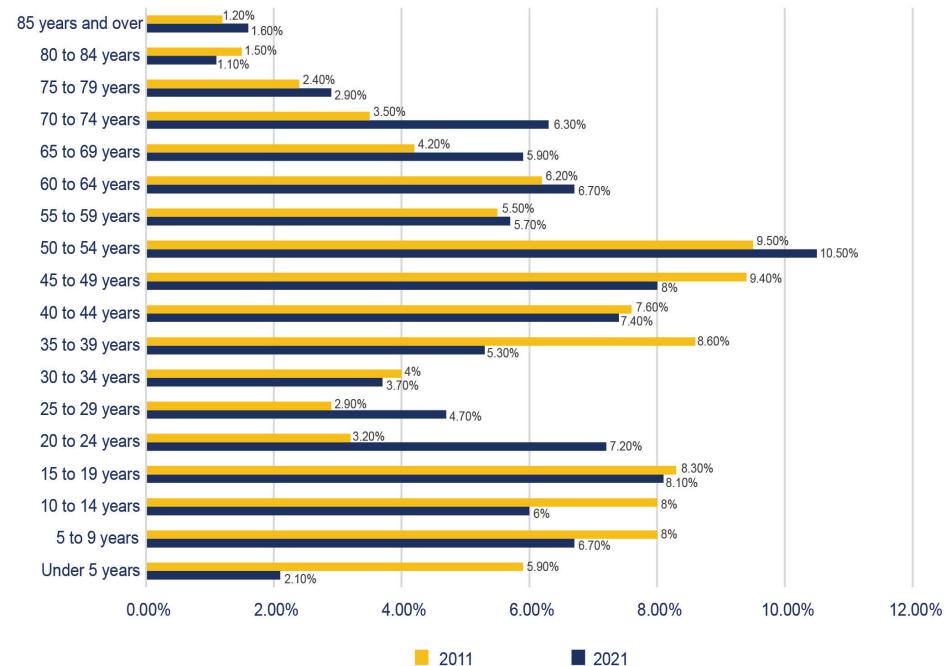
As of the 2020 Decennial Census, the total population in Bethel Township was 9,574, which is roughly half the size of neighboring municipalities. Population forecasts published by the Delaware Valley Regional Planning Commission (DVRPC) project ~2% population growth by 2050, to 9,750 people.



## AGE

Bethel Township population measured by age reveals significant aging of the population, as the 60+ year old cohort grew by 700 people between 2011 and 2021, a 30% increase. This aging is further shown by a rise in the median age, from 40.7 to 44.2.

Population By Age  
Bethel Township 2011 vs. 2021

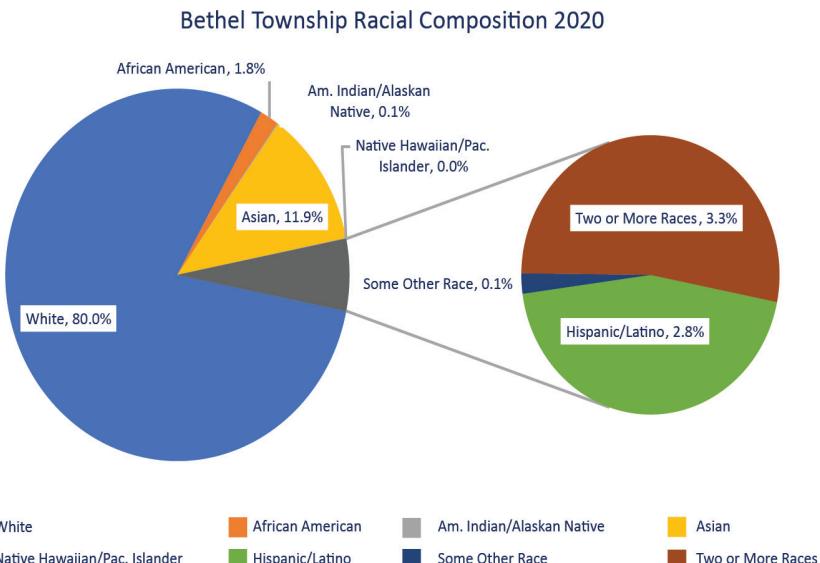


## RACE

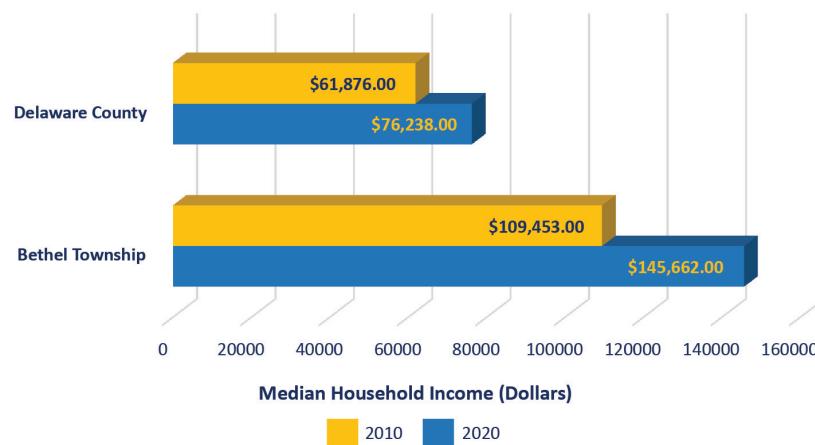
There were some large shifts in racial composition of the Township between 2010 and 2020, most notably an 8.6% drop in the White population, Asian population nearly doubling from 6.1% to 11.9%, and those identifying as Two or More Races rising from 1% to 3.3%.

## INCOME

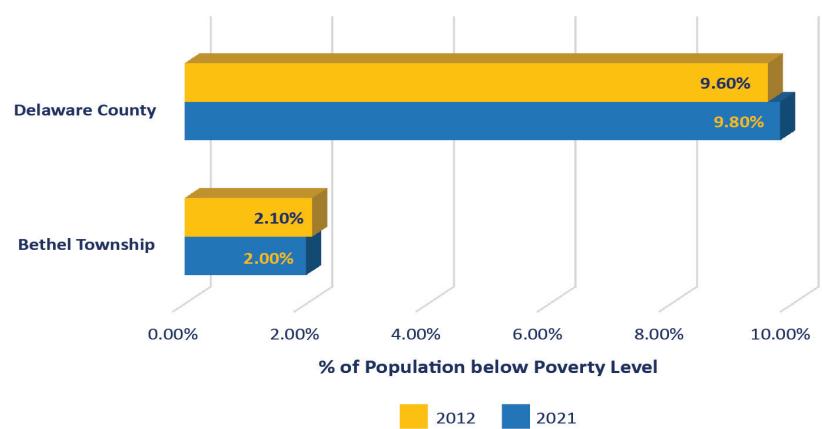
Bethel Township residents have enjoyed significant gains in median household income, as the value grew from \$109,453 in 2010 to \$145,662 in 2020, outpacing the growth experienced by Delaware County. Despite this prosperity, the percentage of the population living below the poverty level grew marginally from 2% in 2012 to 2.1% in 2021.



Median Household Income  
2010 - 2020



Poverty Rate  
2012 - 2021



## EDUCATION AND INDUSTRY

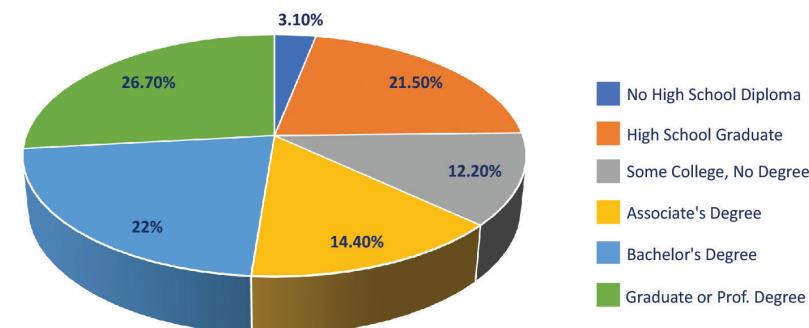
Bethel residents are highly educated. Of all residents over 25 years old, 96.9% have at least a high school diploma, 48.7% have at least a bachelor's degree and 26.7% have a graduate degree or higher.

As of 2021, the civilian employed population aged 16+ totaled 5,195 people across a diverse range of industries. In 2021, the top 3 industry categories within Bethel Township were Education/Health Care/Social Work (25% of workforce), Professional/Scientific/Management/Admin/Waste Management (14% of workforce), and Finance/Insurance/Real Estate (13.3% of workforce).

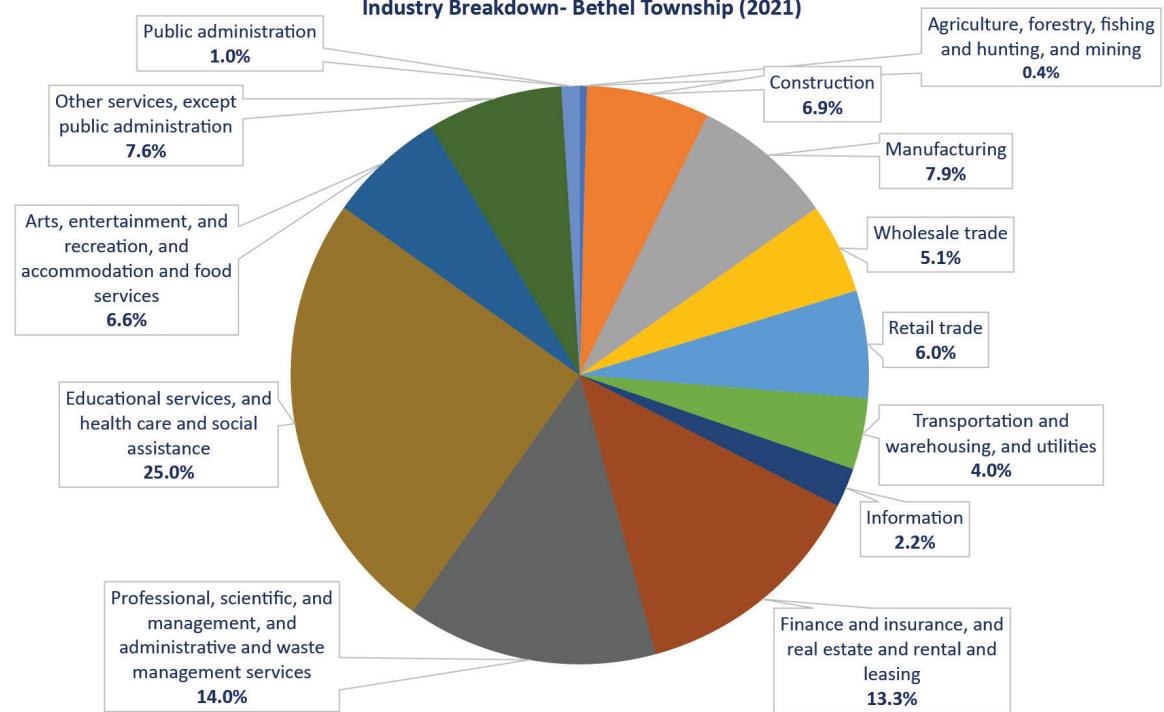
Across all industries, 58% of occupations are categorized as management/business/science/art, 23.6% are sales and office, 7.4% are service, 7.1% are production or transportation, and 3.9% are natural resource, construction, and maintenance occupations.

Educational Attainment (Residents over 25 years old)

Bethel Township 2021



Industry Breakdown- Bethel Township (2021)

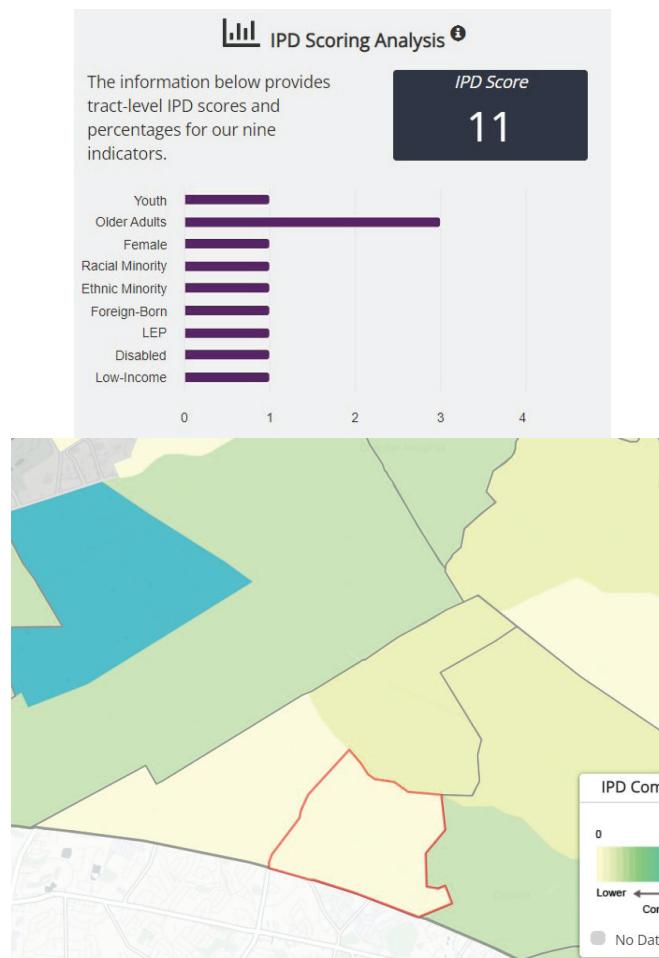


## INDICATORS OF POTENTIAL DISADVANTAGE (IPD), DVRPC

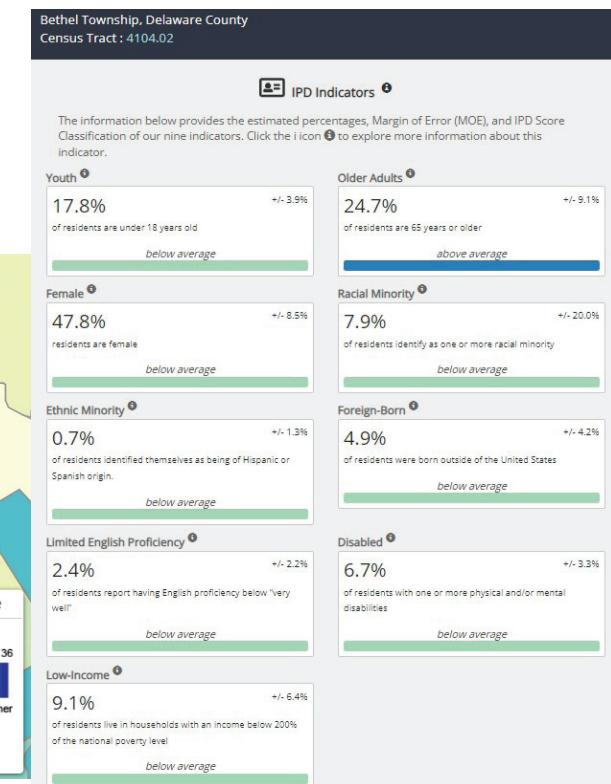
From the Delaware Valley Regional Planning Commission (DVRPC):

Under Title IV of the Civil Rights Act and the Executive Order on Environmental Justice (#12898), MPOs are directed to create a method for ensuring that equity issues are investigated and evaluated in transportation decision-making. In response, DVRPC has created the Indicators of Potential Disadvantage (IPD) analysis tool that can be used to identify equity issues. The IPD analysis tool identifies populations of interest under Title IV and Environmental Justice using U.S. Census American Community Survey 2015-2019 five-year estimates data and maps these populations in each of the Census tracts in the region via GIS. Each population group is an indicator in the analysis and includes the following: Youth, Older Adults, Female, Racial Minority, Ethnic Minority, Foreign-Born, Limited English Proficiency, Disabled, and Low-Income. Each census tract receives an "IPD Score", which is calculated by standard deviations relative to an indicator's regional average. This score is generated by allocating a ranking (0 to 4) to each of the 9 indicators, resulting in a final summary score between (0-36). The score categories range from 0 (well below average) to 4 (well above average).

The IPD Analysis Tool is intended to be used as the first step in equity analyses. The methodology is designed to identify populations of interest using demographic data. Once identified, informed decisions regarding possible discrimination against these groups can be made. Using the 0 to 36 scale, regions with IPD scores at the higher end of the spectrum have a higher concentration of these populations of interest and have a higher potential for inequity.



Of the three census tracts in the Township, only Tract 4104.02, which comprises the southeast section of the Township, had an indicator that was "above average." This Tract received an overall IPD Score of 11 out of 36. Of the nine (9) population groups designated as "indicators" (as cited above), "Older Adults" (residents aged 65 and over) in Bethel received an IPD score of 3 out of 4, or "above average." Every other indicator was considered below average. This information suggests that, while the overall percentage of Township residents considered to be part of a "population of interest" is below average, the needs of seniors should be heavily considered in the provision of, and equitable access to, recreational and open space resources within the Township.



## OUTDOOR RECREATION ACCESS, DCNR

From the Pennsylvania Department of Conservation and Natural Resources (DCNR):

*Every Pennsylvanian deserves quality outdoor recreation access close to home. Time outdoors lowers stress, improves immune function, and can help fight heart disease, depression, and dementia. For children, time outside leads to lower obesity, improves attention spans, and boosts creativity and problem-solving. There is no doubt. Parks, trails, and nature preserves make our communities better places to live, work, and play.*

Recognizing this value, the Pennsylvania Department of Conservation and Natural Resources (DCNR) partnered with the Trust for Public Land and WeConservePA to answer two questions:

1. Who in Pennsylvania has access to outdoor recreation within 10 minutes of their home?
2. More importantly, who doesn't?

We created 10-minute service areas for Pennsylvania's parks, trails, public lands, and water access points. Then we overlaid them with US Census data. The result? Detailed snapshots of outdoor recreation access at the county and municipal level.

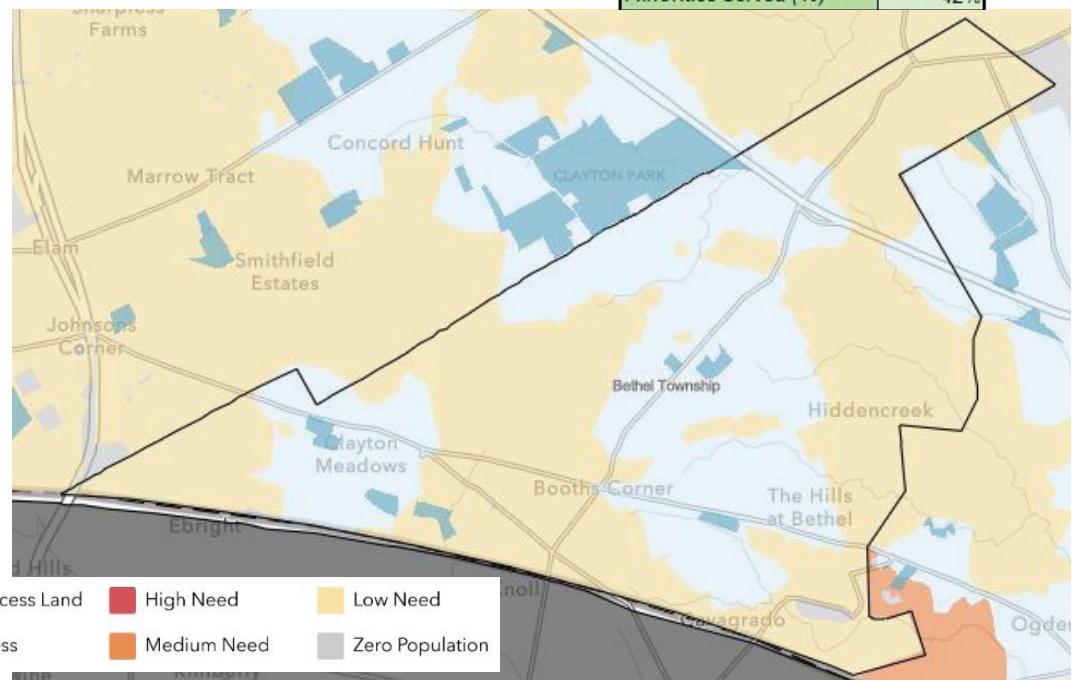
Level of need is based on population density, youth population density, and low-income population density within each county.

*This generalized data is a starting point for evaluating the need for access to parks and trails.*

### 10-Minute Walk Access to Parks, Trails, and Open Space

The level of need for 10-minute-walking access to parks, trails, and open space is "low" for a majority of the Township as these areas are in proximity to the Township's parks or parks in neighboring municipalities. Areas which are immediately adjacent to the Township's parks are considered to have access currently. This information suggests that parks, trails, and open space improvements should be largely focused on the north, northeastern and western portions of the Township to provide close-to-home, walkable access to outdoor recreation resources.

<b>Total Population Served</b>	3,790
<b>Population Served (%)</b>	41%
<b>Kids Served</b>	1,033
<b>Kids Served (%)</b>	43%
<b>Adults Served</b>	2,163
<b>Adults Served (%)</b>	41%
<b>Seniors Served</b>	594
<b>Seniors Served (%)</b>	38%
<b>Low Income Households Served</b>	148
<b>Low-Income Households Served (%)</b>	36%
<b>Medium Income Households Served</b>	265
<b>Medium-Income Households Served (%)</b>	40%
<b>High Income Households Served</b>	848
<b>High-Income Households Served (%)</b>	41%
<b>Whites Served</b>	3,262
<b>Whites Served (%)</b>	41%
<b>Minorities Served</b>	528
<b>Minorities Served (%)</b>	42%







# INVENTORY & ANALYSIS

2



# DATA COLLECTION AND METHODOLOGY

In 2023, Bethel Township selected the team of Simone Collins Landscape Architecture (SC) and traffic engineer, Albert Federico, as the consultants to guide the planning process. The project team also included a project steering committee, comprised of residents, professionals, Township staff and members from the Parks and Recreation Board.

Data found within this report was compiled using the best available information. This included Geographic Information System (GIS) data from Bethel Township; Delaware County; New Castle County, DE; Delaware Valley Regional Planning Commission (DVRPC); and Pennsylvania Spatial Data Access (PASDA), which was used to prepare field maps and planning documents consisting of the base aerial photography, municipal boundaries, roadways, parcels, contour lines, and other identifying land features. Other information included previous planning studies, field reconnaissance data, steering committee and public meetings, key person interviews, and an online public opinion survey.

## SITE RECONNAISSANCE

The consultants performed an initial field reconnaissance in January 2023 to inventory, analyze, and document existing conditions of parks, trails, and open space. Additional field reconnaissance was completed as needed to gather further insight for the plan. Field data was recorded by the consultants onto the field maps and photographs were taken for use in the Plan. This information was then used in evaluating planning alternatives in the development of the Plan.

## PUBLIC PARTICIPATION

The project was guided by a project study committee that provided critical insight and direction to the consultants in the development of the Plan. The consultants worked with the project committee to review the public participation process, gain clarification of data gathered, and guide the planning process before presenting to the public.

Community input is a critical component of a successful plan, so it was important for the project team to hear citizens' observations, needs, and visions, and to incorporate what was learned into the Parks, Recreation and Open Space Plan. The Township placed meeting dates, and links on their website and Facebook page.

The public participation process included two public meetings, four steering committee meetings, two Board of Supervisors meetings, twenty key person interviews (combined with the Comprehensive Plan Update), and an online public opinion survey.



**YOU'RE INVITED!**

**PUBLIC MEETING #2**  
**Parks & Open Space Plan**

**March 21, 7 - 9 pm**

*Hybrid Meeting: In-Person and Virtual*

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All attendees will be able to ask questions and hear about future park improvements and open space preservation in Bethel Township.

Participate in-person at **John L. Myers Building**  
1082 Bethel Road, Garnet Valley, PA 19060

Participate virtually by scanning the QR Code, or go to the following link:

<https://tinyurl.com/BethelRec-PublicMeeting2>

**BETHEL TOWNSHIP**  
Delaware County, PA

For more information, please contact:  
Pankaj Jabanputra  
pjabanputra@simonecollins.com  
(610) 239-7601

SCAN HERE  
to attend virtually

QR code

# Bethel Township - Parks & Open Space Plan

Project	Meeting Type	Purpose	Date	Time
	<i>Web Based Survey</i>		<i>3/1/23 through 2/1/24</i>	
Parks & Open Space Plan	Committee Meeting #1	Planning & Design Process Overview Brainstorming	Thursday, March 16	7 – 9 PM
Parks & Open Space Plan	Public Meeting #1	Programming & Brainstorming	Thursday, April 27, 2023	7 – 9 PM
Parks & Open Space Plan	Committee Meeting #2	Work in Progress Reviews	Thursday, July 13, 2023	7 – 9 PM
	<i>Key Person Interviews (10)</i>		<i>August to October 2023</i>	
Parks & Open Space Plan	Committee Meeting #3	Initial Concepts Preview	Tuesday, November 28, 2023	7 – 9 PM
Parks & Open Space Plan	Committee Meeting #4	Draft Plan Preview	Thursday, February 8, 2024	7 – 9 PM
Parks & Open Space Plan	Public Meeting #2	Draft Plan Review	Thursday, March 21, 2024	7 – 9 PM
Parks & Open Space Plan	Board of Supervisors Meeting #1	Draft Plan Review	Tuesday, May 14, 2024	6:30 – 8:30 PM
Parks & Open Space Plan	Board of Supervisors Meeting #2	Final Plan Review	Tuesday, August 13, 2024	6:30 – 8:30 PM

## PROJECT SCHEDULE

The project schedule began in March 2023 and ended in August 2024, and is represented above.

## PUBLIC MEETINGS

Public meetings were held between April 2023 and March 2024. All public meetings were held in a hybrid online / in-person format and were recorded and posted to the Township website. Full meeting notes can be found in the appendix of this report. A summary of the two public meetings is provided below.

### Public Meeting #1 – Programming & Brainstorming

*Thursday, April 27, 2023*

The consultants began the meeting by introducing the project team and committee. They noted their experience and reviewed the importance of having a plan. The consultants discussed the project schedule, scope, and purpose. The consultants explained that the public survey is available online and that public involvement is extremely crucial in the planning process to ensure the plan reflects the needs of the community.

The attendees were led through an interactive, brainstorming discussion that helped identify goals, facts, concepts, and partners they would like to see reflected in the plan. The meeting was recorded and placed on the Township's web site.

## Public Meeting #2 – Draft Plan

Thursday, March 21, 2024

The consultants began the meeting by presenting the draft mission statement, goals, and objectives of the Plan. The consultants then updated the attendees on the final online survey results. An analysis of the Township's projected parks and recreational needs, concepts for existing parks and a draft plan of parcels for potential open space and recreation expansion / acquisition and concepts for these sites were presented.

The consultants then presented a draft plan for trail connections within and around the Township. A programming, budget and maintenance analysis and accompanying recommendations were presented to attendees. Potential sources of funding were noted for the implementation of plan recommendations. Attendees provided feedback during a Q&A / open discussion.

The consultants encouraged attendees to provide comments and feedback on the Draft Report for the Bethel Township Parks, Recreation and Open Space Plan (to be posted to the Township website). The meeting presentation and notes were posted to the Township website.

## STEERING COMMITTEE MEETINGS

Steering committee members were appointed by the Township. Steering committee meetings were held between March 2023 and February 2024. All steering committee meetings were held in-person at the township building. Full meeting notes can be found in the appendix of this report.

- Steering Committee Meeting #1 Planning & Design Process Overview and Brainstorming
- Steering Committee Meeting #2 Work in Progress Reviews
- Steering Committee Meeting #3 Initial Concepts Preview
- Steering Committee Meeting #4 Draft Plan Preview



## KEY PERSON INTERVIEWS

The consultants interviewed representatives from four (4) agencies / groups to discuss the plan ideas. The interviews provided detailed information reflected in the plan. Key takeaways from the interviews are noted below:

### Birding Club of Delaware County August 30, 2023

- There was an uptick in the number of people joining the birding community after the Covid pandemic, especially from diverse backgrounds.
- With regards to enhancements at Shaffer Preserve, we would like to see as many native plantings as possible, and if a pollinator meadow could be installed, that would be great.
- Also for Shaffer, consider wayfinding and interpretive signage and also consider trail safety, meaning no dark corners or bad sight lines.



### Garnet Valley School District September 26, 2023

- There are currently no plans for the Francis Harvey Green field. This site is used by the cross-country team and there is a small Little League field that is used by the youth club in the spring. The space is also used for the yearly carnival.
- We are a full access school community; we have a symbiotic relationship with the community.
- Space at the middle school is tight, but we do have opportunities where we could expand; we are not at capacity at any school.
- Kindergarten class was brought back to Bethel Springs after being located in Concord Township for a number of years.

### Delaware County Planning Department September 27, 2023

- Trails are allowed along power line corridors, but you have to go through a process.
- The proposed Garnet Valley Greenway will go across the Township's panhandle. Concord Township is working on a master plan for the dog park location. We would like to see a trail crossing Clayton Park and the dog park.
- We did a sidewalk map a few years ago where we analyzed where bike routes were in relation to sidewalks and if trails could be introduced into the system. If you have right-of-way, it's not hard to do.

### Garnet Valley School Board October 13, 2023

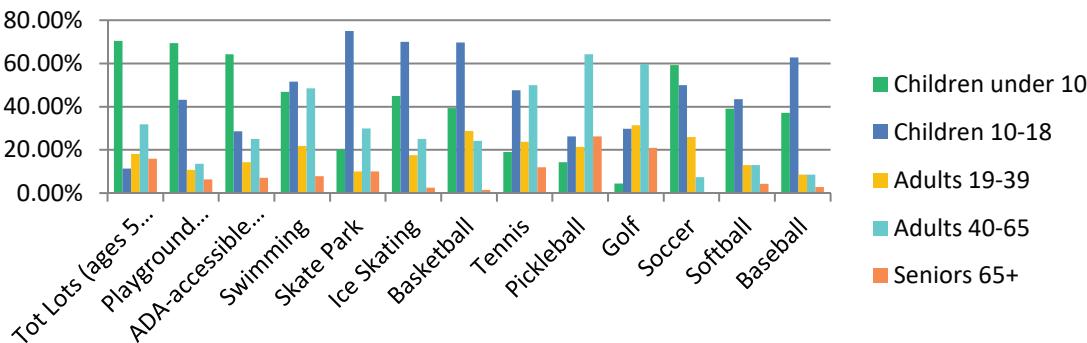
- Partner with area hospitals to install fitness or exercise stations around trails at parks.
- We are working on the Pennington project now, where we will house transportation services, e sports, administration and servers.
- Part of this project will be to increase connections within the campus and to the surrounding communities.
- It would be good to have a range of different types of sports fields to accommodate groups from all backgrounds.

## ONLINE PUBLIC OPINION SURVEY

A 54-question public opinion survey was created by the consultant team with Project Steering Committee and Township input to gather important user information related to Bethel Township parks, recreation, open space, and trails. The survey also included four questions specific to improvements at the new Shaffer Preserve site.

A total of 314 responses were received during the planning process. A sample of survey results are presented in this chapter. Respondents were kept confidential, and responses were compiled together and analyzed. Complete survey results can be found in the report Appendix.

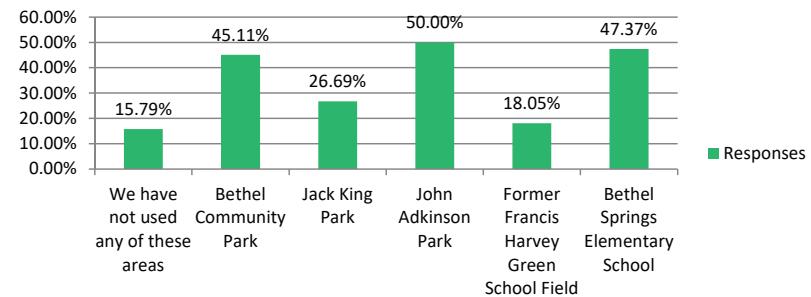
**The following is a list of active recreation activities offered in or around Bethel Township. Check each activity your family members participated in by household age group.**



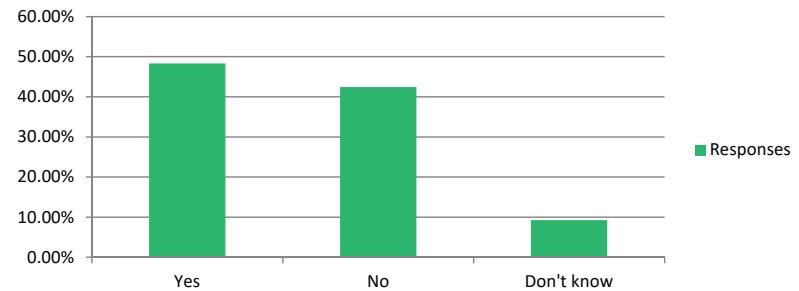
98% of respondents live in Bethel Township; of these respondents, 18% have lived in the Township for 0-5 years, 16% for 6-10 years, 28% for 11-20 years and 39% for 21+ years. 99% of respondents own their home. When asked why they chose to move to Bethel, most respondents answered "location" (71%), followed by "schools" (67%) and environment (30%). "Other" responses (8%) were largely regarding the presence of senior communities and respondents having grown up in the Township.

The respondents who did not live in the Township were asked why they visit. The top three responses were "Township recreation, parks and open space" (33%), "Shopping, dining and/or retail services" (33%) and "Events" (8%). Of all respondents, 47% were between the ages of 45-64, 27% were 25-44 and 25% were 65 or older.

**In the past 12 months, which parks, natural areas, trails, or facilities have you visited for recreation purposes in Bethel Township? (Please check all that apply)**



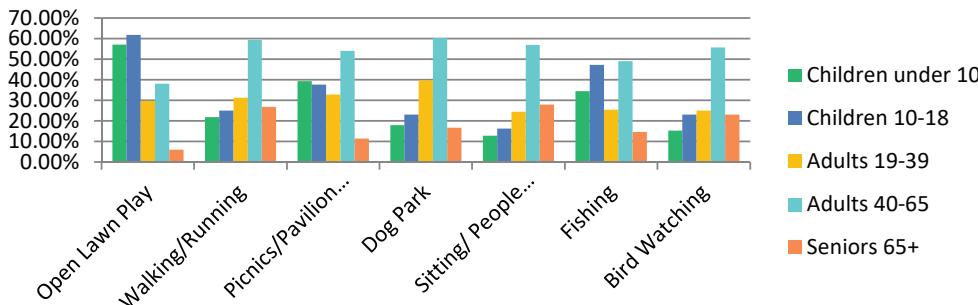
**Do you feel that there are an adequate number of parks, natural areas, trails, and recreational facilities available to you in or in close proximity to where you live?**



Most (239 of 306 total respondents) lived in a household with at least one adult between the ages of 19-64, and of these, 60% had two. 107 respondents lived in a household with at least one adult over the age of 65, and of these, 57% had two. 71 respondents each lived in a household with at least one child aged 6-12 and one child aged 13-18. 44 respondents lived in a household with at least one child under the age of 5, and of these, 52% had one.

Most respondents felt that public parks, trails, natural areas, and open spaces are "very important" to well-being and quality of life (72%); and most felt that conservation of natural open spaces such as waterways and wooded areas in Bethel was also "very important" (81%).

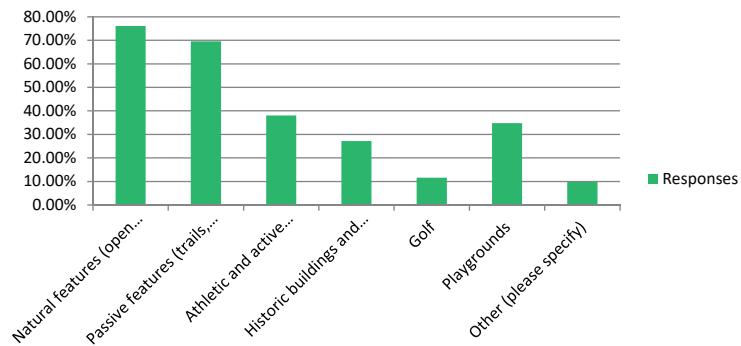
**The following is a list of passive recreation or unstructured activities offered in or around Bethel Township. Check each activity your family members participated in by household age group.**



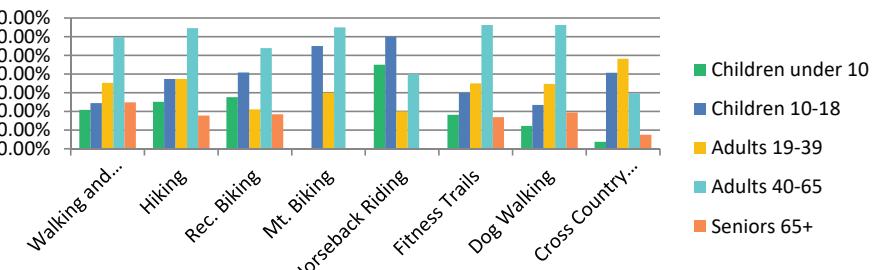
When asked how well their recreational and open space needs were being met in and around Bethel, respondents gave an average rating of just above three (out of five). When asked if there was an adequate number of parks, natural areas, trails, and recreational facilities available to or within close proximity of respondents, 48% responded "yes", 42% responded "no", and 9% responded "don't know". 83% of respondents, or their household members, had participated in activities in parks, natural areas, or open spaces in and around Bethel within the last year.

Respondents were asked about their favorite types of park features. The top response was "Natural features (open space, wildlife habitat, outdoor education, etc.)" (76%), followed by "Passive features (trails, benches, picnic facilities, etc.)" (70%) and "Athletic and active outdoor activities (fields, courts, pools, fitness equipment, etc.)" (38%).

**What are your favorite types of park features? (Please check all that apply)**



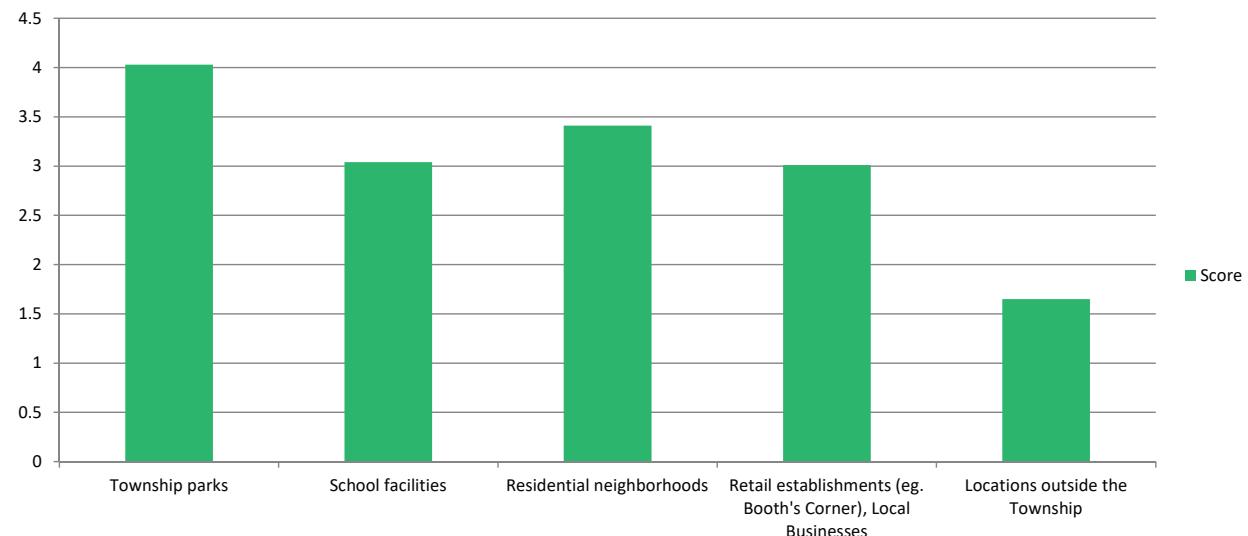
**The following is a list of trail activities associated with parks. What activities did each age group in your household participate in and around Bethel Township? (Please check all that apply)**



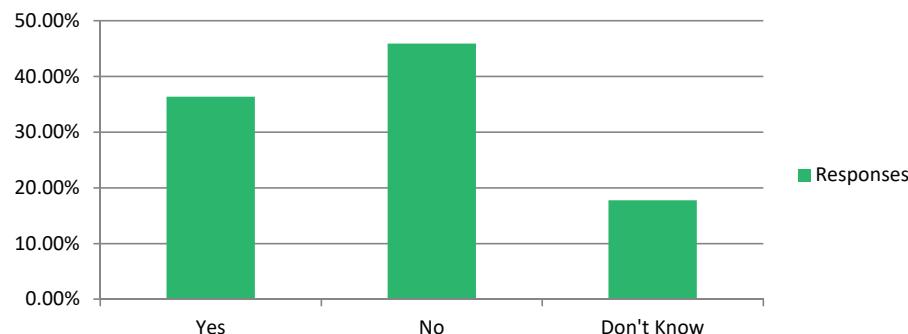
91% of respondents indicated that they usually drive to area parks, while 28% walk, and 6% bike.

Respondents were asked what would encourage them to walk more. The top response was "additional sidewalks" (72%), followed by "better connectivity to sidewalks" (56%), "safer street crossings" (47%) and "less traffic" (38%). Respondents were also asked what would encourage them to bike more. The top response was "availability of bike paths or trails" (55%), followed by "connectivity to existing neighborhoods / bike paths or trails" (51%) and "street facilities (shared lanes, dedicated bike lanes, etc.)" (31%). 30% noted they do not bike.

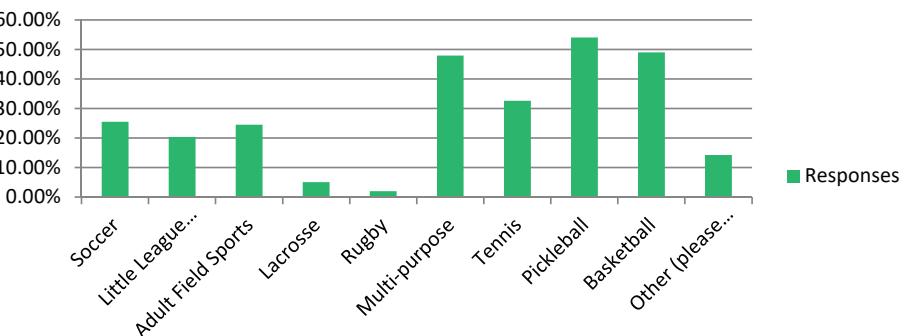
Rank the types of destinations you would like improved pedestrian and bicycling access to. Please rank the destinations from 1 to 5. (1 = High Priority, 5 = Low Priority).



Do you think Bethel Township needs more sports fields or courts (soccer, baseball, football, tennis, basketball, etc.)?

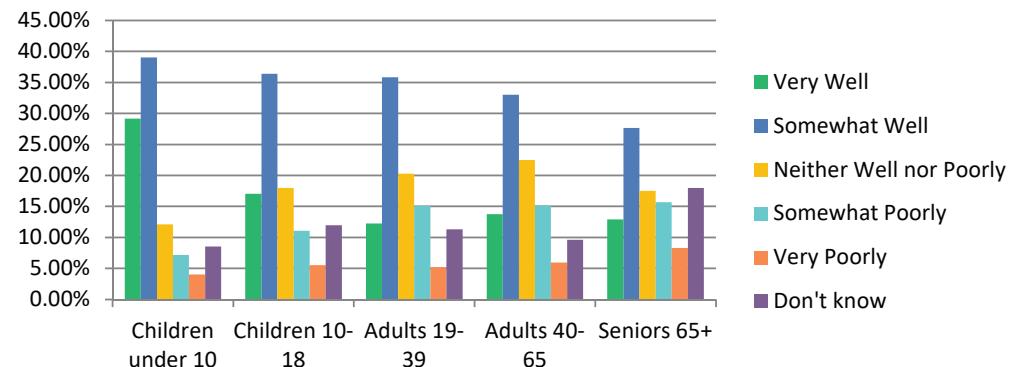


If you answered yes on the previous question, which sports do you feel are in need of fields or courts? (Please check all that apply)

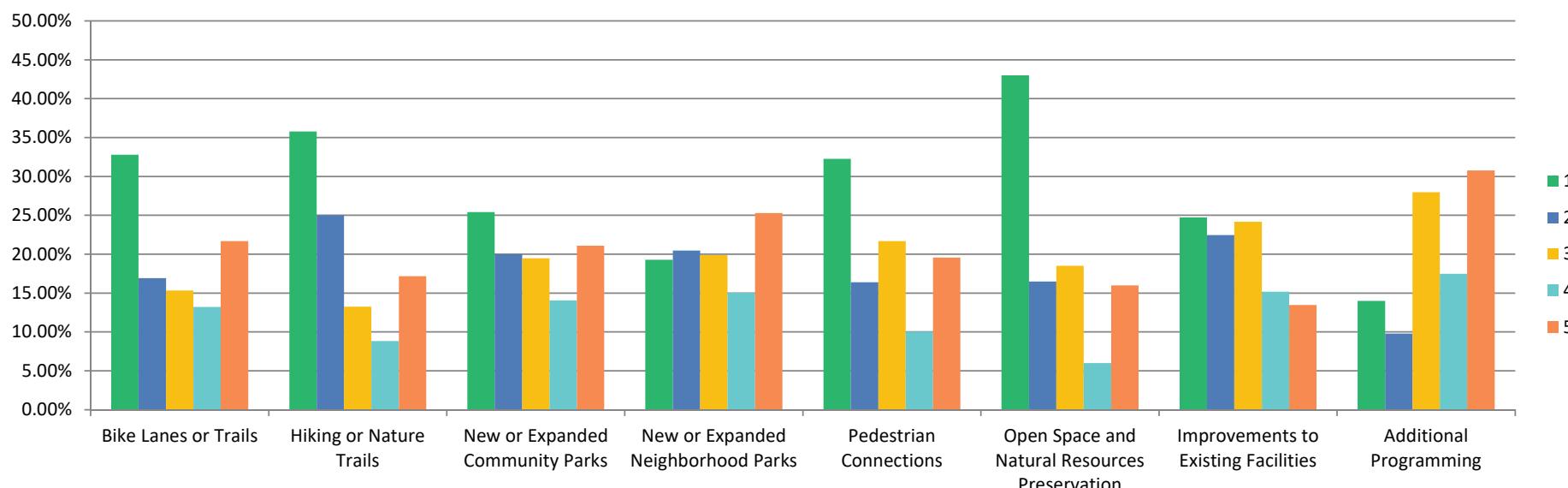


The results from the survey mirror what was heard at the public and committee meetings. They reflect the need to provide activities and facilities for all ages and abilities, preserve open space, and provide safe connections to these spaces, while also taking into consideration residents' concerns regarding the addition of facilities and their impacts.

In general, how well do you think the age groups listed below are served by parks, recreation, and open space in or near Bethel Township?



Please rank the top 5 priorities that you feel Bethel Township should focus on in the parks and open space plan. (1 = High Priority, 5 = Low Priority)



# RELEVANT PLANNING DOCUMENTS

Multiple planning documents were used to influence and help shape the Plan. Below is a summary of each planning document that was used in the process.

## Bethel Comprehensive Plan

The update to Bethel Township comprehensive plan was completed simultaneously with this Parks, Recreation, and Open Space Plan.

The Comprehensive Plan provided analysis and recommendations for land use, housing, transportation, historic preservation, economic development, community facilities and services, energy conservation, natural resource preservation, and compatibility with adjacent municipalities. The plan integrated the parks, recreation, and open space recommendations made by this Parks, Recreation, and Open Space Plan.



## Delaware County Open Space, Recreation, and Greenway Plan

This document is a component plan of Delaware County 2035 and, as such, follows the framework and builds off the land use policies established in the plan. The intent of the Open Space Component Plan is to serve as a guide and resource for countywide, multi-municipal, and municipal open space planning efforts. It examines the policies and trends identified in the Delaware County 2035 Land Use Framework Plan with specific regard to open space, recreation, and greenway needs and opportunities specific to the County.



The plan is comprised of four separate volumes:

- Open Space and Recreation Plan
- Countywide Greenway Plan
- County Parks and Recreation Plan
- Public Participation

The overarching goals of the entire Open Space Plan that guide each volume are as follows:

- **Conserve** - Conserve the natural and cultural resources of the County
- **Enhance** - Increase and enhance the environmental and/or recreational value of developed and undeveloped lands
- **Connect** - Develop a greenway network that connects natural features and people to community and regional destinations.

The Open Space and Recreation Plan contains an inventory of existing open spaces and natural resources and identifies open space and recreational needs and opportunities, which were considered during the development of this Parks, Recreation, and Open Space Plan.

The Countywide Greenway Plan identifies a countywide trail network with a primary goal of using trails to connect recreation and cultural hubs. The plan was reviewed to evaluate possible connections to the planned trail network.

The County Parks and Recreation Plan was reviewed to ensure that proposed Township parks and recreation recommendations were congruent with County goals.

## DVRPC Connections 2050

This plan's vision for the Greater Philadelphia Region is a prosperous, innovative, equitable, resilient, and sustainable region that increases mobility choices by investing in a safe and modern transportation system that protects and preserves our natural resources while creating healthy communities, and that fosters greater opportunities for all. The mission is to achieve this vision by convening the widest array of partners to inform and facilitate data-driven decision-making. DVRPC is engaged across the region, and strives to be a leader and innovator, exploring new ideas and creating best practices.

The Plan was developed around five integrated core principles:

1. Sustain the Environment
2. Develop Livable Communities
3. Expand the Economy
4. Advance Equity and Foster Diversity
5. Create an Integrated, Multimodal Transportation Network

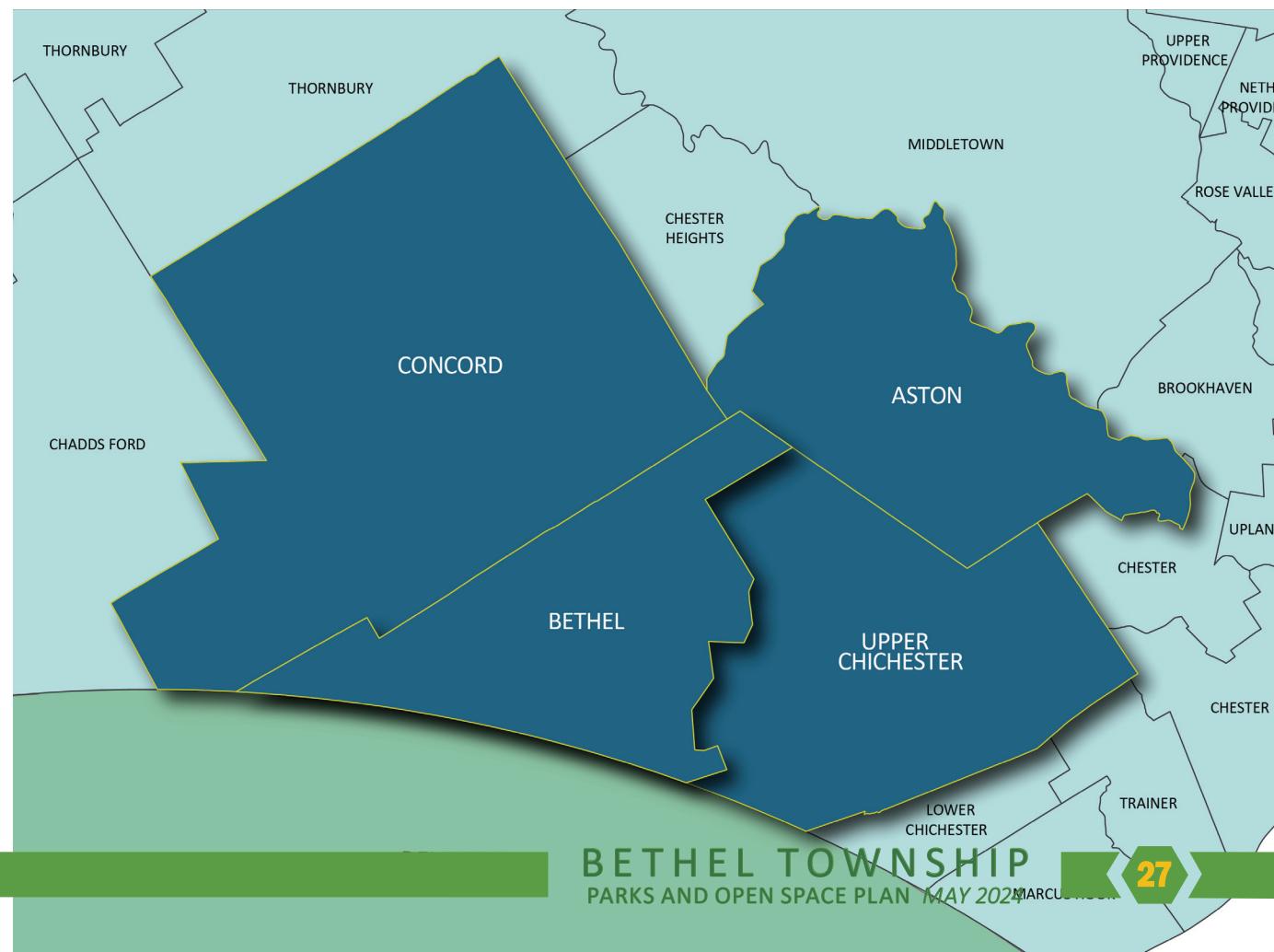
## Delaware County Return on Environment Study

This document provided the consultant team with valuable information regarding the economic benefits of open space preservation in Delaware County, as well as benefits resulting from environmental services and direct use.

## Neighboring Municipal Plans

The consultants reviewed Open Space and/or Comprehensive Plans of the following neighboring areas: Concord Township, Aston Township, and Upper Chichester Township. These plans give valuable insight as to how open space in Bethel Township connects with open space in its neighboring municipalities and creates connections for residents across municipal lines.

These plans helped identify common goals and objectives across the municipalities within the region: conserve open space, agricultural, natural, and waterways resources; preserve, reuse, and adapt historic and cultural resources; facilitate and encourage multimodal transportation with improvements to bicycle and pedestrian connections between neighborhoods, public transit facilities, and destinations both within communities and in neighboring municipalities; and create sustainable development that will not interfere with the quality of life that residents enjoy and wish to maintain.



# ZONING AND SALDO

In Pennsylvania, a zoning ordinance is a law that may permit, prohibit, regulate, restrict and determine land use, size & height of buildings, density and intensity of land use and protection of natural & historic resources.

SALDO is an acronym that stands for Subdivision and Land Development Ordinance. The SALDO contains the design standards, procedures and other requirements for Subdivision Plans and Land Development Plans within Lower Providence Township.

The following is a review of relevant sections of existing Township ordinance that relate to parks, recreation, open space, multimodal connection, and natural resource protection.

## RELEVANT ZONING REGULATIONS

### R-1 Residential District

This district includes the following provisions for agricultural uses:

*Section 601* - Agricultural use including the keeping of livestock, animal and/or poultry, customarily incidental to such use or nursery; provided, however, that the following specialized uses will be permitted only when authorized as a special exception: animal farms, riding academy, mushroom house, commercial greenhouse, permanent roadside stand for sale of farm products, and provided any such use is in compliance with state statutes and Township ordinances, and provided, further, that no piggery shall be permitted. The minimum lot area for agricultural use is

10 acres. A veterinary office is permitted by special exception.

### R-3 Planned Residential Development Districts

This residential district makes several provisions for open space.

*Section 800* - To encourage a pattern of development, which preserves open space, trees, natural topography, prevent soil erosion and provide for parks, playgrounds and recreational areas.

*Section 804* - At least fifty (50) percent of the total tract under consideration shall be set aside and devoted to open space. Said open space shall be planned in accordance with the applicable provisions of this Ordinance, subject to the approval of the Board of Supervisors.

The plan for use of open space shall take into consideration the physical characteristics of the natural land, preservation of aesthetic beauty, necessity of recreational areas and facilities in the community, accessibility from the dwelling units in the tract and the effect on surrounding areas of the township.

*Section 806* - Areas set aside for open space under this Ordinance shall be consistent with the comprehensive plan of the Township for future land use. Any such areas shall not contain any structure other than one related to a recreational use as provided by Section 803, (2), within the Planned Residential Development (PRD), Common Open Space shall be set aside for the use and benefit of the residents in the Planned Residential Development (PRD).

The deed or deeds to any land set aside as open space must contain a restriction, in a form acceptable to the Board of Supervisors, to be duly recorded in the Office for Recording of Deeds, in and for Delaware County, eliminating the possibility of further subdivision of said open space in the future. All persons or corporations with an interest in said tract must agree in writing to said restrictions, including all mortgages.

### R-4 Residence Districts

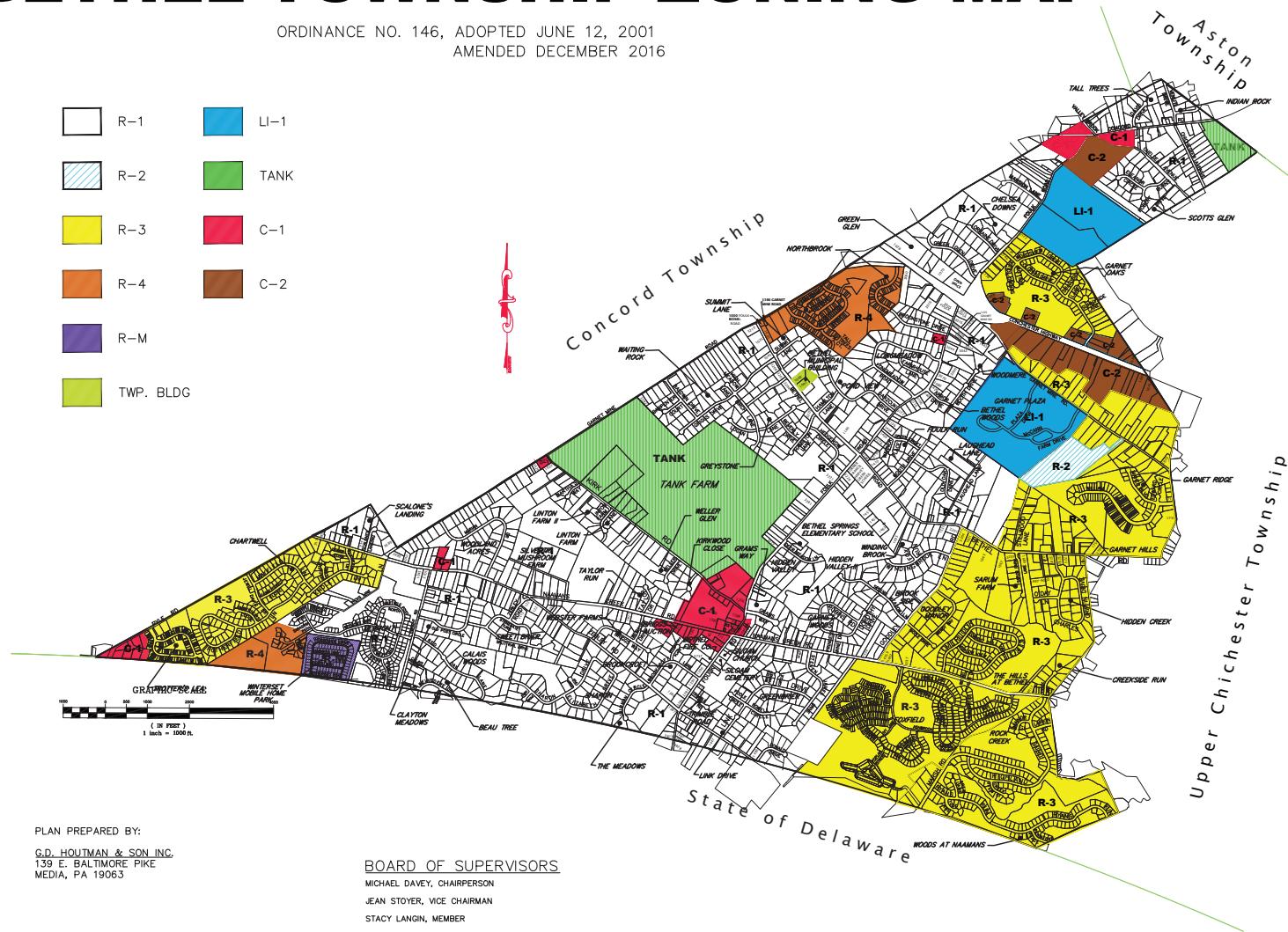
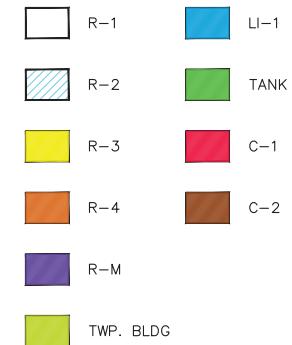
This residential district encourages a variety of housing types and includes special regulations for open space and recreation.

*Section 903* - No less than 20 percent of a total tract shall be used for permanent open space. Buffer yards may be used in computing open space but no individual lot area, private or public street right-of-way, or parking area shall be used for permanent open space.

Community facilities shall be provided in accordance with Section 413 of the Township Subdivision and Land Development Regulations except that for every 30 dwelling units of fraction thereof, there shall be a lot of 20,000 sq. ft. set aside for recreational purposes with facilities to be approved by the Board of Supervisors. Steep slopes (exceeding 15%), wooded areas, and flood plains may make up as much as 50 percent of the required common open space land. A minimum of 50 percent of the open space land must be relatively flat, dry ground, not exceeding the average percent of slope of the development and shall be suitable for the intended purpose. Whenever storm

# **BETHEL TOWNSHIP ZONING MAP**

ORDINANCE NO. 146, ADOPTED JUNE 12, 2001  
AMENDED DECEMBER 2016



PLAN PREPARED BY:  
G.D. HOUTMAN & SON INC.  
139 E. BALTIMORE PIKE  
MEDIA, PA 19063

BOARD OF SUPERVISORS

MICHAEL DAVEY, CHAIRPERSON  
JEAN STOYER, VICE CHAIRPERSON  
STACY LANGIN, MEMBER  
MARK KOEHLER, MEMBER  
ALEX GIRIBALDI, MEMBER

# BETHEL TOWNSHIP

## PARKS AND OPEN SPACE PLAN MAY 2024

water management facilities or retention basins are utilized as a portion of recreation open space, it is recommended that the basic design be such as to provide for appropriate dual use as recreation.

#### **RM Mobile Home District**

This mobile home zoning district requires open space provision.

**Section 1014** - A minimum of twenty-five percent (25%) of the total site shall be used for open space. Up to one-half (1/2) of this requirement (12.5) percent of the total site, may be met in areas of flood plans, steep slopes, required setbacks and buffer areas or other undevelopable areas. The remaining one-half (1/2) (12.5 percent of the total site) must be developed on useable open space exclusive of required buffers, and may include swimming facilities, community buildings, tot lots, and other recreational uses as needed. All open space shall be free of traffic hazards and located so as to be easily accessible to most residents of the park. It shall be maintained without extra charge by the park management.

Where no existing trees are retained along street right-of-way; trees shall be planted at intervals of not less than fifty (50) feet, depending on species; and preferably in a mixture of types rather than in a pure stand of one type.

#### **T Tank Farm District**

Intended to allow for the storage of liquid hydrocarbons, this zoning district includes relevant landscaping and buffering regulations.

**Section 1500 Landscape Screening** - At the time of application to the Township for a Building Permit for the erection and construction of a tank or tanks, the applicant shall file a landscape screening plan, which shall set forth existing and proposed trees and plantings screening the proposed tank or tanks from adjacent properties and/or public rights-of-way or streets. Screening shall consist of a minimum of a group of trees on 20 foot centers, the total length of said groupings to be not less than the diameter of the proposed tank or tanks nearest the property or street line. Existing vegetation shall be preserved to the maximum extent possible.

#### **AACOD Active Adult Community Overlay District**

This residential overlay district is intended to expand the availability of housing types, especially targeted towards the elderly population. Several provisions for open space and environmental resource conservation are included.

#### **Section 1600 - Purposes include:**

- To encourage innovative residential community site design that meets the demand for varying dwelling unit types and provides for the recreational and open space needs of the community's residents.
- To encourage more flexible site design standards that will provide for the protection of the Township's environmental resources and the preservation of its character.

**Section 1605** - A minimum of 50% of the tract, exclusive of public rights of way, shall be set aside as common open space. No land area less than 20 feet in width may be included in the calculation of open space.

**Section 1608 Design Standards** - Landscaping shall be considered an essential feature of all Active Adult Community development. Continuously planted visual barrier, or landscape screen shall be provided in the required buffer yard. Where appropriate the use of non-invasive existing vegetation, landscaped berms and solid walls and fences shall be utilized. The interior of the site, including all storage and parking areas shall also be landscaped and shall consist of deciduous trees, including fruit varieties, evergreen trees, shrubs and groundcover and shall be planted according to an overall landscape plan.

The required landscape plan shall consider the integration of the structures on the site with the surrounding lands and open space in a manner that creates a total environment.

Natural features on the tract such as streams and other water bodies, floodplains, woodlands, wetlands, steep slopes and wildlife habitat shall be preserved to the maximum extent possible and incorporated into the landscape plan. The applicant shall also demonstrate how the natural features will be protected during construction.

**Section 1609 Open Space** - The common open space shall be designed as a predominantly contiguous area, to preserve the natural features of the tract and to be readily accessible to the residents of an Active Adult Community.

A minimum of 25% of the open space shall be unconstrained developable land that is not wetland, floodplain nor steep slopes.

Structures in open space areas shall be limited to only those related to recreational or open space uses and, when necessary, utility and storm water management facilities. Recreational and open space structures may include picnic pavilions, paved court game surfaces and facilities, facilities associated with golf courses, swimming pools, hot tubs and associated facilities, restrooms and similar kinds of recreational and open space facilities.



## RELEVANT SALDO REGULATIONS

### § 395-1 Purposes

This chapter is enacted:

- For the purpose of assuring sites suitable for building purposes and human habitation;
- To provide for the harmonious development of Bethel Township;
- For the coordination of existing streets with proposed streets;
- For adequate open space for traffic, recreation, light and air;
- For proper distribution of population;
- To create conditions favorable to the health, safety, morals and general welfare of the citizens of Bethel Township; and
- To further promote preservation of trees, groves, waterways, scenic points, historical spots, and other community assets and landmarks

### § 395-39 Easements

Where a subdivision is traversed by a watercourse, drainage way, channel or stream, there shall be provided a stormwater easement or drainage right-of-way conforming substantially with the lines of such watercourse, and such further width or construction, or both, as will be adequate for the purpose.

### § 395-42 Storm Drainage

Drainage facilities shall be provided to permit unimpeded flow of natural watercourses, to ensure unimpeded flow of natural points along the line of streets, and to intercept stormwater runoff along streets at intervals reasonably related to the extent and grade of the area drained.

### § 395-43 Community Facilities

The following standards shall apply to the provision of recreation space:

- Areas set aside for recreational purposes shall be reasonably compact parcels, placed to serve all parts of the subdivision, accessible from a public street and not excessively irregular in terrain.
- Playgrounds for active sports shall be not less than 2.75 acres.
- In subdivisions which provide or are intended to provide housing facilities for more than 50 families, suitable open areas may be required for recreation. Standards to be used by the Board of Township Supervisors in testing the adequacy of space provided shall be as follows: Fifty to 300 families: 2 1/2 acres per hundred families; Over 300 families: six acres plus one acre per hundred families over 300.

## § 395-43.1 Park or recreational land or facilities

In reviewing a sketch plan, preliminary plan or preliminary/final plan for a proposed subdivision or land development, other than a two-lot residential subdivision or a plan developed pursuant to the Township's R-3 Planned Residential Development zoning, the Township Planning Commission shall consider the needs of the prospective residents for recreational lands and/or facilities, whether on-site or off-site, as well as the impact of the proposed development on existing Township recreational facilities, and shall discuss its findings in relation to the requirements of this section.

The Board of Supervisors, after recommendation by the Planning Commission, shall determine whether to accept public dedication of land for park or recreational purposes as intended by the applicant. In making that determination, the Board shall determine whether the proposed dedication of land is suitable to meet the increased demands the proposed development places on Township park and recreational facilities. Alternatively, upon agreement with the applicant or developer, the Board of Supervisors may impose the construction of recreational facilities, the payment of fees in lieu of setting aside such land, the private reservation of the land, or a combination thereof, for park or recreation purposes as a condition precedent to final plan approval.

In designing lands for recreational purposes within the subdivision or land development plan, the following criteria and standards shall be adhered to by the applicant. Areas shall be:

- Consistent with the Township's Comprehensive Plan and the Township's Open Space Plan.
- Suitable for recreational uses, unless deemed acceptable by the Board for other purposes, and in any case without interfering with adjacent dwelling units, parking, driveways, and roads or any buffer areas.
- Comprised of open land which contains none of the following features: aboveground stormwater management facilities, floodplains, woodlands, slopes exceeding 15%, wetlands, and surface waters.
- Interconnected with an existing trail network, parkland or open space areas on abutting parcels wherever possible.
- Comprised of areas not less than 100 feet in width and not less than 15,000 square feet of contiguous area, except that the minimum width may be reduced to not less than 10 feet where that portion of the open space is being used solely as a trail corridor.
- Provided with sufficient perimeter parking when necessary, and with safe and convenient access by adjoining street frontage or other rights-of-way or easements capable of accommodating pedestrian, bicycle, maintenance equipment, and other vehicular traffic, and containing appropriate access improvements.
- Undivided by any public or private streets, except where necessary for proper traffic circulation, and then only upon recommendation of the Township Engineer and Township Planning Commission.
- Free of all structures, except those related to outdoor recreational use.
- Suitably landscaped, whether by retaining existing natural cover and/or by a landscaping plan, for enhancing open space areas through plantings which are consistent with the purposes of this section and which minimize maintenance costs.
- Where the land is not dedicated to the Township, the land shall be made subject to the terms of a conservation easement for the purpose of preserving the open space land for the purposes intended.

## § 395-44 Land subject to flooding

Land subject to flooding or other hazards to life, health or property and land deemed to be topographically unsuitable shall not be platted for residential occupancy or for such other uses as may increase danger to health, life or property or aggravate erosion or flood hazard until all such hazards have been eliminated or unless adequate safeguards against such hazards are provided by the subdivision plans.

## § 395-45 Preservation of resources

Wherever possible, the subdivider shall preserve trees, groves, waterways, scenic points, historic spots, and other community assets and landmarks.

Subdivisions shall be laid out as to avoid the necessity for excessive cut or fill.

Topsoil shall not be stripped, covered or removed from the subdivision site.

## § 395-57 Street trees

Wherever the site is not naturally wooded, the subdivider may be required to plant street trees of not less than 2 1/2 inches caliper as measured six inches above the ground within the right-of-way and at not more than 50 feet apart as measured along each side of the street. For the purpose of these regulations, street trees are limited to the following: Moraine Honey Locust, Little Leaf European Linden, Pin Oak, Scarlet Oak, London Plane Tree, Red Oak, Columnar-type Maples, Sugar Maple, Norway Maple and Sweet Gum.

## ADDITIONAL REGULATIONS

### Chapter 222 Floodplain Management

§ 222-2 The intent of this chapter is to:

- Promote the general health, welfare, and safety of the community.
- Encourage the utilization of appropriate construction practices in order to prevent or minimize flood damage in the future.
- Minimize danger to public health by protecting water supply and natural drainage.

- Reduce financial burdens imposed on the community, its governmental units, and its residents by preventing excessive development in areas subject to flooding.
- Comply with federal and state floodplain management requirements

## Chapter 239 Historic Preservation

§ 239-1 It is hereby declared, as a matter of public policy, that the preservation and protection of buildings and structures of historic, architectural, cultural, educational and aesthetic merit are public necessities and are in the interest of the health, prosperity and welfare of all the citizens of Bethel Township.

## Chapter 254 Land Disturbance Activities

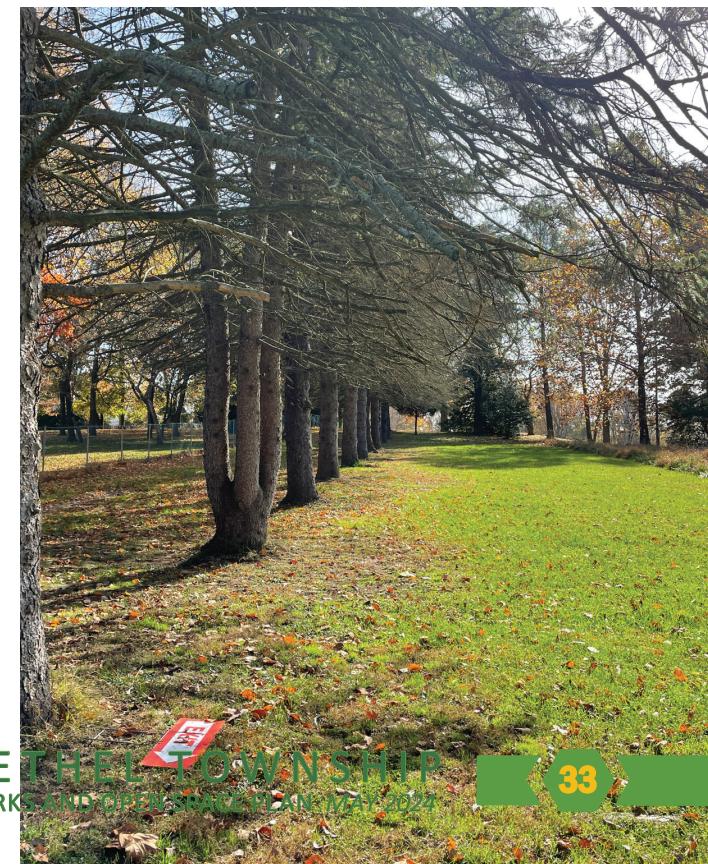
§ 254-2 The primary goal of this chapter is to regulate all land disturbance activities in such a way to prevent accelerated erosion and resulting sedimentation in order to protect the health, safety and welfare of the residents of the Township and the general public. To accomplish this, all persons engaged in land disturbance activities shall design, implement and maintain erosion, sedimentation, and stormwater control measures which effectively prevent accelerated erosion, sedimentation and increased stormwater runoff. This chapter is also intended to implement Title 25, Rules and Regulations, Part 1, Commonwealth of Pennsylvania, Department of Environmental Protection, Subpart C, Protection of Natural Resources, Article II, Water Resources, Chapter 102, Erosion Control, as may be amended and supplemented.

## Chapter 297 Parks and Playgrounds

§ 297-2 This article is created to cover the use, operation and conduct of persons using the public parks and playgrounds of the Township.

## Chapter 359 Soil Removal

§ 359-1 No person shall excavate or otherwise remove any earth, soil, sand, gravel, clay, rock or any other similar earth materials (herein referred to as "soil") for sale or for use other than on the premises from which the soil shall be taken, without first having procured permission therefor from the Board of Supervisors. This chapter shall not apply to the removal or sale of 500 cubic yards or less of soil incidental to the construction or alteration of such building is secured.



## Chapter 384 Stormwater Management

**§ 384-3** The purpose of this chapter is to promote the public health, safety, and welfare within the Township by maintaining the natural hydrologic regime and minimizing the impacts described in § 384-2 of this chapter through provisions designed to:

- Promote alternative project designs and layouts that minimize the impacts on surface water and groundwater.
- Promote nonstructural best management practices (BMPs).
- Minimize increases in runoff stormwater volume.
- Minimize impervious surfaces.
- Manage accelerated stormwater runoff and erosion and sedimentation problems and stormwater runoff impacts at their source by regulating activities that cause these problems.
- Provide review procedures and performance standards for stormwater planning and management.
- Utilize and preserve existing natural drainage systems as much as possible.
- Manage stormwater impacts close to the runoff source, requiring a minimum of structures and relying on natural processes.
- Focus on infiltration of stormwater to maintain base flow, to prevent degradation of surface water and groundwater quality, and to otherwise protect water resources.
- Protect base flows and quality of streams and watercourses, where possible.

- Meet legal water quality requirements under state law, including regulations at 25 Pa. Code Chapter 93.4.a, requiring protection and maintenance of "existing uses" and maintenance of the level of water quality to support those uses in all streams, and the protection and maintenance of water quality in special-protection streams.
- Address the quality and quantity of stormwater discharges from the development site.
- Provide standards to meet certain NPDES MS4 permit requirements.
- Implement an illicit discharge detection and elimination program that addresses nonstormwater discharges into the Township's separate storm sewer system (MS4).
- Preserve the flood-carrying capacity of streams.
- Prevent accelerated scour, erosion and sedimentation of stream channels.
- Provide performance standards and design criteria based on watershed-wide stormwater management planning.
- Provide proper operation and maintenance of all permanent stormwater management facilities and BMPs that are implemented within the Township.

## Chapter 469 Article 2 Water Conservation

**§ 467-17** No water shall be provided for internal or external use to any residential, commercial, industrial, agricultural, recreational, governmental, or public building or structure of any kind which is constructed or remodeled and in which plumbing, water piping or water fixtures are to be installed, extended or altered in any way, and for which construction a permit is required to be obtained from Bethel Township (or would be required but for an exemption from a permit requirement for public or governmental agencies) unless the new, extended or altered plumbing, water piping and other water using fixtures therein conform to the requirements and standards of § 469-18 of this article. The provisions of this article shall apply to any such building or structure for which such a building permit is issued, or would otherwise be required to be issued but for such an exemption, on or after.

## Chapter 390 Streets and Sidewalks

**§ 390-7** All sidewalks, curbs, areas between the curb and sidewalk, and private driveways within the area of the public right-of-way, shall be maintained in good repair, safe condition, and reasonably even and free from all hazardous depressions, irregularities, and projections by the owner of the abutting property. Any block or section of curb or sidewalk or driveway that is cracked or disintegrated so as to present an unreasonable hazard must be repaired or replaced by the owner of the abutting property. All new construction and repairs must conform to the specifications and other provisions of this article.

# INVENTORY AND ANALYSIS MAPPING

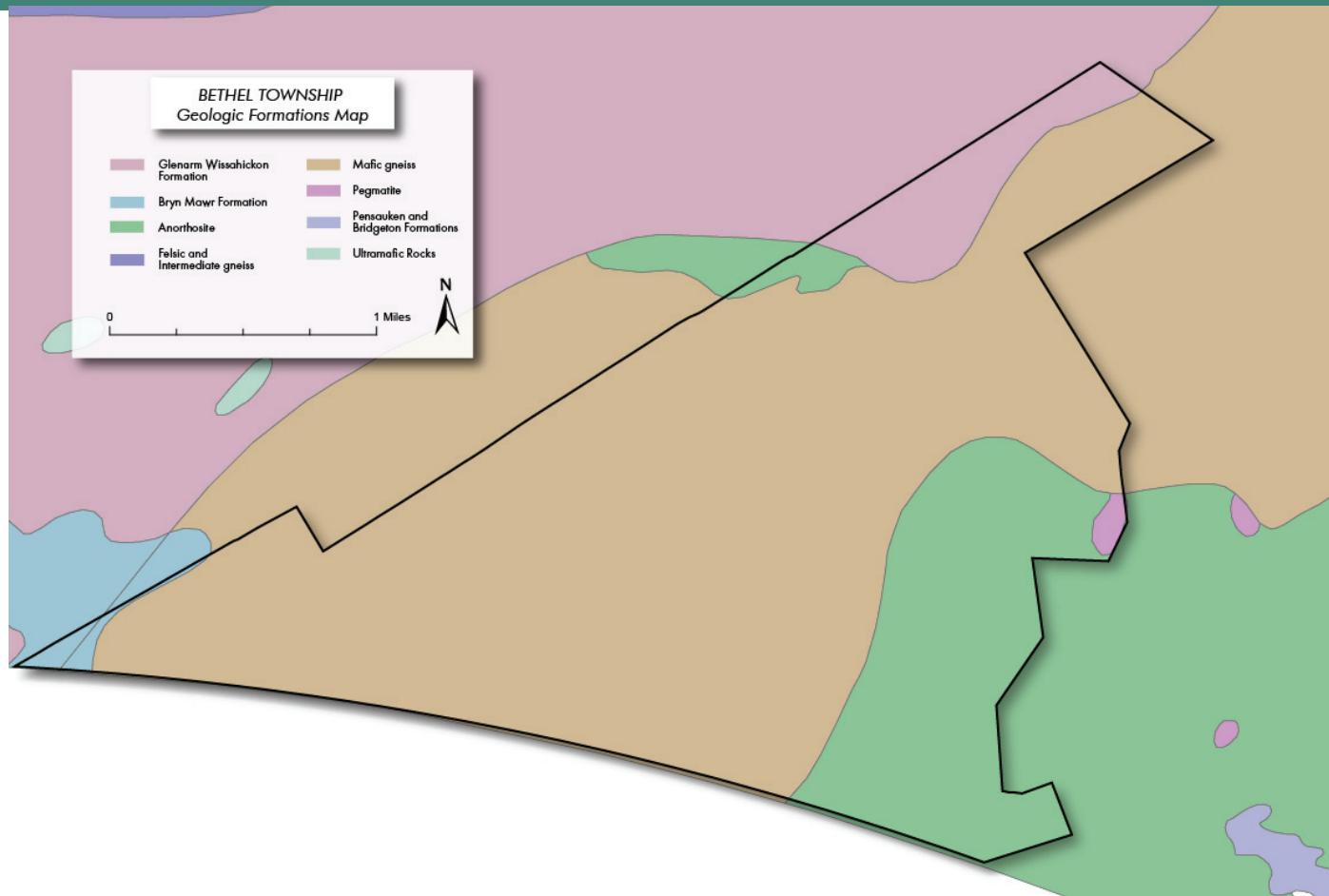
## GEOLOGY

Bedrock geology is rarely visible and its influence on natural features may often be overlooked. Bedrock geology is the foundation of an area and along with local hydrology, is responsible for the changes in elevation, steep slopes and location of waterways. Geology and soils are relevant and importance factors as they can impact stormwater management, infiltration rates, and vegetation that will grow in certain areas.

Bedrock geology also influences plant communities and soils. Igneous bedrock leads to soils with a high stone and boulder content. Based on the Physiographic Provinces of Pennsylvania, Delaware County is in the Lowland and Intermediate Upland section of the Atlantic Coastal Plain Province and the Piedmont Upland section of the Piedmont Province.

The Piedmont Uplands consists of complexly folded and faulted metamorphic and igneous rocks of Precambrian and Cambrian age. Rock types include marble, schist, gneiss, quartzite, granite, and serpentinite. The varied geology of the county is revealed in boulders and rock outcrops exposed along these creeks.

The Coastal Plain has a gently undulating topography that is more subdued than that of the Piedmont Uplands. Unconsolidated to poorly consolidated layers of Quaternary-age



sand, gravel, and clay underlie the Coastal Plain and dip gently to the east. Delaware County's thin sliver of Coastal Plain along the Delaware River has been heavily developed for industrial and residential use.

### Glenarm Wissahickon Formation

The "Glenarm Wissahickon" Formation is a schist metamorphosed to greenschist facies. Major constituents are quartz, albite, muscovite, and chlorite. It also includes gneiss, hornblende gneiss, and lenticular amphibolite bodies having ocean-floor basalt chemistry.

### Bryn Mawr Formation

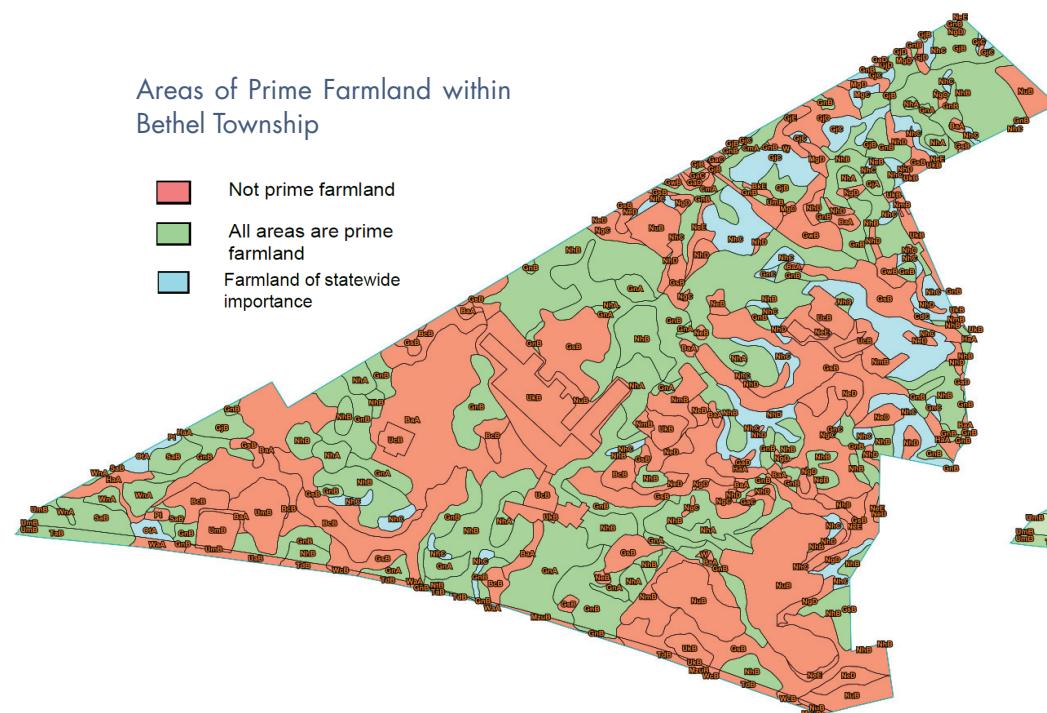
The Bryn Mawr Formation consists of white, yellow, and brown, moderately bedded gravelly sand in high-level terrace deposits. It is reddish brown locally and contains some silt.

## SOILS

### Prime and Important Agricultural Soils

Agricultural soils are measured by fertility, depth to bedrock and groundwater, texture, erodibility, and slope. Prime farmland includes deep, well-drained, and moderately sloped soils that can support high yields of crops with little management.

The map below generated using the U.S. Dept. of Agriculture's Web Soil Survey shows areas of prime farmland within Bethel Township. The green represents prime farmland, blue represents prime farmland of statewide importance, and the red is not prime farmland.



### Hydric Soils

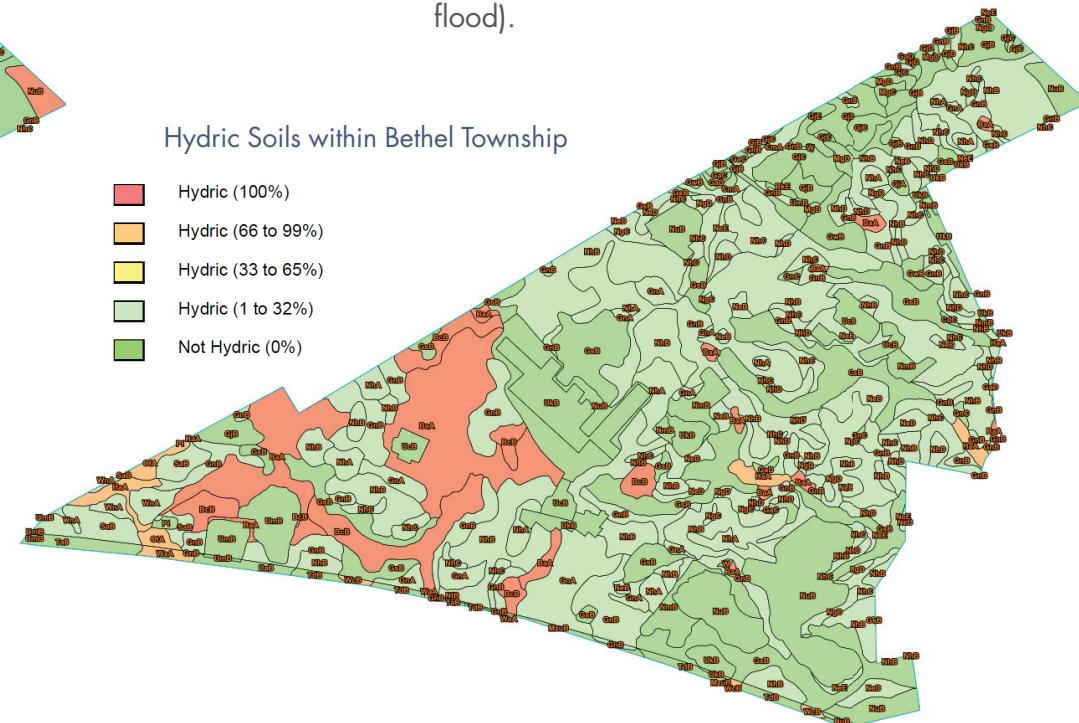
Hydric soils are periodically wet soils in an undrained condition that often support the growth of wetland vegetation. Some hydric soils are found in drained conditions and will not exhibit wetland vegetation, such as those that have been drained for agricultural use. Soils with major hydric components are a conservative indicator of wetlands. Other soils have hydric components in limited settings, such as depressions, bottom lands, swales, drainage ways, and alluvial soils. These soils have a high water table and frequently pond.

The map below shows the distribution of soils with hydric components. Soils with a higher percentage of hydric components are shown in red, orange, and yellow, while those with lower percentages are shown in green. Bethel

Township has several areas of hydric soils. For the most part, they correspond to the water bodies in the Township: Spring Run, Naaman's Creek, West Branch Naaman's Creek, South Branch Naaman's Creek, and Green Creek.

### Alluvial Soils

Related to hydric soils, alluvial soils are frequently, but not always, located within a floodplain. These soils have been deposited by flowing water and are not stable due to their texture and composition. Alluvial soils can be an indicator of a floodplain, and can often form aquifer recharge. Changes in the tributary drainage area or slope of the adjacent stream may create a floodplain that is either larger or smaller than the area of alluvial soils. Also, alluvial soils do not indicate the probability of recurrence of a flood (for example, a 100-year flood).



## TOPOGRAPHY & STEEP SLOPES

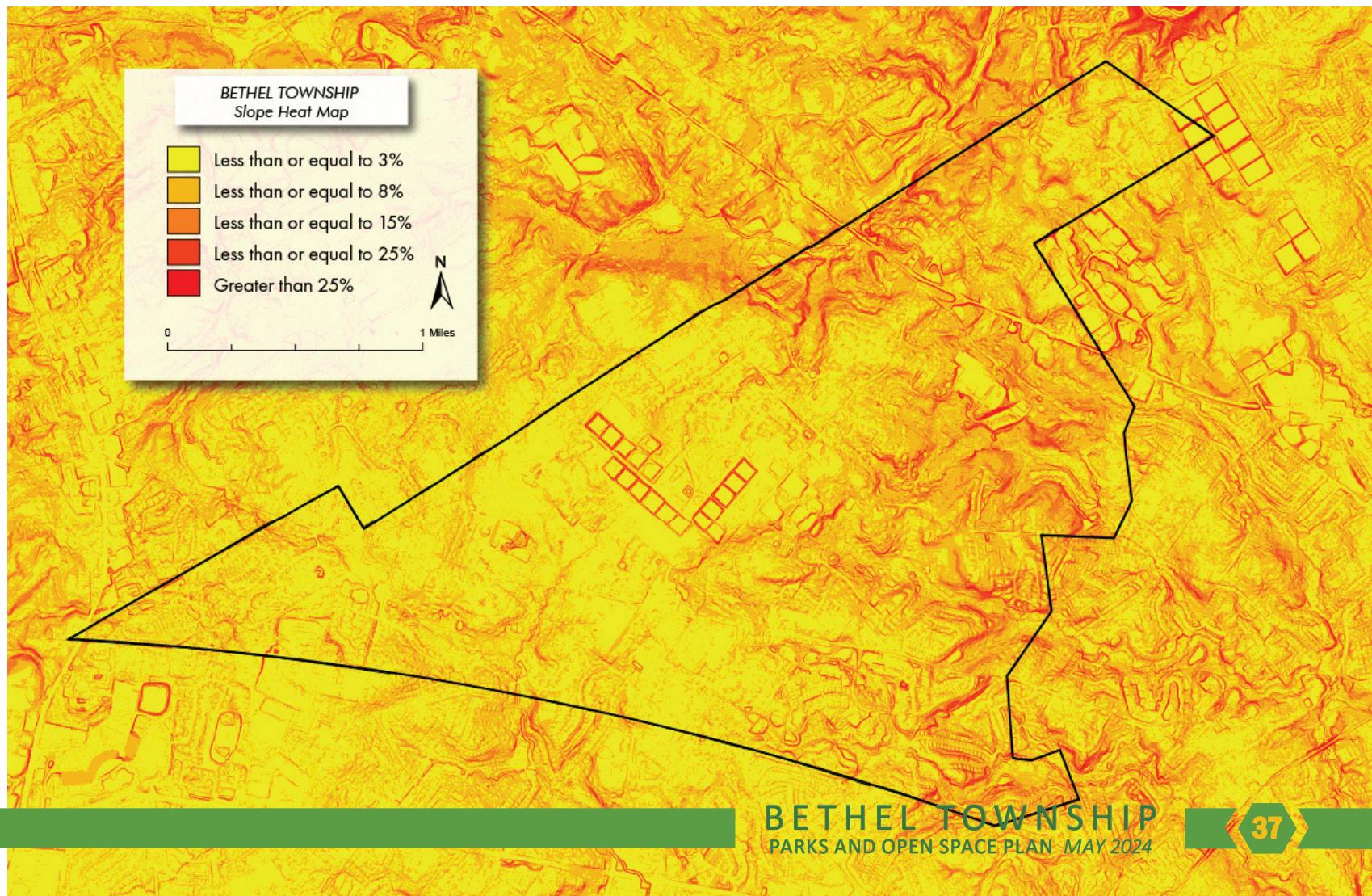
Topography and steep slopes are naturally occurring, and are results of geology, hydrology, as well as manmade development. Topography limits development and steep slopes (slopes over 15%) are classified as environmentally sensitive.

The Natural Resources Conservation Service's Web Soil Survey for Bethel Township has four classifications for slopes:

- 0 to 3 percent,
- 3 to 8 percent,
- 8 to 15 percent,
- 15 to 35 percent.

As slope increases, the depth of topsoil and the ability of the soil to support structures decreases. Steep slopes have a combination of vegetation, climate, soil and underlying geology which will differ from the surrounding area. Environmental sensitivity of the steep slope is different from lowland areas. Especially if vegetation is removed from steep slope areas, sediment erosion is a likely result, which will lead to increased stormwater runoff.

Bethel Township has several steep slope areas. Steep slopes are located in all parts of the Township, but are more specifically located along several water bodies: Skippack Creek, Mine Run, Perkiomen Creek, and the Schuylkill River, and tributaries.



## HYDROLOGY

### Watersheds

A watershed is an area that drains all rainfall to a common outlet, stream, or conveyance channel. Surface water moves across Bethel Township, eventually making its way to the Delaware River via the following watersheds and sub watersheds:

- Middle Brandywine Creek Watershed
- West Branch Chester Creek Watershed
- Oldmans Creek-Naamans Creek Watershed
- Repaupo Creek-Marcus Hook Watershed

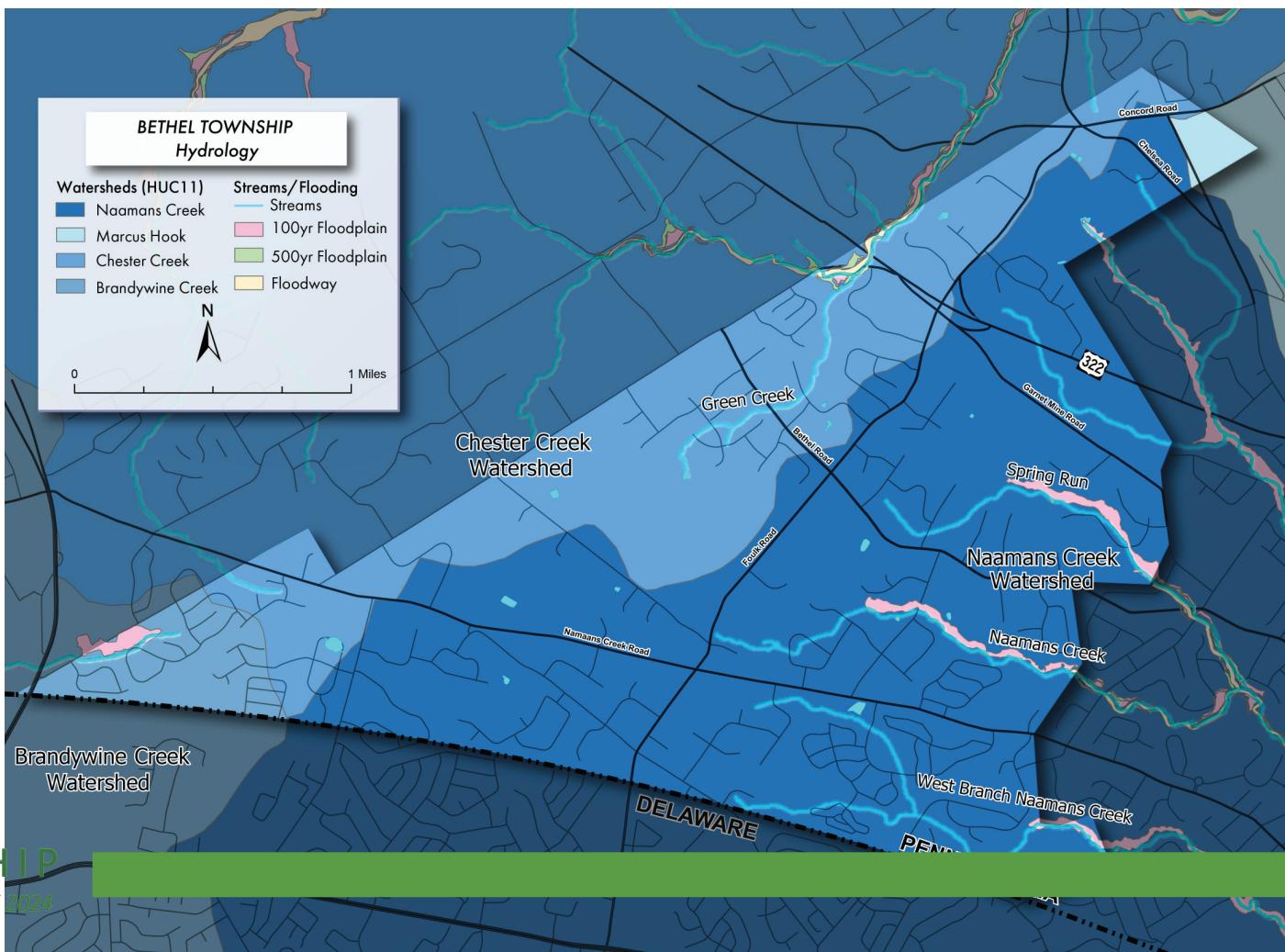
Stormwater may run across impervious surfaces during periods of heavy rain and snowfall. Impervious surfaces are paved surfaces and structures through which water cannot infiltrate, i.e.: sidewalks, driveways, roadways, parking lots, buildings/rooftops, etc. These surfaces usually convey rainwater into storm drains but can also discharge overland into lands that may be classified as pervious (or able to infiltrate water).

Branches and tributaries of Naamans Creek drain most of the central and eastern portions of the Township while Green Creek drains much of the eastern and northern portions of the Township into the West Branch Chester Creek Watershed. A small portion of the Middle Brandywine Creek Watershed is within the Township's southern boundary and a small portion of the Repaupo Creek Watershed is within the Township's northern boundary.

### Streams

Streams, rivers, and waterways play important historic, recreational, and environmental roles for people who live in the region. The following waterways (and their tributaries) run through or adjacent to Bethel Township:

- West Branch Naamans Creek
- East Branch Naamans Creek
- South Branch Naamans Creek
- Green Creek



## Floodplains

Floodplains are low lying areas next to streams, rivers, or waterways that are subject to periodical complete or partial flooding during rain events. Floodplains are meant to flood as part of the hydrologic cycle. The boundaries of floodplains are typically irregularly shaped and often meander through communities, unseen. Flooding under normal circumstances is not dangerous, but when development approaches these areas, the risk of damage and possible loss of life increases. When these areas are naturally vegetated, it can help trap and reduce the amount of suspended sediment from upland runoff that would otherwise reduce water quality and impair aquatic habitat. Having a healthy floodplain will also create better downstream conditions while storing large amounts of water which help replenish aquifers. Regulations protect these important areas and help to protect people from property damage and loss of life.

Floodplains in the Township are identified on the Hydrology Map.

## Water Quality

The Federal Clean Water Act requires Pennsylvania to establish water quality standards for all streams and other water bodies in the state. The standards establish criteria that need to be met to protect designated water uses. This means that the streams are evaluated periodically to ensure that the water quality standards that are associated with the uses are met. The higher the standards, the higher the waterway's value for protection and propagation of aquatic life and, hence, the higher the stream quality.

Below is the federal government's list as it is used in Delaware County, including a summary of what the water quality criteria are based on. The list is prioritized from the lowest designation (WWF) to the highest (EV).

- WWF Warm Water Fishes — Maintenance and propagation of fish species and additional flora and fauna that are indigenous to a warm water habitat.
- CWF Cold Water Fishes — Maintenance and/or propagation of fish species, including the family Salmonidae, and additional flora and fauna that are indigenous to a cold water habitat.
- TSF Trout Stocking Fishes — Maintenance of stocked trout from February 15 to July 31 and maintenance and propagation of fish species and additional flora and fauna that are indigenous to a warm water habitat.

- MF Migratory Fishes - Passage, maintenance and propagation of anadromous and catadromous fishes and other fishes which move to or from flowing waters to complete their life cycle in other waters.
- EV Exceptional Value Water — A stream or watershed that constitutes an outstanding national, state, regional, or local resource, such as waters of national, state, or county park or forests, or water that is used as a source of unfiltered potable water supply, or waters of wildlife refuges or state game lands, or water that has been characterized by the Fish Commission as "Wilderness Trout Streams," and other waters of substantial recreation or ecological significance.

Waterways in Bethel have been designated:

- Green Creek: CWF, MF
- Naamans Creek: WWF, MF



## WOODLANDS

Delaware County is primarily considered part of the Mixed Oak Forest Region, which extends from northern Georgia to southern New England. Before modern times, this region was known as the Oak-Chestnut region. However, the chestnut blight was introduced to the area in 1904; it obliterated the American chestnut, which was a dominant species of this forest type. Today, little to none of the original forest cover exists in the County, due to clearing for agriculture and development, and even remaining forests have been logged at least once for fuel and lumber.

Today, tulip poplars, which were once a minor portion of the forest makeup, have become co-dominant with oak species of the region along south-facing slopes, while north-facing forested slopes are prevalent with beech trees. The forest understory has become more heavily dominated by native spicebush, viburnums and witch hazel. The Atlantic coastal plain, which extends 5 miles along the lower 50 miles of the Delaware River in Pennsylvania, supported tree species that were common in the south due to the sandy soils and the warmer air coming in from the bay. Today, smaller areas of this forest remain and consist of the sweet gum-oak coastal plain forest type.

Woodlands and hedgerows serve many purposes; woodlands prevent erosion, provide habitat for wildlife, provide buffers for creeks, and offer recreational opportunities for residents. Hedgerows and wooded corridors also prevent erosion and provide cover for wildlife movement, shelter, and migration. Different species of trees attract different types of wildlife. In general, the more diversity of vegetation in an environment, the more species of animals it can support.

The map below shows the wooded areas in Bethel Township based on information collected from Delaware County data. Most of the wooded areas are located around the Township's waterways.



## PRESERVED/PROTECTED LAND

Preserved and protected lands in the Township are shown on the map on the following page and described below.

### Township-Owned Parks

#### *Bethel Community Park*

Community Park is located on Foulk Road, across from Bethel Springs Elementary School, and is approximately 2.7 acres in size. The Park contains two baseball fields, benches, 58 regular parking spaces and two ADA spaces.

#### *John T. Adkinson Park*

Adkinson Park is located on Naamans Creek Road, north of Foxfield at Naamans Creek, and is approximately 6.3 acres in size. The Park contains a pavilion, picnic tables, benches, an approximately one-acre pond, a walking path along the southern perimeter and pond, 25 regular parking spaces and two ADA spaces.

#### *Jack King Park / Thompson Swamp*

Jack King Park, along with Thompson Swamp, is located on Naamans Creek Road off Ebright Road and is approximately 8.6 acres in size. The Park contains a playground, picnic tables, benches, a walking path that traverses the Park's wooded areas, 27 regular parking spaces and two ADA spaces.

### Township-Owned Open Space

#### *Shaffer Preserve*

Shaffer Preserve is located along Bethel Road near Sarum Farm Lane. It is approximately 28 acres in size. The Preserve contains a pond and is planned for passive recreational features, including: a 10' wide ADA-accessible walkway with benches; a 6' wide asphalt (or mown) walkway; boardwalk to Goodley Road; primary and secondary lawns; plaza; formalized seating / lawn area; tree allée; vehicular lighting; preserve gate; privacy fence and 17 parking spaces with space for overflow parking.

### *Calais Woods and Sharon Development Open Space*

These areas of municipal open space, approximately 16.8 acres in size, are located between Sharon Drive, Red Oak Drive and Split Rail Drive. They are adjacent to residential developments and contain a tributary of the South Branch Naamans Creek.

### School Property

#### *Bethel Springs Elementary School*

Bethel Springs is located along Foulk Road, opposite Community Park. The site is approximately 22.9 acres in size and contains a baseball field, softball field, two soccer fields, a basketball court and two playgrounds. The site also contains a nature trail, which provides an outdoor educational experience for students to learn about environmental resources and protection. The parking lot has 380 regular parking spaces and 14 ADA spaces. The school building itself houses kindergarten to 5th grade classes and has an enrollment of 534 students.

#### *Francis Harvey Green School Site*

This site, located at the corner of Foulk and Bethel Roads, was the home of the former Francis Harvey Green School. It is approximately 7.4 acres in size and contains a baseball field with bleachers. The parking lot has 20 regular parking spaces. The school building was demolished in 2010.

Bethel Township Parks + Open Space	Acres	% of Township Land
Bethel Township	<b>3456.0</b>	<b>100%</b>
Township-Owned Active Parks	17.6	0.5%
Bethel Community Park	2.7	0.1%
John T. Adkinson Park	6.3	0.2%
Jack King Park/Thompson Swamp	8.6	0.2%
Township-Owned Unused Open Space	<b>44.8</b>	<b>1.3%</b>
Shaffer Preserve	28.1	0.8%
Sharon Development Open Space	9.7	0.3%
Calais Woods	7.1	0.2%
<b>Total Township-Owned Parks &amp; Open Space</b>	<b>62.4</b>	<b>1.8%</b>

## BETHEL TOWNSHIP Parks & Open Space Inventory Map



CHADDS FORD  
PARCELS  
Water Body  
Roads  
Garnet Valley Greenway

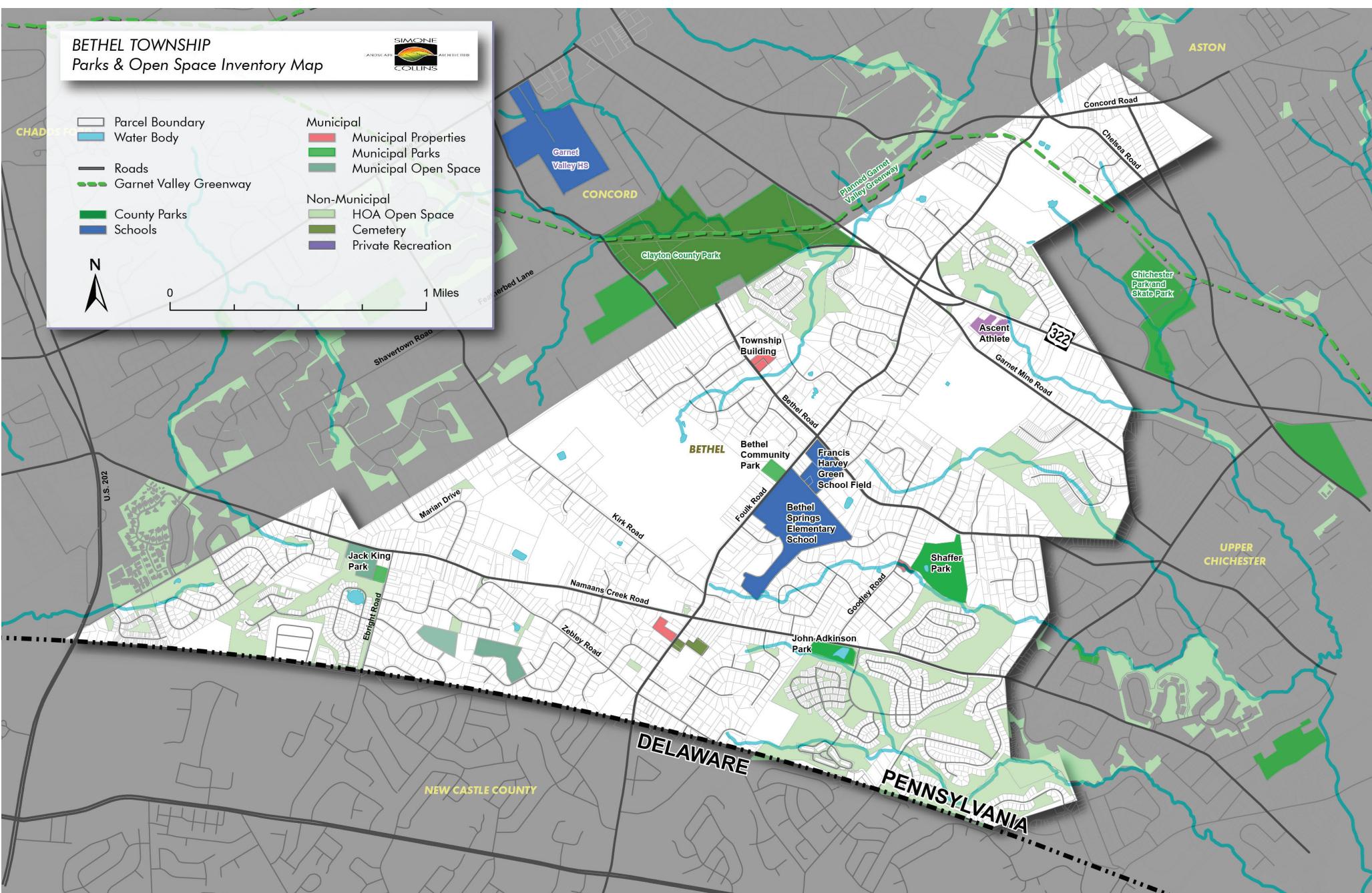
Municipal  
Municipal Properties  
Municipal Parks  
Municipal Open Space

Non-Municipal  
HOA Open Space  
Cemetery  
Private Recreation



0

1 Miles

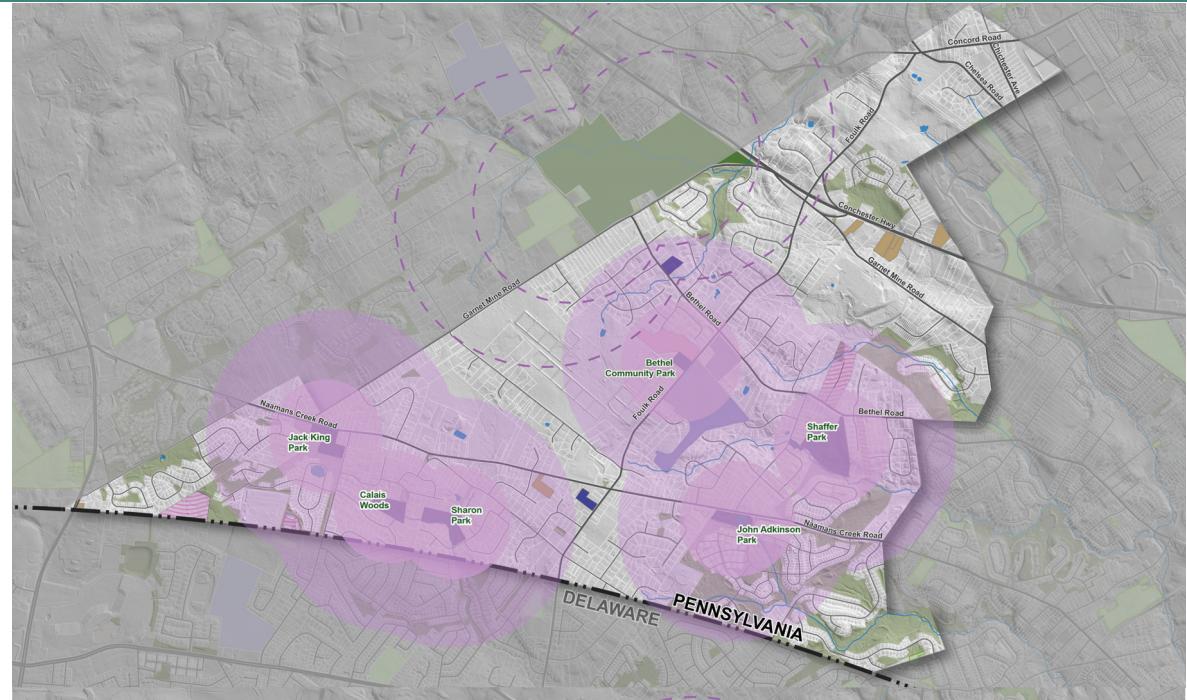


Bethel Township Parks + Open Space	Acres	% of Township	Active Rec.	Type		Paths/Trails	Parking	Facilities										
				Public Open Space	Private Open Space			Walk	Nature Trail	Regular	ADA	Baseball	Softball	Soccer	Basketball	Playground	Pavilion	Picnic Tables
Bethel Township	3456.0	100%																
<b>Township-Owned Parks</b>	<b>17.6</b>	<b>0.5%</b>																
Bethel Community Park	2.7	0.1%	X						58	2	2						X	
John T. Adkinson Park	6.3	0.2%	X			X			25	2						X	X	X
Jack King Park/Thompson Swamp	8.6	0.2%	X	X		X			27	2			X	X	X			
<b>Township-Owned Open Space</b>	<b>44.8</b>	<b>1.3%</b>																1
Shaffer Park	28.1	0.8%		X					0	0								1
Sharon Park	9.7	0.3%		X					0	0								
Calais Woods	7.1	0.2%		X					0	0								
<b>Total acreage for ex. Township-owned parks and open space</b>	<b>62.4</b>	<b>1.8%</b>																
<b>County-Owned Open Space</b>	<b>4.1</b>	<b>0.1%</b>																
Clayton Park	4.1	0.1%		X														
<b>HOA Open Space</b>	<b>379.8</b>	<b>11.0%</b>																
Garnet Oaks	30.7	0.9%			X													
Green Glen Drive and Foulk Road Open Space	3.3	0.1%																
Northbrook	33.1	1.0%			X													
Garnet Reserve	17.0	0.5%			X													
Garnet Hills	40.4	1.2%			X													
The Hills at Bethel	34.6	1.0%			X													
The Woods at Naaman's	34.4	1.0%			X													
Rock Creek	20.1	0.6%			X													
Foxfield	82.7	2.4%			X													
Greenbriar	2.9	0.1%																
Bookcroft	1.0	0.03%																
Marian Drive Open Space	1.4	0.04%																
Sweet Briar	3.4	0.1%																
Beau Tree	1.9	0.1%																
Belmont + Senior Community	42.4	1.2%																
Chartwell	22.1	0.6%			X													
Pyle Road Area Open Space	1.4	0.0%																
Trotters Lea	7.1	0.2%			X													
<b>School District Lands</b>	<b>30.3</b>	<b>0.9%</b>																
Francis Harvey Green School	7.4	0.2%	X	X					20	0	1						X	
Bethel Springs Elementary School	22.9	0.7%	X	X				X	380	14	1	1	2	1	2			
<b>Private Outdoor Recreational Facility</b>	<b>47.2</b>	<b>1.4%</b>																
Penn-Del Archers	47.2	1.4%																
<b>Cemetery</b>	<b>3.5</b>	<b>0.1%</b>																
Siloam Church and Cemetery	3.5	0.1%	X	X					20	0	1						X	
<b>Total acreage for ex. parks and open space in Twp</b>	<b>527.4</b>	<b>15.3%</b>																

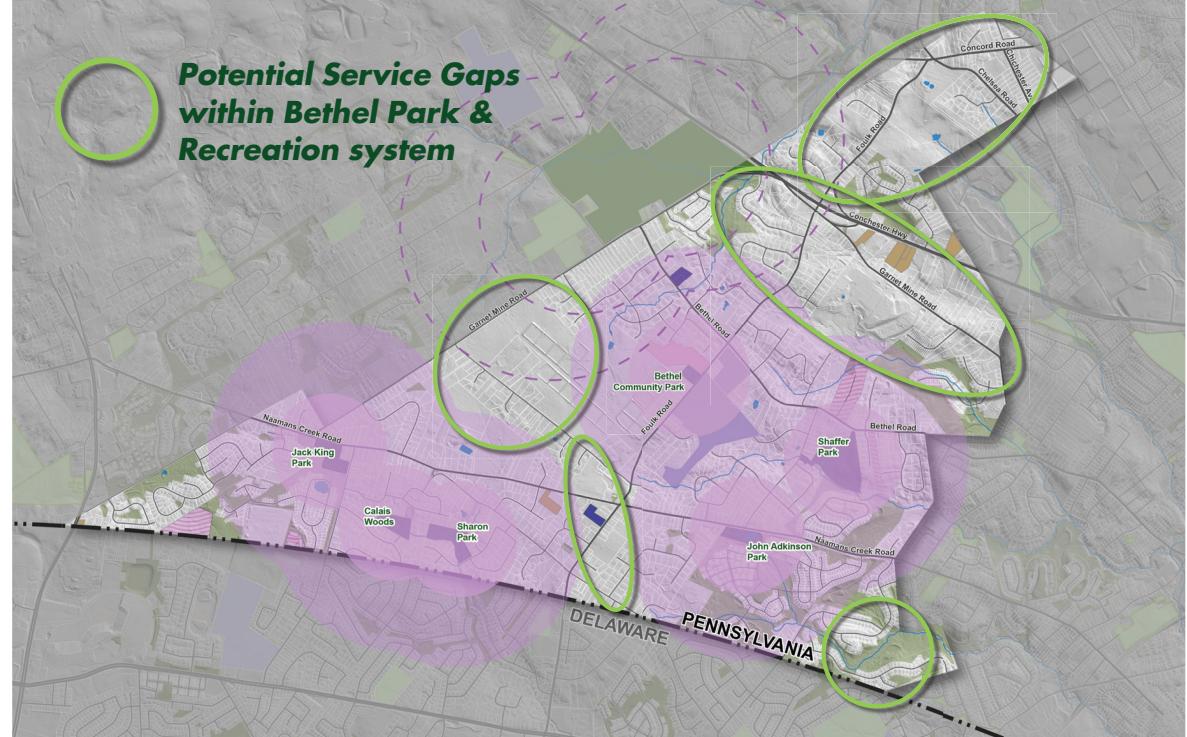
# RECREATION FACILITIES & OPEN SPACE INVENTORY AND ANALYSIS

## SERVICE AREA MAP

The Service Area Map indicates a quarter mile and half mile radius areas from each park and Township-owned parcel, as well as other local and neighborhood parks located a half mile and mile from the Township. This map demonstrates both areas which may be well-served by these lands (within the service area radii) as well as areas that may not be served, due to the greater distance from these lands/facilities (located in the "service gaps" outside of the service area radii).



**Potential Service Gaps  
within Bethel Park &  
Recreation system**



## COMMUNITY BENCHMARKING

Community benchmarking was completed to evaluate the park system of Bethel Township against communities which are similar to the Township in size and population. Bethel's 2020 population and projected 2045 population were used to determine both current and future recreational needs.

A comparison analyzed the amount of recreational space and number of amenities provided, using National Recreation and Parks Association (NRPA) Metrics as a guide. Recreational facilities from five municipalities were used to determine the extent of either deficit or surplus of amenities in the Township. See charts in the Appendix of this report.

### Community Benchmarking for Current Needs

In 2020, the population of Bethel Township was 9,359. Municipalities used for benchmarking were:

- East Fallowfield Township, Chester County, PA – 2020 Population: 7,626
- Upper Milford Township, Lehigh County, PA – 2020 Population: 7,777
- London Grove Township, Chester County, PA – 2020 Population: 8,797
- North Coventry Township, Chester County, PA – 2020 Population: 8,441
- Upper Providence Township, Delaware County, PA – 2020 Population: 10,963

When comparing Bethel's recreational facilities to the average of these benchmark municipalities, the Township lands either at the average or below average. Noted below are the additional facilities that would be needed to meet the average:

- 1 park
- 247.54 acres of parkland
- 1 basketball court
- 4 biking/hiking trails or walking tracks
- 1 multipurpose field
- 2 pavilions / rental spaces
- 1 tennis court
- 1 soccer field
- 2 volleyball courts
- 1 playground

### Community Benchmarking for Future Needs

In 2045, the population of Bethel Township is projected to be 10,170. Municipalities used for benchmarking were:

- East Bradford Township, Chester County, PA – 2020 Population: 10,339
- Willistown Township, Chester County, PA – 2020 Population: 11,273
- Worcester Township, Montgomery County, PA – 2020 Population: 10,317
- Chesterfield Township, Burlington County, NJ – 2020 Population: 9,422
- Upper Providence Township, Delaware County, PA – 2020 Population: 10,963

When comparing Bethel's recreational facilities to the average of these benchmark municipalities, the Township lands either at the average or below average. Noted below are the additional facilities that would be needed to meet the average:

- 6 parks
- 438.76 acres of parkland
- 5 baseball / softball fields
- 1 basketball court
- 6 biking/hiking trails or walking tracks
- 1 multipurpose field
- 2 tennis courts
- 1 soccer field
- 1 volleyball court
- 1 playground
- 1 dog park
- 1 fishing area
- 1 community garden

NRPA Benchmarking 2023					
	NRPA metrics	Bethel Township 2020	Bethel Township 2045 Projection	Additional needed to meet metric 2020	Additional needed to meet metric 2045
<b>Population of Jurisdiction</b>	Less Than 20,000	9,359	10,170		
Number of Residents per Park (median)	1225.00	3119.67	3390.00	-	-
Acres of Parkland per 1,000 Residents (median)	13.00	1.88	1.73	-	-
Number of Parks	-	-	-	4.64	5.30
Township-owned (acres)	-	-	-	104.09	114.63
<b>Outdoor Facilities</b>					
Playgrounds	2014.00			3.6	4.0
Basketball courts	3729.00			2.5	2.7
Diamond Fields: baseball field - youth	3114.00			3.0	3.3
Tennis courts (outdoor)	2805.00			3.3	3.6
Rectangular fields: multi-purpose	3859.00			1.4	1.6
Diamond Fields: softball field - adult	5800.00			1.6	1.8
Diamond Fields: softball field - youth	5079.00			1.8	2.0
Rectangular fields: soccer field - adult	6955.00			1.3	1.5
Mutiuse courts - basketball, volleyball	5093.00			1.8	2.0
Totlots	5816.00			1.6	1.7
Rectangular fields: football field	8637.00			1.1	1.2
Pickleball (outdoor)	3252.00			2.9	3.1
Regulation 18-hole course	9587.00			1.0	1.1
Mutiuse courts - tennis, pickleball (outdoor)	4868.00			1.9	2.1
Multipurpose synthetic field	9518.00			1.0	1.1
<b>Indoor Facilities</b>					
Recreation Centers (incl. gyms)	9745.00			1.0	1.0
Community Centers	8829.00			1.1	1.2
Senior Centers	14000.00			0.7	0.7
Performance amphitheaters	11100.00			0.8	0.9
Nature Centers	10633.00			0.9	1.0
Aquatics Centers	11650.00			0.8	0.9
Stadiums	9250.00			1.0	1.1
Teen centers	14593.00			0.6	0.7
Indoor ice rinks	8000.00			1.2	1.3
Arenas	5531.00			1.7	1.8

Community Benchmarking - Existing Facilities (2020 Bethel Township Population)				
	Bethel Township, Delaware County (2020)	Benchmark Municipalities Average (2020)	Difference from Average	Difference from Maximum
Population	9,359	8,721	638	-1,604
Area (Sq. Miles)	5.44	14.06	-8.62	-12.57
2020 Pop. Density per Sq. Mile	1,720	788	933	-170
# of Parks	3	4	-1	-6
Park Area (Acres)	17.58	265.12	-247.54	-712.89
Median Income (2021)	\$150,877	\$111,108	\$39,769	\$35,393
<b>Facility</b>				
Baseball / Softball / T-Ball	3	3	0	-5
Basketball	0	1	-1	-2
Biking / Hiking Trail / Walking Track	0	4	-4	-10
Football	0	0	0	0
Multipurpose Field	0	1	-1	-3
Pavilion / Rental Space	1	3	-2	-3
Pool	0	0	0	0
Tennis	0	1	-1	-3
Pickleball court	0	0	0	0
Tennis/Pickleball combo court	0	0	0	0
Skate Park	0	0	0	-1
Soccer	0	1	-1	-5
Volleyball	0	2	-2	-5
Playgrounds	1	2	-1	-3
Disc Golf	0	0	0	-1
Street Hockey / Ice Skating	0	0	0	-1
Dog Park	0	0	0	-1
Fishing	0	0	0	-2
Amphitheater	0	0	0	-1
Community Center	0	0	0	-1
Recreation Center	0	0	0	0
Boat/Raft Launch	0	0	0	-1
Gaga Ball	0	0	0	0
Community Garden	0	0	0	-1

## Benchmarking with 2023 NRPA Metrics

The National Recreation and Park Association (NRPA) compiles park and recreation agency information from across the country. NRPA understands that there is no single set of standards for parks and recreation to address the uniqueness of a community. The organization creates averages for total acres of parkland, total number of parks, facility type totals, and average operating expenses to assist planners with addressing parks and recreation needs within a community.

Below is a comparison of some of the NRPA metrics (for agencies serving jurisdictions of less than 20,000 residents) and the numbers in Bethel (based upon 2020 population of 9,359 residents and 2045 projected population of 10,170):

### **NRPA METRIC: THERE ARE TYPICALLY 1,225 RESIDENTS PER PARK.**

Bethel has 3 parks, which means that there are currently 3,120 residents per park. The Township would need an additional 4-5 parks to meet this metric currently and an additional 5-6 parks to meet this metric in 2045.

### **NRPA METRIC: THERE ARE TYPICALLY 13 ACRES OF PARKLAND PER 1000 RESIDENTS (NRPA).**

Bethel has 17.6 acres of Township-owned active parkland. Based on the 2020 population of 9,359 residents, Bethel currently has 1.88 acres of parkland per 1,000 residents, which is a deficit of about 104 acres. To meet this metric in 2045, the Township will need an additional 114.63 acres for a total of 132 acres of parkland.

### **NRPA METRIC: THERE IS TYPICALLY ONE (1) PLAYGROUND FOR EVERY 2,014 RESIDENTS.**

Bethel has one (1) playground. The Township would need an additional four (4) playgrounds to meet this metric per the 2020 and 2045 population counts.

### **NRPA METRIC: THERE IS TYPICALLY ONE (1) BASKETBALL COURT FOR EVERY 3,729 RESIDENTS.**

There are currently no basketball courts in Bethel. The Township needs three (3) courts to meet this metric per the 2020 and 2045 population counts.

### **NRPA METRIC: THERE IS TYPICALLY ONE (1) YOUTH BASEBALL FIELD FOR EVERY 3,114 RESIDENTS.**

There are currently three (3) baseball / softball fields in Bethel. To meet this metric, the Township needs a an additional three (3) fields per the 2020 and 2045 population counts.

### **NRPA METRIC: THERE IS TYPICALLY ONE (1) MULTIPURPOSE FIELD FOR EVERY 3,859 RESIDENTS.**

This is currently no multipurpose field in Bethel. The Township needs two (2) fields to meet this metric per the 2020 and 2045 population counts.

### **NRPA METRIC: THERE IS TYPICALLY ONE (1) ADULT SOCCER FIELD FOR EVERY 6,955 RESIDENTS.**

There are currently no soccer fields in Bethel. To meet this metric, the Township needs one to two (1-2) fields per the 2020 and 2045 population counts.

### **NRPA METRIC: THERE IS TYPICALLY ONE (1) TENNIS / PICKLEBALL COURT FOR EVERY 4,868 RESIDENTS.**

There are currently no tennis / pickleball courts in Bethel. To meet this metric, the Township needs two (2) courts per the 2020 and 2045 population counts.



## WALKABILITY AND TRAILS

### Sidewalks/Trails/Sidewalk Gaps (DVRPC)

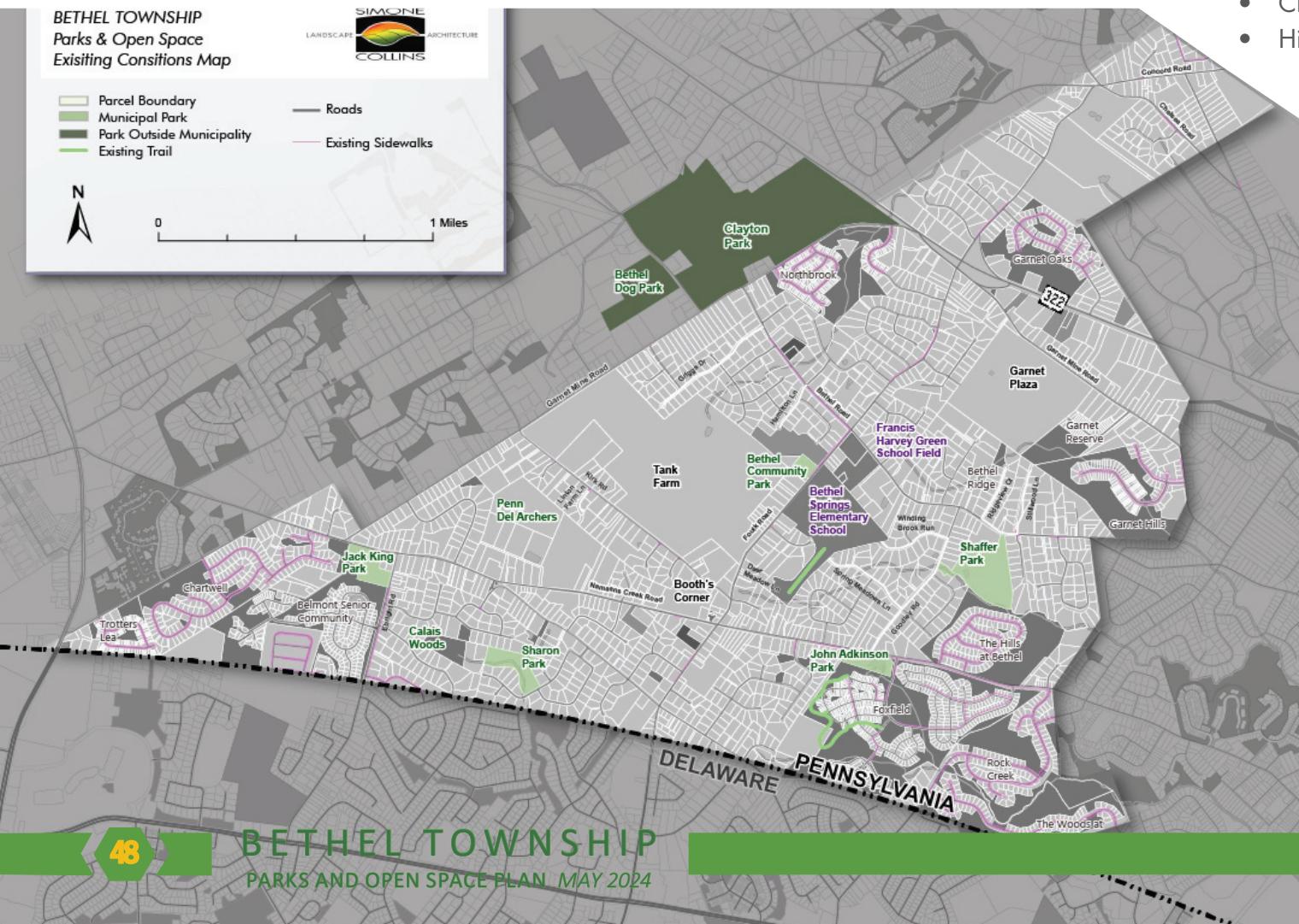
Sidewalks within the Township are limited to areas within residential developments, resulting in what is essentially a network of isolated patches that exist in the southeast and southwest sections of the Township and a few neighborhoods in the north.

### Destinations within Bethel Township

- Bethel Community Park
- Jack King Park
- John Adkinson Park
- Shaffer Preserve
- Bethel Springs Elementary School
- Bethel Township Building
- Booth's Corner
- Siloam United Methodist Church

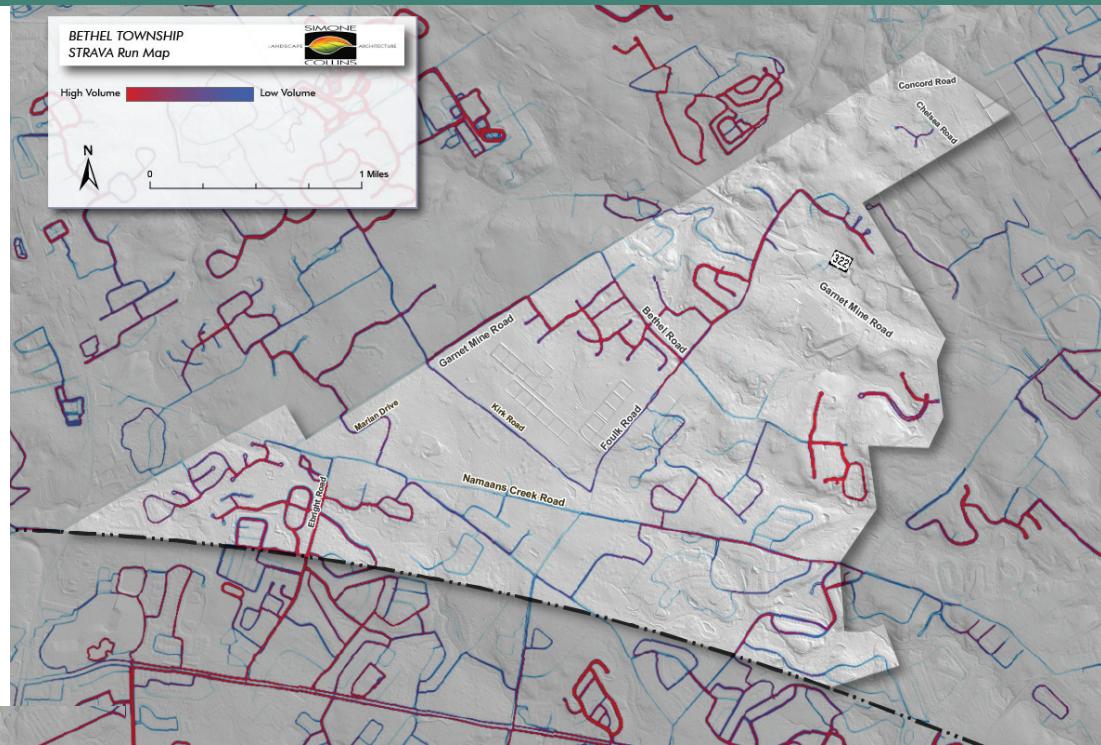
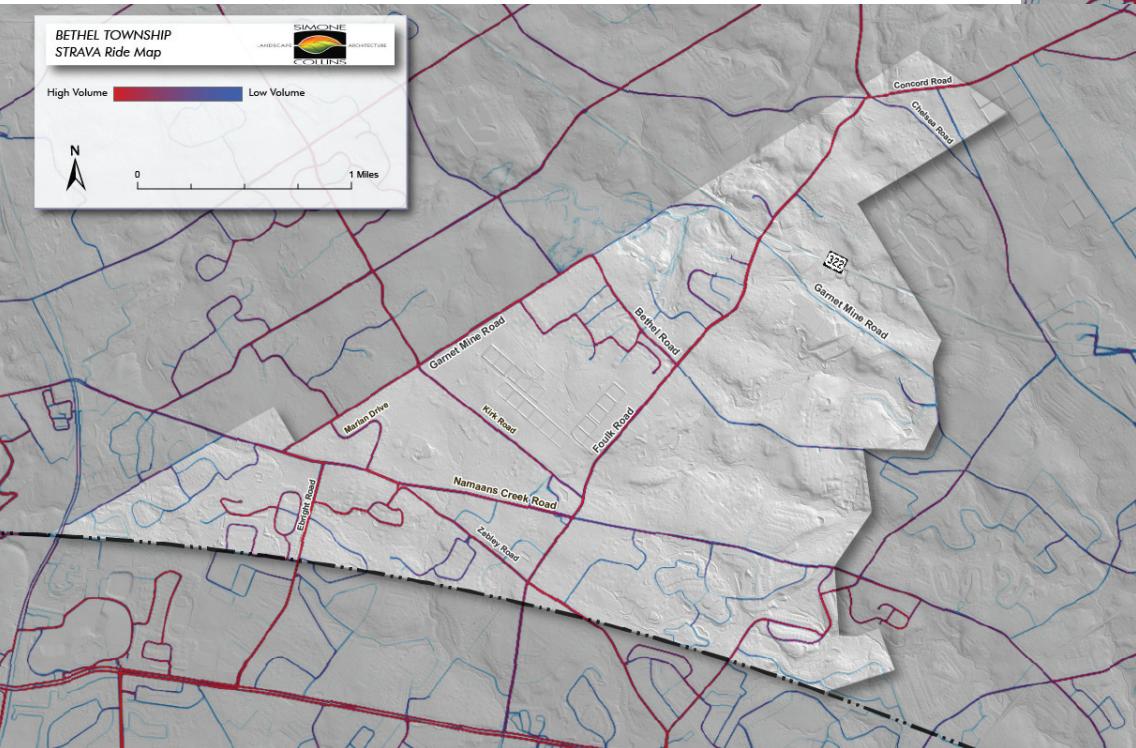
### Destinations in Adjacent Municipalities

- Clayton Park
- Bethel Dog Park
- Concord Elementary School
- Garnet Valley Middle School
- Garnet Valley High School
- Concord Township Park Complex
- Delaware County Technical High School
- Neumann University
- MSI Sports Complex
- Chichester High School
- Hilltop Elementary School



## STRAVA HEAT MAPS

STRAVA is an app used by bicyclists and runners to track their routes. This information is aggregated by STRAVA to create "Heat Maps"; the hotter and bolder the route, the more heavily it is used. STRAVA is a social network for athletes to track exercise. The heat map shows 'heat' made by aggregated, public activities over the last year. The heat map is updated monthly. Activity that athletes mark as private is not visible.



## STORMWATER MANAGEMENT & MS4

### What is MS4?

The Municipal Separate Storm Sewer System (MS4) program is mandated under the Clean Water Act and administered by the PA Department of Environmental Protection (DEP). The goal of this program is to reduce the amount of pollution discharged into waterbodies from separate storm sewer systems (MS4s).

An MS4 is a system of conveyances, like a retention basin, roadside inlet, or underground pipe, and they are designed to collect and transport stormwater and discharge it, untreated, into local waterways. MS4s are owned or operated by a city, town or other public entity and are not connected to the sanitary sewer system or wastewater treatment plant.

Through this program, local municipalities must obtain a permit to legally discharge stormwater into local streams and creeks. To meet the terms of this permit, they need to create a Stormwater Management Program (SWMP) that is designed to reduce the amount of pollution entering local waterbodies.

Every SWMP must address 6 focus area, also called Minimum Control Measures (MCMs) that are considered essential for successfully reducing stormwater pollution:

- Public Education and Outreach
- Public Participation and Involvement
- Illicit Discharge Detection and Elimination
- Construction Site Runoff Control
- Post-Construction Runoff Control
- Pollution Prevention/Good Housekeeping for Municipal

Bethel Township maintains a Stormwater Management section on its Township website and it is a useful resource for public education and involvement. It includes information on

reducing pollution at home, creating rain gardens and a list of local and state resources for further information on pollution prevention and stormwater management.

As mentioned earlier in this chapter, Bethel lies within the Naamans Creek, West Branch Chester Creek and Brandywine Creek watersheds. As part of its MS4 requirements, the Township has developed a pollution reduction plan (PRP) to address pollutants. It recommends the installation of Stormwater Best Management Practices (BMPs) in the form of converting dry basins to extended dry basins with some sediment filtering and stream bank stabilization. This includes a retrofit of a basin in the Township-owned land in the Sharon development.



## ORGANIZED SPORTS PROGRAMS ANALYSIS

### Brandywine Youth Club

The Brandywine Youth Club (BYC) provides organized sports programs to kids in Bethel Township, Chester Heights, Concord Township, Chadds Ford Township and Thornbury Township. In Bethel Township, the BYC uses the following facilities:

#### Bethel Community Park

- Field 1: Baseball / Softball
- Field 2: Baseball / Softball
- Field 3: Baseball / Softball

#### Bethel Spring Elementary School

- Field 11: Baseball-Teeners (13-15 years) and Soccer (Grades 2-8)
- Field 12: Lacrosse / Softball / Soccer
- School Gym

#### Francis Harvey Green Field

- Baseball and Soccer / Lacrosse Practice



### Brandywine Booters / Bethel Bombers

The Brandywine Booters provide organized soccer for children aged 3.5 to 9. A second league in the program has organized soccer for children aged 6 to 9.5. This is a non-competitive league for participants who want to continue to benefit from the group's program. All children living within the Garnet Valley School District are eligible to participate. Within Bethel Township, the Booters utilize the open area around the baseball infield at Community Park to set up five fields of varying sizes for play. They also utilize the open field at Francis Harvey Green. Parents park at either the parking lot at Community Park, the Francis Harvey Green lot or the Bethel Springs lot.

The Bethel Bombers provides organized t-ball for children aged 4-6 and they use Community Park for their program.



### Garnet Valley School District

The School District has a symbiotic relationship with the Township and is a full access school community as residents and groups are able to utilize the District's tracks and courts. BYC uses the fields at Bethel Springs for soccer in the fall and lacrosse and baseball in the spring with occasional soccer usage. Some local groups will also reach out for scheduling use of the fields. The field at the Francis Harvey Green site is used by the cross-country team. The open space itself is used by residents and is utilized by the Bethel Fire Company for events, such as the annual carnival. The District does not have any formal plans for the future of the field. The District also partners with Ascent Athlete, a private recreation provider located along Route 322 that specializes in baseball and softball player development, to use their training facility.



**GARNET VALLEY  
SCHOOL DISTRICT**

## RECREATION PROGRAMMING ANALYSIS

The Township provides a number of community / special events. Some of the special events include: an Easter egg hunt, movie night, July 4th fireworks, corn boil and a Christmas event. The events are heavily promoted on the Township's social media sites. Events are coordinated through the Park Board in partnership with Township administration, and a volunteer group of dedicated residents. The events are well received and well attended by Township residents; nonresidents are welcome to attend as well.

Bethel does not offer other organized recreational programs for residents. Recreational activities are provided by private organizations. Residents may participate in unorganized spontaneous recreational pursuits through a variety of venues within the Township. The Township's park system and School District facilities provide ample opportunity for individuals and families to recreate at their own pace. Walking trails, open lawn areas, ballfields, play equipment, wildlife observation, and other opportunities are available at the parks and facilities for resident enjoyment.

Opportunities are plentiful for Bethel to provide some simple programs which provides opportunities for residents. The programs may take the form of employee instructors, third party providers, and partnerships with private organizations.



## MAINTENANCE ANALYSIS

Bethel has staff dedicated to perform park maintenance and public works services. The Township performs most park maintenance and organizes the work schedules to accomplish maintenance within the Township. Summer maintenance tasks include grass cutting on Mondays from April to November and additional maintenance that is performed as needed such as cleaning drains, filling potholes and removing trees. Fall and winter maintenance tasks include tree trimming, leaf cleaning, maintaining trails and removing snow from parking lots, trails, streets and Township roads. Staff takes pride in their efforts to provide safe, usable, and a visually pleasing park. Present budgets show funding for maintenance is consistent year over year.

The care and maintenance of all equipment is a high priority for the maintenance department. The level of service to equipment extends the life of the equipment and helps keep budgetary concerns lower.

Current equipment includes:

- Six (6) dump trucks
- Tractor with mower and backhoe
- Several mowers
- Trailers





# RECOMMENDATIONS

3



# GENERAL RECOMMENDATIONS

## BETHEL TOWNSHIP PARK SYSTEM

Bethel Community Park is the Township's only recreational facility with both active and passive amenities. Parks are one of the main settings for residents of Bethel to interact with the community. Parks are areas where residents of all ages, ethnicities, economic statuses, and abilities will interact and create community-building experiences that are a tangible reflection of the quality of life within the community.

Beyond the many benefits parks provide as open space, they are also noted as important indicators of community livability and they create a sense of pride within the community. This has become more evident during the COVID-19 Pandemic where parks and trails became essential for support of both physical and mental health of the residents as was reflected in the dramatic increase of park and open space use.

The community and NRPA benchmarking analysis, as described in the previous chapter, notes the recreational deficiencies the Township currently experiences and will experience as the population grows, and a way to address these deficiencies is to develop new recreational features on Township-owned land and to explore additional places in the Township that may be suitable for open space preservation in order to fully meet the recreational needs of the Township's future residents.

With the addition of new facilities on Township-owned land, Bethel can begin to create a Township-wide park system that closes recreational gaps and provides close-to-home recreational opportunities.

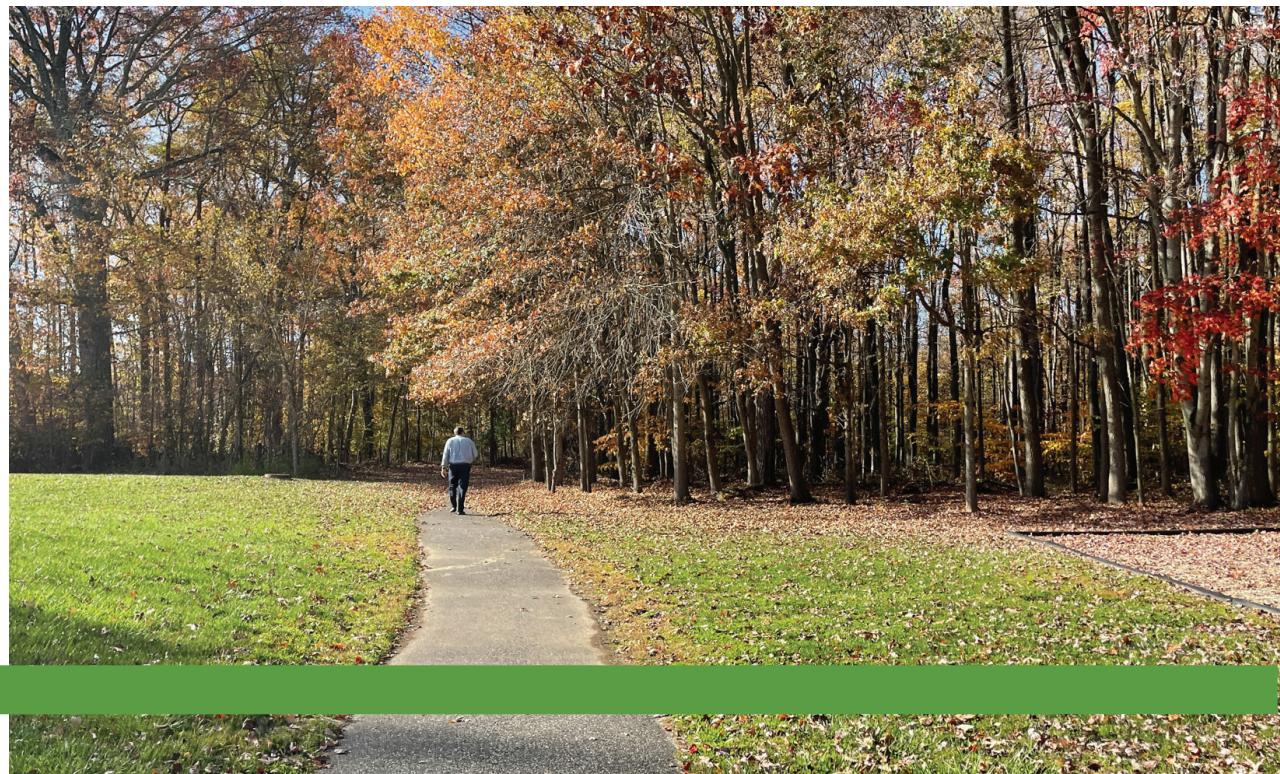
### A SUCCESSFUL PARK SYSTEM:

- Will be a catalyst for community revitalization, economic development, promote public health, create community engagement opportunities, and provide green infrastructure,
- Will have diverse inventory of assets and sufficient staffing, equipment and, management to maintain safe, functional, and attractive parks, and
- Will be well used, which is a sign that parks are attractive, meet user needs, and are safe.

## PARK FURNISHINGS & MATERIALS

As Bethel brings new parks online, Township Parks and Recreation should develop a set of standards for park furnishings. These park furnishing standards should then be used to start replacing existing park furnishings that do not meet these standards. Using standard elements will also facilitate common spare parts and maintenance consistency.

Choices in site materials can have the potential to affect the health of a park's environment and its life cycle. Park material and design standards should include priorities for sustainability. These can include using local sustainable products that are selected for longevity, durability, and ease of maintenance. The standards should also consider consistency in materials, colors, and aesthetics to create a sense of identity or "branding" for the park system.



## LANDSCAPING

Township parks should provide green infrastructure using primarily native plant materials. Plantings can serve many purposes, including but not limited to shade, absorption of stormwater run-off, habitat, and beauty. Riparian zones in the Township should be planted with a mix of diverse native plant material.

In Community Park and future park facilities, shade trees should be planted for their numerous benefits, including:

- Shade for park users and spectators
- Improving the overall air quality
- Providing habitats for wildlife
- Increased property values
- Carbon dioxide reduction
- Stormwater runoff reduction

The Township can assist residents with setting up "Friends of" groups (either system-wide or for specific parks) that can provide volunteers for the management of the planted areas of the parks. "Friends of" groups can also support other park maintenance needs.

## ADA ACCESS / SAFETY REQUIREMENTS

ADA Access to and within recreational facilities should be a priority for a new park system. ADA access includes providing paths to park amenities, bench placement, parking spaces, site furnishings, and inclusive play equipment. Some basic provisions for providing ADA access are:

- Providing access to one of each type of ground-level equipment,
- Providing ramps or transfer system to some elevated structures,
- Surfacing that accommodates people using wheelchairs, and
- Equipment and bathrooms that meet ADA compliance.

The Consumer Product Safety Commission Guidelines for public parks were established to reduce serious injury to users of play equipment. The guidelines are recommendations that address hazards that can result in playground related injuries and include:

- Potential falls from play equipment,
- Protective surfacing under and around play equipment,
- Scale of equipment related to users age,
- Playground layout, and
- Installation and maintenance.

Inclusive playgrounds can also help to ensure children of all abilities can enjoy park play spaces. Inclusive playgrounds are designed to provide children of different abilities the opportunity to play in a sensory-sensitive environment and to interact with each other.

It is recommended that the Township perform an annual playground audit using a Certified Playground Safety Inspector (CPSI) to identify potential hazards on playground equipment, provide information for equipment specifications and safety surfaces, and provide risk management methods.



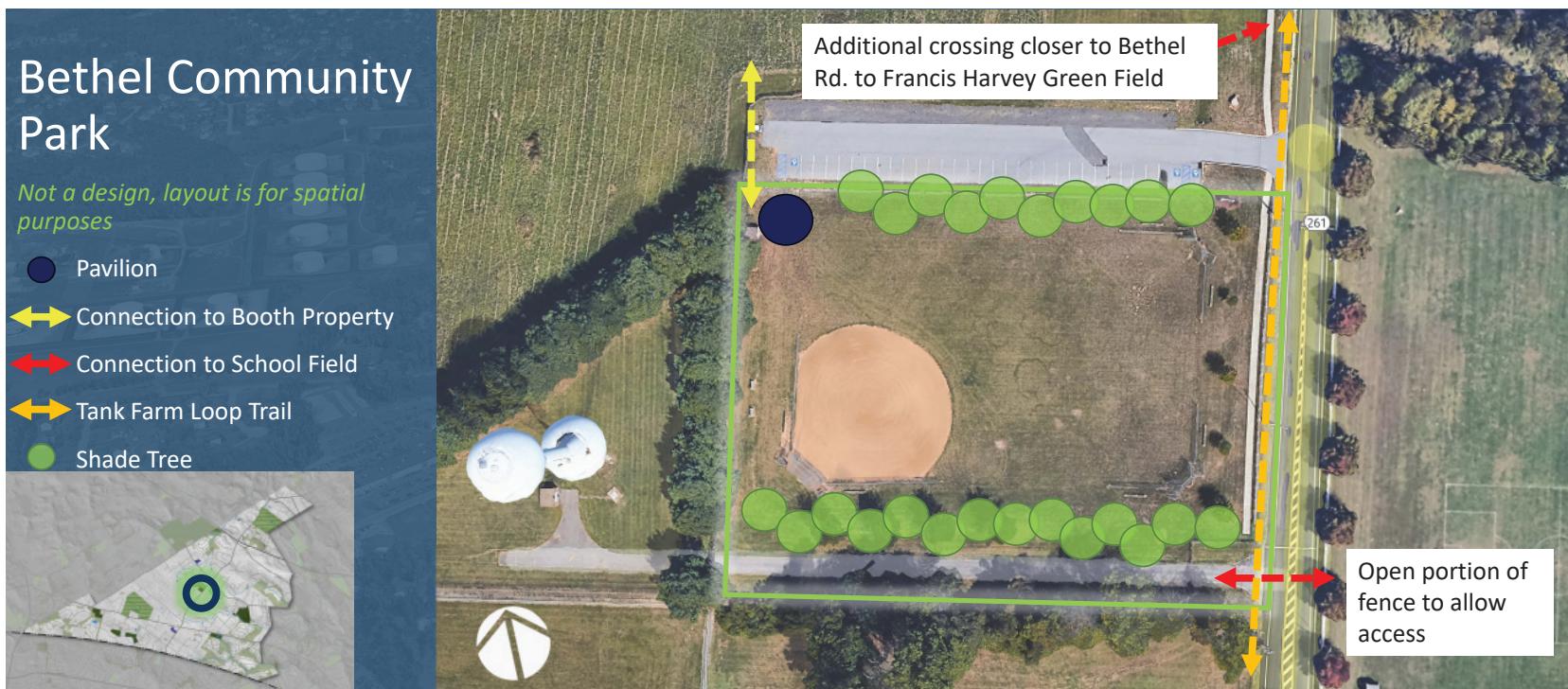
# FACILITY-SPECIFIC IMPROVEMENTS

## BETHEL COMMUNITY PARK

Proposed improvements at Bethel Community Park include:

- Shade tree plantings along the north/south boundaries of the park
- Establish a pedestrian connection from the park to the Booth Property
- Pavilion in the northwest corner of the park

- Pedestrian crossing on Foulk Road from the Bethel Springs Elementary School fields
- Improved pedestrian crossing at the Bethel Road and Fould Road intersection for better access to the Francis Harvey Green Fields
- Access to the proposed Tank Farm Loop Trail



## JACK KING PARK

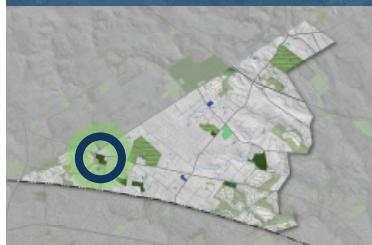
Proposed improvements at Jack King Park include:

- Nature-based playground next to the existing parking lot
- Drainage improvements at both the existing parking lot and proposed playground
- Improved pedestrian crosswalk on Ebright Road from the existing sidewalk in to the park
- Stormwater BMP south of the proposed playground

### Jack King Park

*Not a design, layout is for spatial purposes*

- Nature-Based Playground and Drainage Improvements
- Improved Access to Existing Sidewalk
- Existing Sidewalk
- Stormwater BMP



## JOHN ADKINSON PARK

Proposed improvements at John Adkinson Park include:

- Extend the existing walking trail around the pond, forming a loop trail
- Large inclusive playground in the open space south of the parking lot
- Shade trees lining the parking lot and filling the gaps along Naamans Creek Road
- Naturalize a section of the open space around the pond into meadows
- Informal play field in the eastern section of the park



## CALAIS WOODS & SHARON OPEN SPACE

Proposed improvements at the Calais Woods and Sharon open space parcels include:

- Nature trails with considerations for small trail bridges
- Explore opportunities for property easements to create neighborhood connections

### Calais Woods & Sharon Dev. Open Space

*Not a design, layout is for spatial purposes*

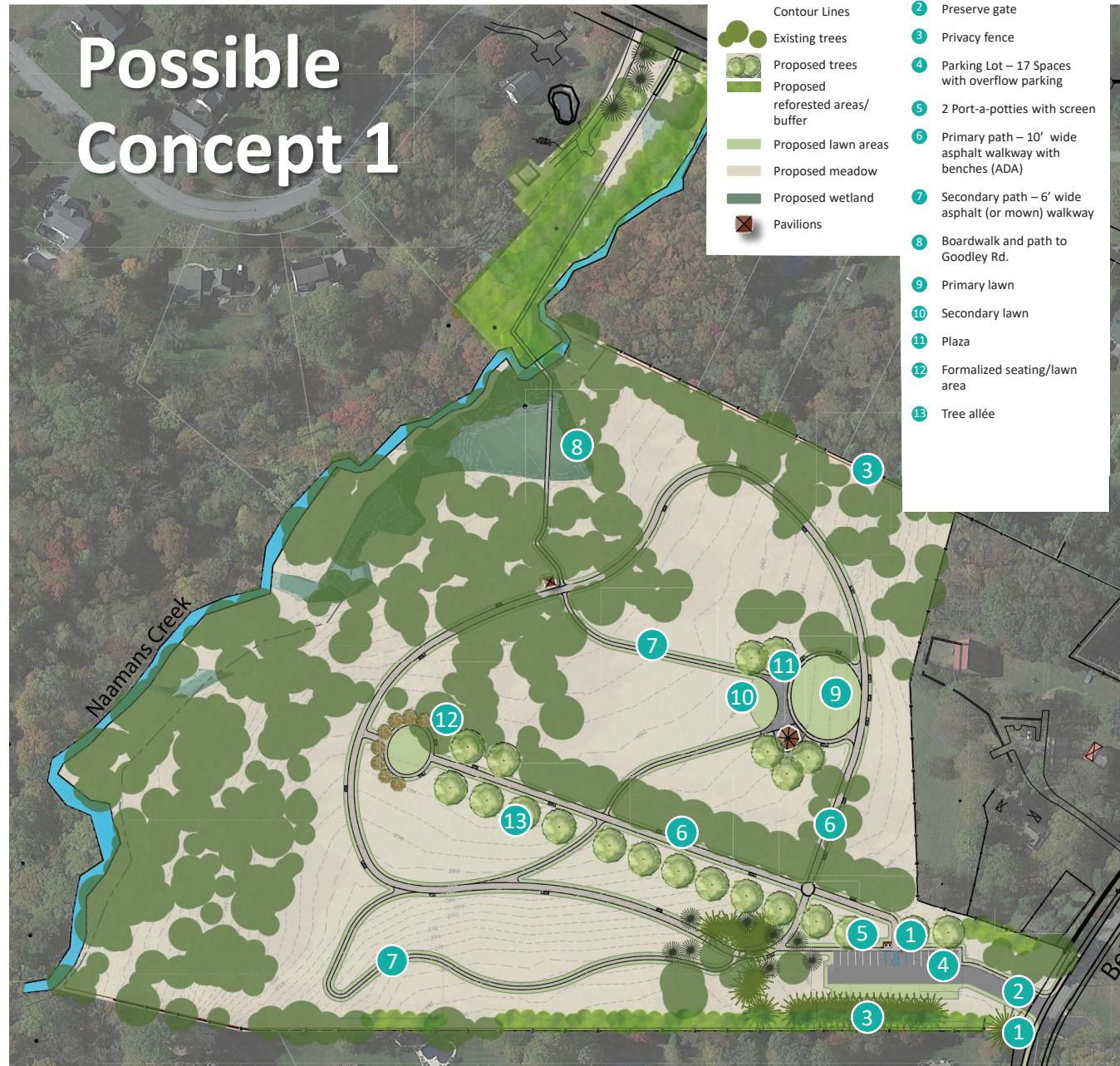
- ◀ Trails (bridges to be considered)
- ▶ Easements for connections



## SHAFFER PRESERVE

Construction documents for Shaffer Preserve were completed simultaneously with this plan. The concept below and planting plan on the following page illustrate proposed improvements, which include:

- Shade trees and various naturalized areas including reforested, meadows, and wetlands
- Lawn areas with formalized seating
- Privacy fence along southern boundary
- Parking lot with 17 spaces and space for overflow parking
- 2 screened port-a-potties
- 10' wide asphalt multi-use trail
- 6' wide secondary trail that is either asphalt or a mown walkway
- Boardwalk path through wetlands area to Goodley Road
- Plaza
- Pavilion





**SIMONE**  
**COLLINS**  
LANDSCAPE  
ARCHITECTURE  
119 EAST LAFAYETTE STREET  
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## OPEN SPACE PRESERVATION

The primary purpose of the Comprehensive Open Space Plan is the consideration to add to the Township's inventory of existing open space. Five parcels were evaluated using criteria that included parcel size and water, land, and community resources. These evaluations serve as a starting point for the Township Board of Supervisors to prioritize which parcels might be considered for future preservation or acquisition. These five parcels are shown on the map on the following page.

The parcels noted for consideration as future open space were selected by the consultant in close coordination with Township staff regarding a number of factors including but not limited to: development activity in a particular neighborhood; the site's natural resources; community resources; and access to the site.

Even though new facilities are proposed at Community Park and other Township-owned sites as described in the preceding section, the opportunities for land acquisition or preservation for additional open space and active and passive recreation will help to address the recreational deficiencies in the Township.

The total number of parcels that were evaluated does not mean that this report recommends preservation of all the parcels evaluated. Conversely, it is assumed that most of these parcels will not and cannot be acquired or preserved, simply because of the magnitude of costs. By working closely with property owners and negotiating the possible use of any or all of a site's lands will hopefully ensure that the Township has a good inventory of open space in the future.

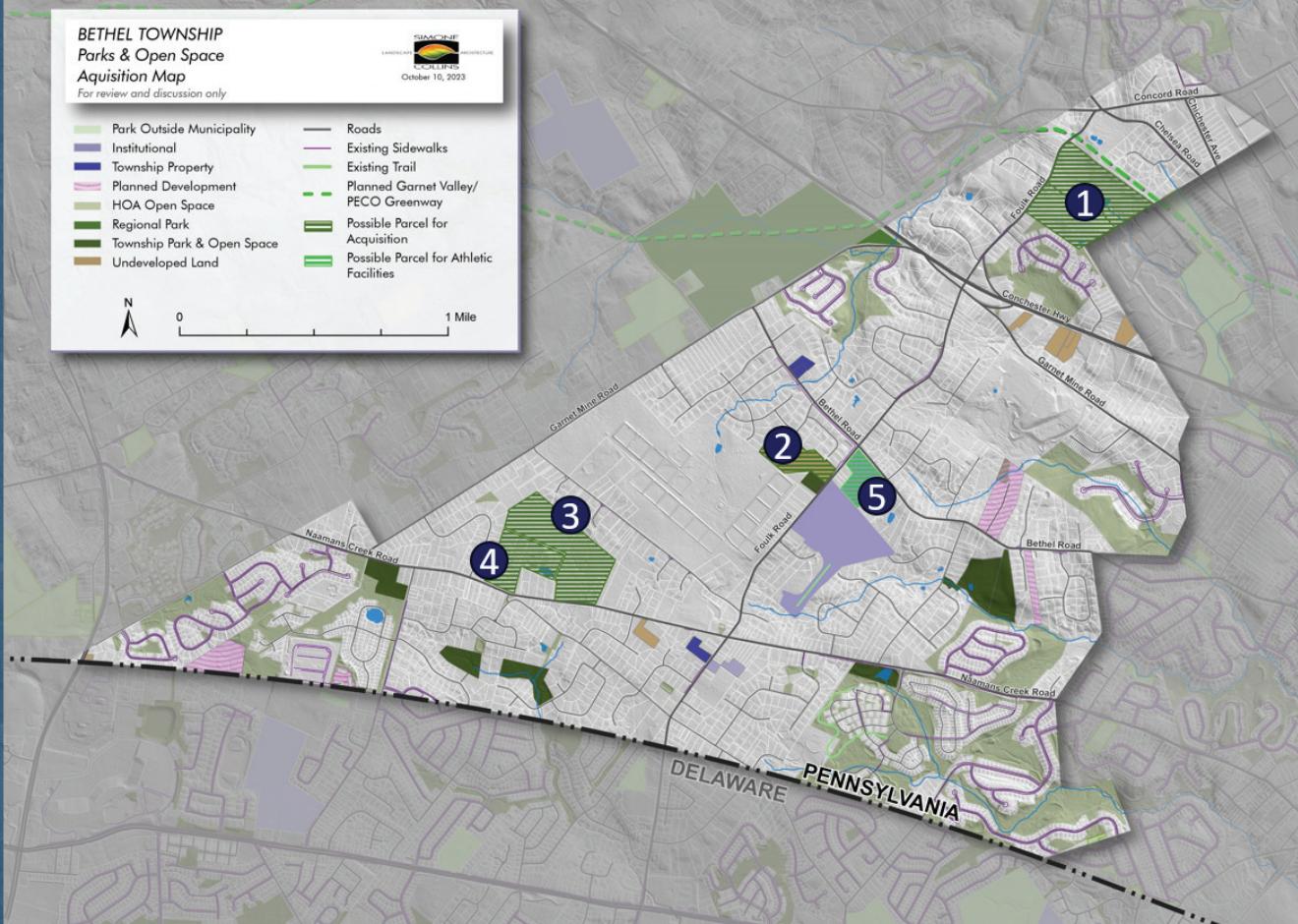
It is recommended that all the evaluated parcels be placed on a new Township Official Map as potential open space. The Official Map is described in detail in the next section.

## Parcels for Acquisition or Protection

- 1 Maguire Property (Horse Farm) – *active and passive*
- 2 Booth Property – *active*
- 3 Penn-Del Archers – *active and passive*
- 4 Silvestri Property (Mushroom Farm) – *active*

## Parcel for Athletic Facilities

- 5 Francis Green Harvey School – *active*



## Preservation Strategy: Official Map

As permitted by the PA Municipal Planning Code, the Official Map is a combined map and ordinance designed to implement the goals and community vision set forth in the municipality's Comprehensive Plan.

The Official Map shows the locations of planned future public lands and facilities such as transportation, recreational parks and trails, and open space.

The Official Map expresses a municipality's interest in acquiring these lands for public purposes at some future time. The Official Map process does not mandate any action by the Township. However, if a parcel designated as future open space is planned for development or subdivision of a land development or subdivision application, it gives the Township an opportunity to discuss preserving at least part of the parcel as open space, in addition to whatever provisions may exist in the zoning ordinance for open space preservation or providing residents with public trails.

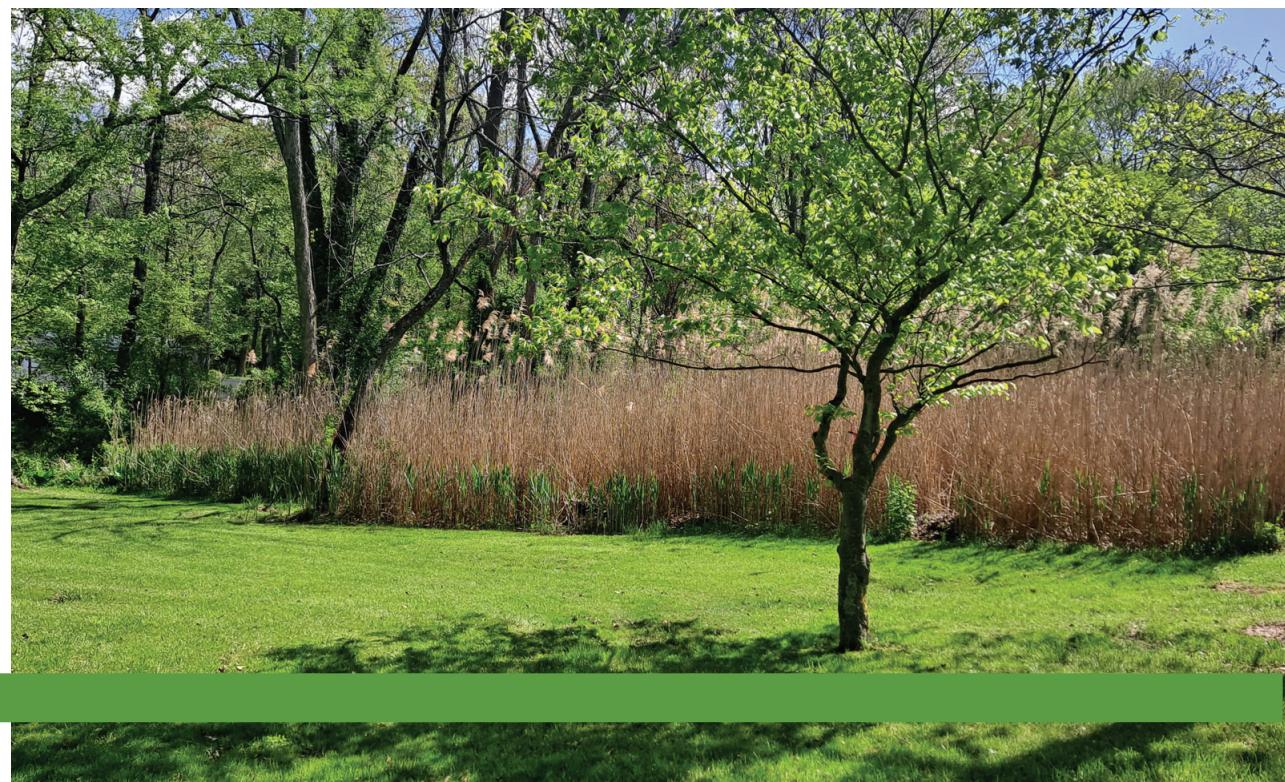
An official map may include but need not be limited to:

- Existing and proposed public streets, watercourses, and public grounds, including widenings, narrowings, extensions, reductions, openings or closing of same.
- Existing and proposed public parks, playgrounds, and open space preservations.

- Existing and proposed pedestrian ways (trails) and easements.
- Flood control areas, floodways and floodplains, stormwater management areas and drainage easements.

- It is an effective negotiation tool for municipalities, helping to ensure development is compatible with and supportive of public goals.
- It gives municipalities an advantage in securing grants.

The Official Map of East Fallowfield Township in Chester County, Pennsylvania is included as an example.



0 0.25 0.5 1 1.5 2 Miles **NORTH**

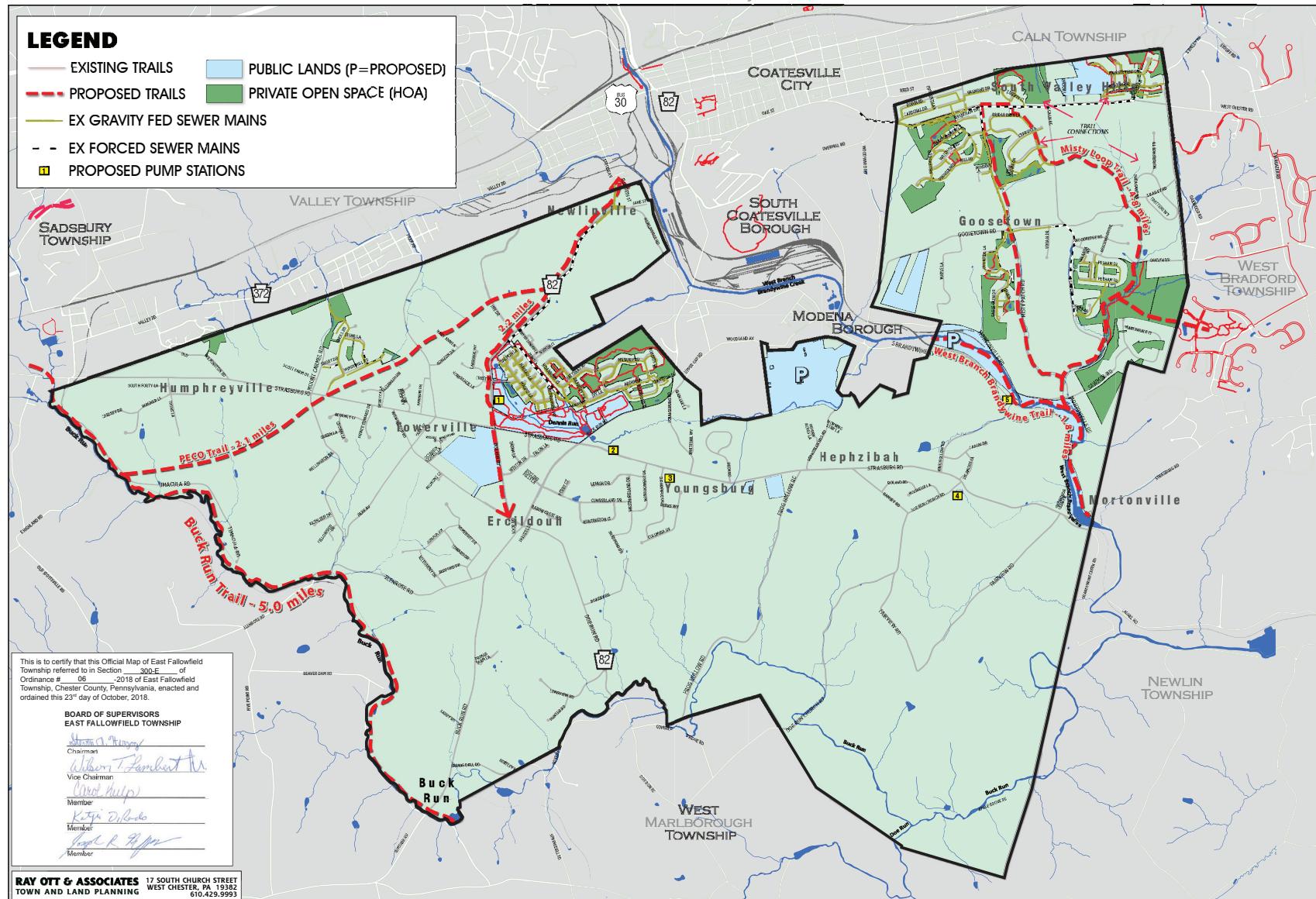
# OFFICIAL MAP

NOVEMBER, 2018

  
**EAST FALLOWFIELD**  
**TOWNSHIP**  
**CHESTER COUNTY** PENNSYLVANIA

## LEGEND

- EXISTING TRAILS
- PROPOSED TRAILS
- EX GRAVITY FED SEWER MAINS
- - EX FORCED SEWER MAINS
- PROPOSED PUMP STATIONS
- PUBLIC LANDS (P=PROPOSED)
- PRIVATE OPEN SPACE (HOA)



## POTENTIAL PARCELS FOR TOWNSHIP PRESERVATION OR ACQUISITION

Several parcels within Bethel Township could serve as attractive locations for additional park, recreation, or open space facilities. The following conceptual diagrams are for spatial purposes and meant to demonstrate possible facilities that could be accommodated on the parcels, they are not to be interpreted as final designs.

This section does not represent any official intent on the part of the Township to acquire these parcels. Such decisions are reserved for the Board and the respective property owners.

Should the Township proceed with the adoption of an Official Map, these parcels could be identified as potential future sites for public park, recreation, or open space.



### Maguire Property Horse Farm

If acquired, a master plan would be required for the park.

#### Characteristics:

- Size: 61.33 acres
- Current facility for horses
- Right-of-Way easement crossings
- Adjacent to the planned Powerline Trail
- Agricultural pond
- Stream
- Floodplain

#### Possible Uses:

- Pavilion
- Trails
- Baseball Field
- Dog Park
- Restroom
- Connection to Planned Trail



## Booth Residence

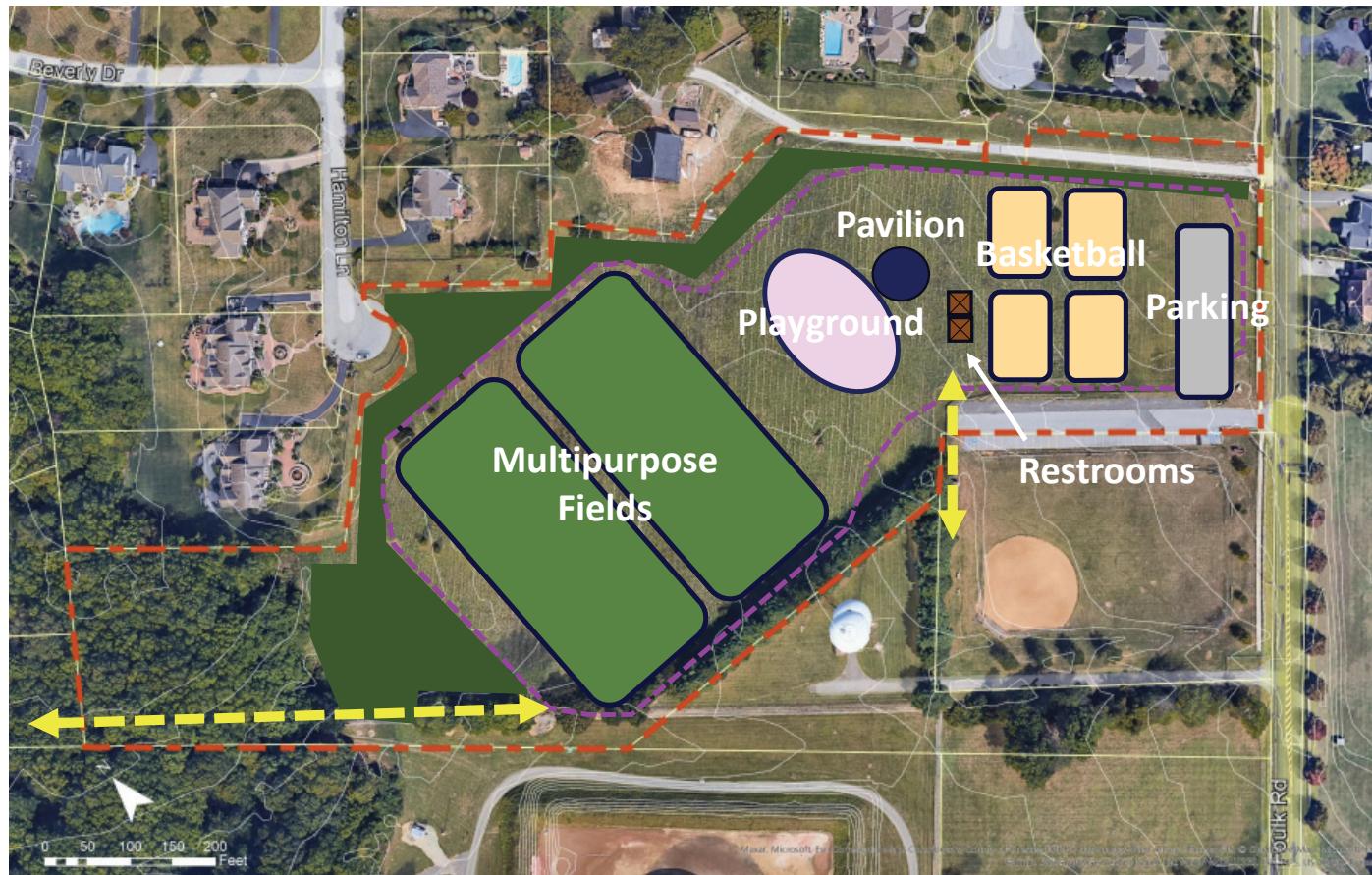
If acquired, a master plan would be required for the park.

### Characteristics

- Size: 13.32 acres
- Legacy agricultural field that has contamination issues to be remediated following PA DEP standards
- Directly adjacent to Bethel Community Park

### Possible Uses:

- 2 Multipurpose Fields
- 4 Basketball Courts
- Large Inclusive Playground
- Woodland Buffers
- Pavilion
- Restrooms
- Off-road Connection to Bethel Community Park



## Penn-Del Archers

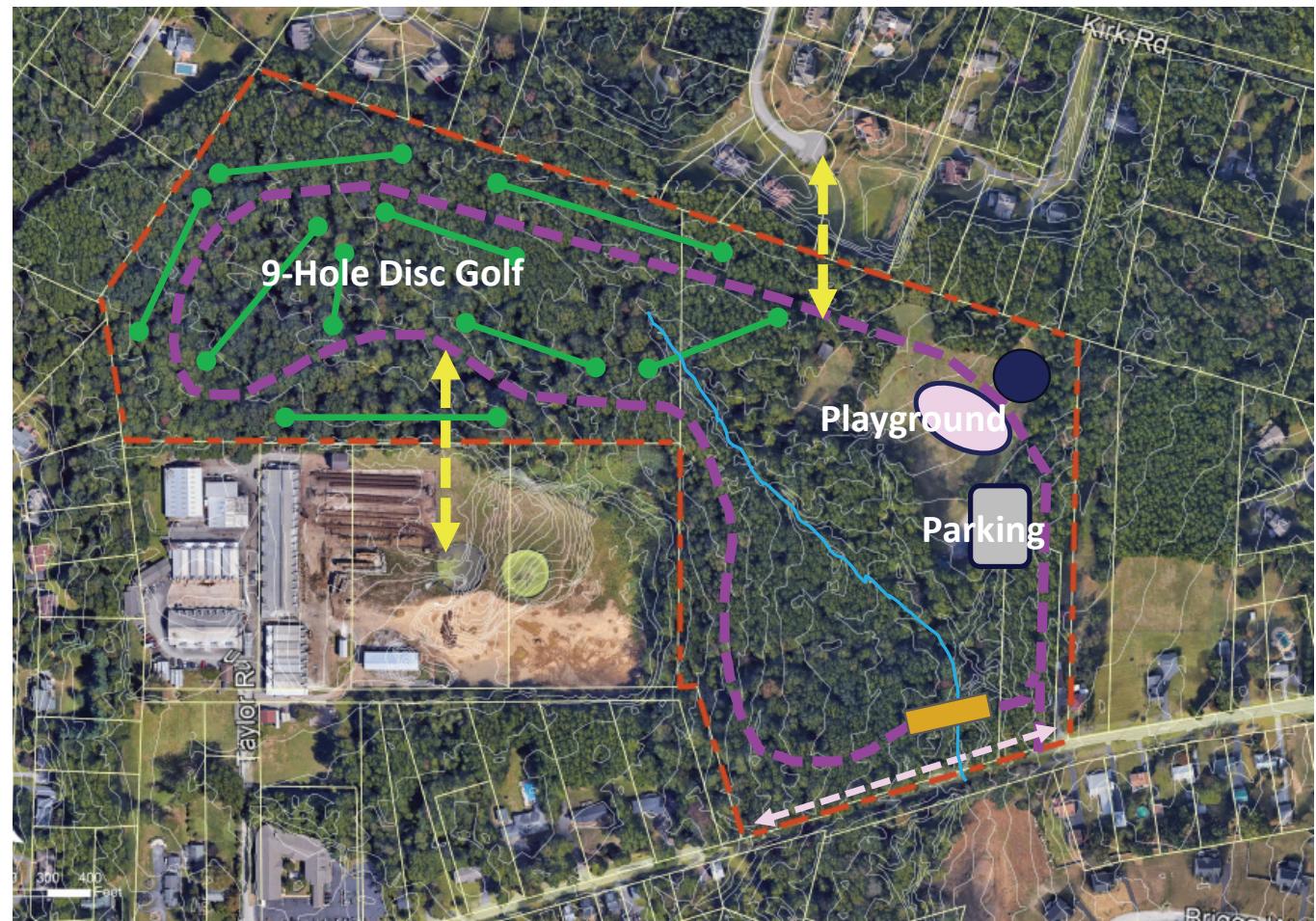
If acquired, a master plan would be required for the park.

### Characteristics:

- Size: 47.23 acres
- Former archery grounds
- Stream

### Potential Uses:

- 9-Hole Disc Golf Course
- Nature Trails (may require a bridge)
- Pavilion
- Nature-based Playground
- Off-road Connection to Silvestri Property and Adjacent Neighborhood



## Silvestri Property Mushroom Farm

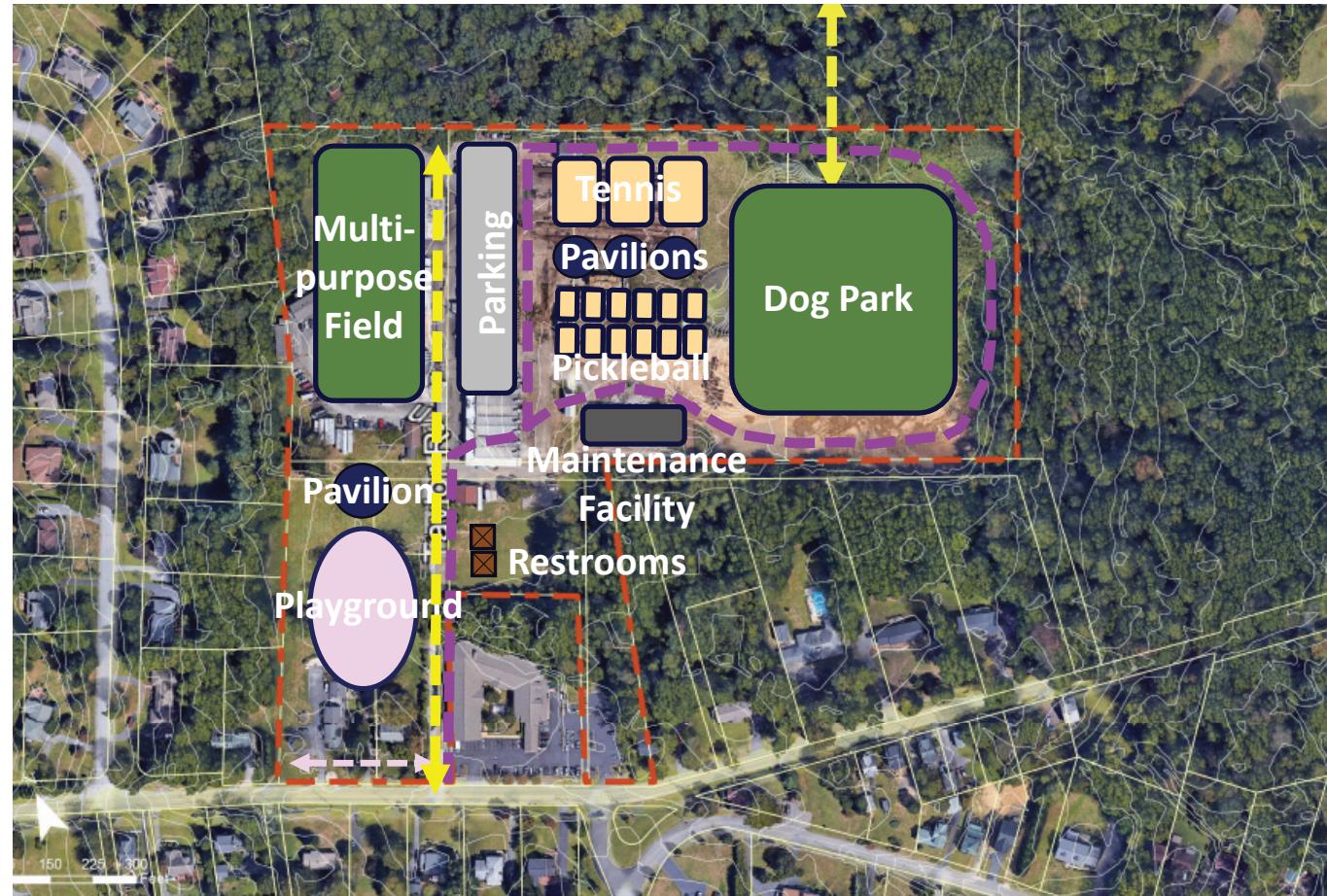
If acquired, a master plan would be required for the park.

### Characteristics:

- Size: 22.78 acres
- Former mushroom farm with existing minor contamination issues that can be remediated

### Potential Uses:

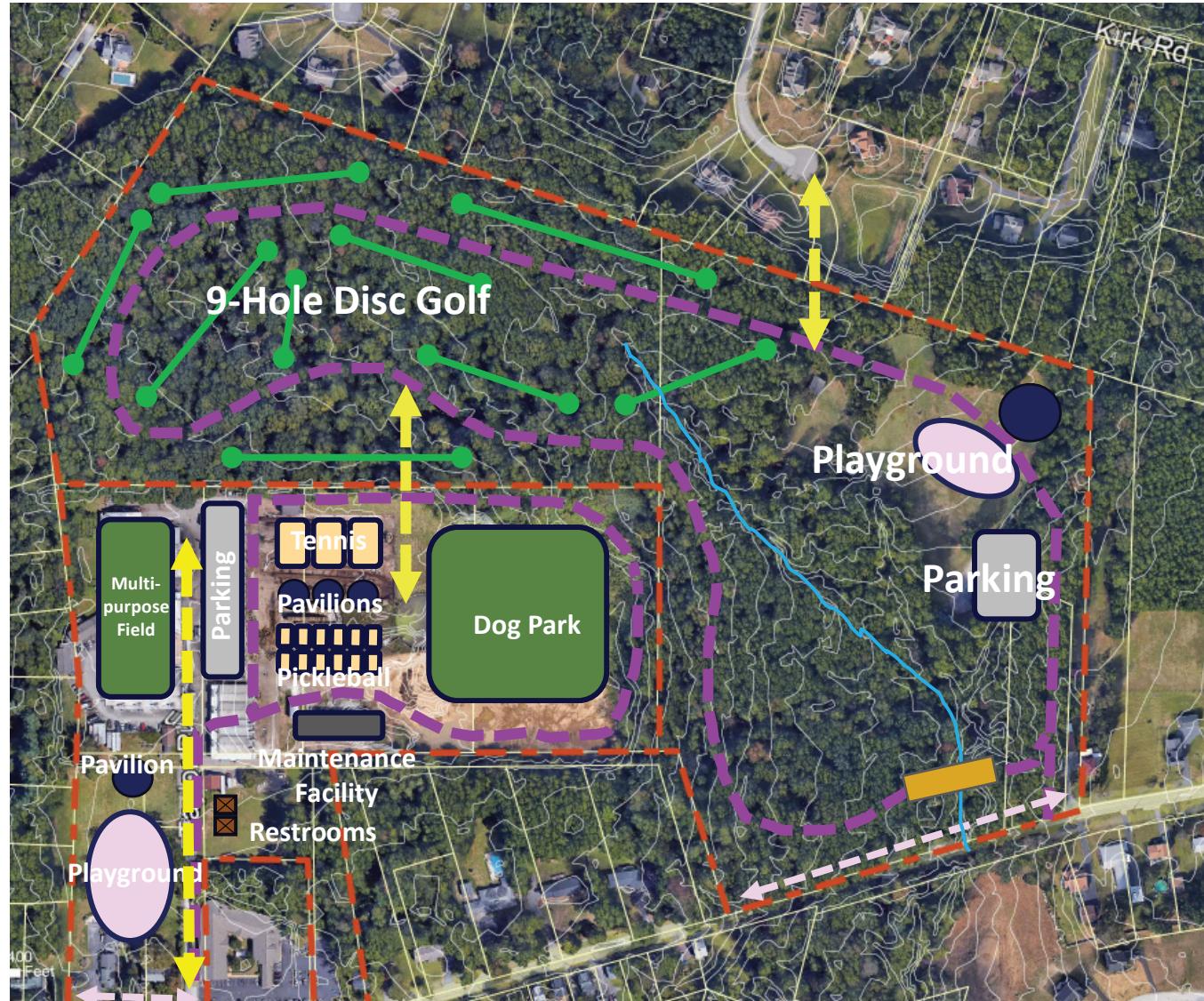
- Maintenance Facility with Storage
- Trails
- Pavilions
- Restrooms
- 3 Tennis Courts
- 12 Pickleball Courts
- Connection to Penn-Del Archers Property



## Penn-Del Archers and Silvestri Mushroom Farm

In the event that both properties are acquired, an opportunity to develop a local recreation hub is presented. The combination of the two properties could bring much needed recreation access to Township residents.

The two parcels together represent 70 acres of land and would require a master plan if acquired for a park.



## Francis Harvey Green School Fields

If acquired, a master plan would be required for the park.

### Characteristics:

- Size: 7.43 acres
- Former school site currently owned by Garnet Valley School District
- Overgrown ball field
- Open field

### Possible Uses:

- 2 135' x 195' Soccer Fields
- 1 240' x 360' Soccer Field
- Pavilion
- Trails
- Stormwater BMPs
- Off-road Connection to Bethel Springs Elementary School
- Connection to Bethel Community Park



# STORMWATER MANAGEMENT

For new projects with over one (1) acre of land disturbance a National Pollutant Discharge Elimination System (NPDES) permit is required. This permit is administered by the PA Department of Environmental Protection (PADEP) through the Delaware County Conservation District. Stormwater Best Management Practices (BMPs) are typically included as a part of the NPDES permit in order to meet its requirements. These BMPs take the form of rain gardens, bioswales and other devices designed to infiltrate stormwater into the soil and underlying aquifer and prevent or minimize pollutants (mostly soil sediments) from flowing into streams. Township stormwater ordinances also contain requirement for BMP installation. The MS4 standards often exceed the requirements of those required by the NPDES permit by 10% or more.

Each five (5) years the Township must submit an MS4 permit application and then over the next 5 years take measures to meet the requirements outlined in the permit. It is often possible to meet at least some of the MS4 requirements in the municipality's park system. As design and engineering plans are formulated for park plans, as recommended in this report, the Township may be able to include designs

to meet the MS4 requirements in the Township, using parks funding – with hopefully much of it from grant programs – to offset the costs of complying with MS4 mandates.

It is recommended that the Township prioritize stormwater management improvements within existing parks and new parks as they come online. This report makes note of improvements which can improve water quality and reduce amounts of sediment entering the waterways. BMPs such as rain gardens, vegetated swales, detention basins, and porous pavement can help with flood water control and can add

beauty and environmental benefits to the Township. The Township can also provide incentives for residents to apply stormwater management, such as rain gardens and rain barrels, within their own properties.

Maintaining records of when BMPs are installed, and records of routine maintenance is crucial to the Township's MS4 program. Keeping track of maintenance of BMPs not only provides records for authorities such as PADEP and the EPA but also extends the life of the BMP through regularly scheduled maintenance.



## RECREATION AND PROGRAMMING

The following recommendations are intended to enhance the Township's recreation programming.

- Develop a preliminary programming plan that can serve as a blueprint for future recreation programs. The plan would assesses needs, identifies alternatives, provide guidance for program design and implementation (including staff, equipment, and budgets), and procedures for measuring results
- Pursue a partnership with Garnet Valley School District or a private facility such as Ascent to explore the sharing of resources
- Increase coordination with the Parks and Recreation Board
- Evaluate the introduction of a resident vs. non-resident rate for programming

## MAINTENANCE

Good maintenance practices already exist within the Township, leading maintenance recommendations to be focused on providing increased capacity for the maintenance crew to perform their duties.

- Explore existing or new sites for a maintenance storage facility, such as one of the potential parcels for acquisition listed in this plan
- Review the Consumer Product Safety Commission's guidelines for parks and playgrounds and ensure compliance
- Continued adherence to ADA guidelines



# MULTIMODAL RECOMMENDATIONS

## DESIGN GUIDELINES

The trail recommendations in this study adhere to trail design standards and safety best practices established by nationally and locally recognized organizations, including:

- The American Association of State Highway Transportation Officials (AASHTO)
- The Federal Highway Administration (FHWA)
- National Association of City Transportation Officials (NACTO)
- Manual on Uniform Traffic Control Devices (MUTCD)
- PA Department of Conservation and Natural Resources (DCNR)

AASHTO standards are federally recognized, and all on-road and multi-purpose trail improvements must comply with AASHTO and MUTCD standards.

### AASHTO - Guide for the Development of Bicycle Facilities

AASHTO provides guidelines for the development of bicycle travel in a variety of riding environments. It provides information on the physical infrastructure required to support bicycling on all types of roadways.

### NACTO Urban Street Guide

The NACTO Urban Street Guide compiles complete streets design best practices to make city streets safer, more livable, and more economically vibrant.

### MUTCD - Manual on Uniform Traffic Control Devices

The Manual on Uniform Traffic Control Devices provides standards for the design and implementation of traffic control devices that allow for safe and efficient transportation. Part 9 of the manual includes traffic control for bicycle facilities. The section includes signs, pavement markings and highway traffic signals for both on-road and offroad trail facilities.

### PA DCNR - Pennsylvania Trail Design & Development Principles

DCNR's Pennsylvania Trail Design & Development Principles is a compilation of best practices and guidelines for the planning, design, construction and management of trails. It also presents techniques that utilize sustainable design elements and construction practices for developing trails that create desirable and enjoyable experiences for trail users.

### FHWA - Small Town and Rural Multimodal Networks

This Federal Highway Administration resource is intended to help small towns and rural communities support safe and accessible multimodal transportation improvements. The guidebook provides recommendations for bicycle planning, accessibility, facility design, and traffic calming, among other relevant topics that are contextually appropriate for small towns and rural communities.



# CONNECTIVITY IMPROVEMENTS

## OFF-ROAD FACILITIES

### Shared Use Paths

Multi-Use Trails are generally a minimum of 10 feet in width and may be designed at widths of up to 14 feet for high-volume trails. In rare instances where space is limited, trails may be installed at an 8-foot width. Such trails can be paved with asphalt or stone dust / stone screenings. Users include cyclists, roller-bladers, skateboarders, runners, joggers, and pedestrians. Motorized wheelchairs for handicapped users are also permitted.

Multi-use trails provide a convenient means for different user types to enjoy a common amenity and shared infrastructure. The width of these trails allows walkers, joggers, cyclists and other users the ability to recreate safely from one another. Multi-use trails also allow these different user groups a chance to interact with each other and foster a sense of community in a space they share and may want to help maintain. Multi-use trails also require less resources and expenses than single use trails as they require fewer signs and less staff to maintain.

### Earthen Path

Trails with a natural earth surface are less accessible but have a low environmental impact. Maintenance costs are generally inexpensive and are limited to removing vegetation, fixing drainage issues, and addressing eroded areas.

### Side Paths

A side path is a multi-use trail located immediately adjacent and parallel to a roadway. These trails require a 5' setback from the cartway if no curb or barrier is present. Side paths vary from 5' to 8' in width and are often constructed from asphalt. A side path can encourage bicycling and walking in areas where high-volume traffic and/or high-speed traffic might otherwise discourage such activity.



### Sidewalks

Typically, sidewalks are a minimum of five feet wide, constructed of concrete, and located parallel and adjacent to a roadway.

Sidewalks allow pedestrians to safely move and access home, work, school, transit stops, parks, places of worship, and any other desired destinations. Sidewalks within Bethel are limited and clustered in residential developments and are lacking connectivity to local destinations within the Township.

Proposed locations of new sidewalks are based on site reconnaissance, sidewalk inventory completed by the consultants, and input from committee and public meetings.



# TRAIL SURFACE TYPES

## ASPHALT

Asphalt surfaces provide for the widest variety of trail users including bicyclists, walkers, joggers, wheelchair users, and in-line skaters. Initial installation costs are high (lower than Portland cement concrete however) compared to other trail surface types. However, longterm maintenance costs will remain lower than others if properly installed and maintained. Asphalt trails are preferred in flood prone areas. Porous asphalt can also be used in situations where stormwater infiltration or a pervious surface is required. Porous asphalt should not be used in flood prone areas where silt will clog thevoids in the pavement.



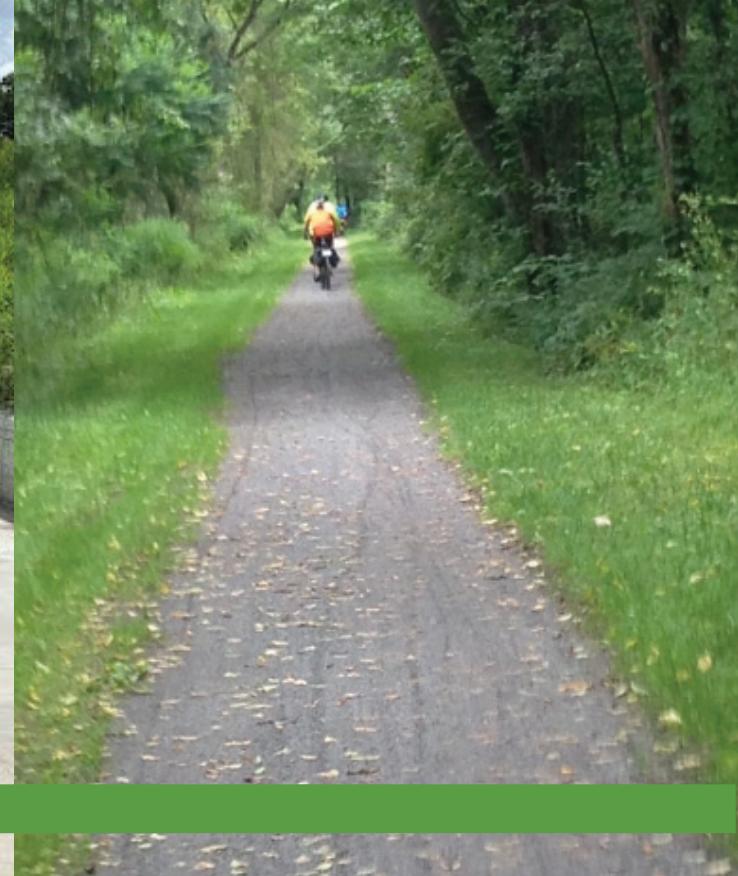
## CONCRETE

Portland cement concrete pavement is the most durable material for trail surfaces but is the most expensive. Advantages of concrete include longer service life, reduced susceptibility to cracking and deformation from roots and weeds, and a more consistent riding surface after years of use and exposure to the elements. The joints in concrete trail treads can degrade the experience of using the path for some wheeled users. In addition, users can see pavement markings more easily on asphalt than on concrete, particularly at night. Concrete's light color on a trail reflects the sunlight. Concrete is generally recommended for the sidewalks recommended by this plan.

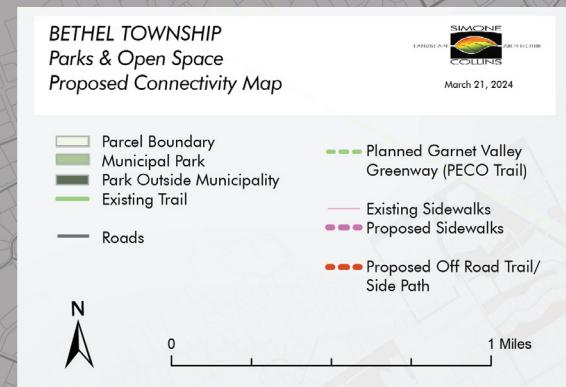


## COMPACTED AGGREGATE

Compacted aggregate surfaces, or stone dust trails, can accommodate all trail user types with the exception of in-line skaters. Initial installation costs are low, but long-term maintenance costs increase due to this surface's higher susceptibility to erosion, especially if not properly installed with swales and cross drains. Crushed limestone or sandstone or "Trail Surface Aggregate (TSA) Mix" are the typical aggregate types. A compacted aggregate surface can also serve as base material for an asphalt surface if trail use increases or funds become available for a surfacing upgrade. Compacted aggregate surfaces should be avoided in flood prone areas or for trails with slopes over 3%.







# PROPOSED CONNECTIVITY IMPROVEMENTS

The proposed connectivity map shows multimodal improvements at several key locations throughout Bethel with several goals in mind:

- Create a multimodal network that links important local destinations
- Improve connectivity to regional destinations including Clayton Park and the planned Garnet Valley Greenway
- Provide safe pedestrian infrastructure on key transportation arterials including Foulk Road and Naamans Creek Road

## Multi-use Trails

Off-road multi-use trails are proposed in the following locations:

- Perimeter of the tank farm property
- Perimeter of the Francis Harvey Green School Fields and Bethel Springs Elementary School
- Shaffer Park connecting Bethel Road and Goodley Road
- Along Green Creek from connecting Bethel Road to the wooded area south of Garnet Mine Road
- Penn Del Archers property connecting Naamans Creek Road to Linton Farm Lane

## Sidewalks

Sidewalks are proposed in the following locations. Side paths are encouraged in areas where there is enough space using the existing right-of-way.

- Naamans Creek Road from the intersection with Goodley Road to the intersection with Zebley Road
- Foulk Road from Deer Meadow Lane to the Bethel Township Hose Company
- Kirk Road from Weller Drive to access road just past Linton Farm Lane
- Bethel Road from Greystone Drive to Garnet Mine Road and Woods Edge Drive
- Foulk Road from the planned Garnet Valley Greenway to Colonial Drive

Achieving this long-term vision of connectivity in Bethel Township will require multiple projects with diverse funding strategies and multi-year commitments. In some cases, it will be necessary to negotiate easement agreements with property owners.





# IMPLEMENTATION

4



## MAKING IMPROVEMENTS IN PHASES, WITH PARTNERS

Almost all public projects are funded and built in phases, and usually with multiple partners. For example, the collection of improvements identified by Bethel residents for the Township's parks alone will require multiple phases to achieve. Trail improvements are types of projects that are almost always funded and built through partnerships.

It is essential for Bethel Township to build multiple strategic partnerships that match specific types of projects with those mission-aligned funding partners. More than one project may be advanced simultaneously – depending on project types, funding sources available during specific periods, and the sources of matching funds that the Township can raise internally or by leveraging partners.

## PARTNERS

Partnerships at the local, county, regional, state, and federal levels will need to be established and maintained to help the Township meet the goals of this plan. Partners can assist in many ways including being advocates for the completion of plan projects by implementing some recommendations themselves, providing volunteering opportunities, and by assisting in securing funds through grants or other means. In some cases, Bethel Township may be able to "match" funds from one partner to meet the requirements of another – a strategy that, when possible, helps stretch finite local dollars further. A list of potential partners, with overview narratives about their funding programs, is included in this section.

Local partners – such as the Garnet Valley School District, private recreation providers, sports leagues, social and religious groups, and other for-profit and non-profit businesses – can all provide valuable insight to the Township as to recreational needs of their students and members. Partnering with the Township would ensure that recreational facilities and programs are in place to meet the needs of both the organizations and the Township. These groups can also provide volunteering opportunities to assist with management or maintenance of facilities.

County, regional, state, and federal partners can provide funding and assistance with recreation and conservation plans. Delaware County Planning Commission is a regional planner and offers opportunities for communities to be part of the larger regional planning network, including trails and transportation needs. State partners can provide important information to assist a municipality in successfully receiving funding for improvement projects.

Forming a clear understanding of which "type" of project is to be advanced will help greatly toward defining which funding formula options are realistic to develop into matching partnership applications that are capable of advancing a clearly achievable phase of a very specific priority project.

A close review of the potential partner funding programs that are described in this chapter will identify which partners will fund what types of projects – as well as what "phases" of projects they will fund, such as planning, design/engineering, and/or construction.

## LOCAL PARTNERS

- Garnet Valley School District
- Brandywine Youth Club
- Brandywine Booters
- Bethel Bombers
- Businesses at Booth's Corner
- Private recreation providers
- Religious and social organizations
- Conservation organizations
- Historical organizations
- Local Scout troops

## COUNTY AND REGIONAL PARTNERS

- Delaware County
- Delaware Valley Regional Planning Commission (DVRPC)
- Birding Club of Delaware County
- Naamans Creek Watershed Association

## STATE PARTNERS

- Department of Conservation and Natural Resources (DCNR)
- Department of Community and Economic Development (DCED)
- Department of Environmental Protection (DEP)
- PennDOT
- PA Infrastructure Investment Authority (PennVEST)
- PA Fish & Boat Commission (PFBC)

## FEDERAL PARTNERS

- US Department of Transportation (DOT)
- National Fish and Wildlife Foundation (NFWF)

# PRIORITIZING PROJECTS

As the Township moved toward implementation of plan recommendations, questions about how to prioritize which projects to pursue and when to apply for funding assistance may arise. These decisions are ultimately the responsibility of the Board of Supervisors; however, there are several criteria listed below that can help inform that decision-making process.

## WHAT TYPE OF PROJECT IS IT?

### WHAT PHASE OF PROJECT DEVELOPMENT IS NEEDED?

- Planning
- Technical studies
- Design
- Construction

### WHAT PARTNER FUNDING SOURCES WILL HAVE APPLICATIONS OPEN DURING THE PREFERRED PROJECT PERIOD?

### WHAT PARTNER MATCHES ARE CAPABLE OF LEVERAGING OTHERS DURING THAT PREFERRED PERIOD?

## WHAT IS THE ESTIMATED MAXIMUM TOTAL FUNDING REALISTICALLY POSSIBLE FROM ALL SOURCES?

## HOW MUCH CAN THAT TOTAL BUDGET BUY?

- As one single phase or
- Perhaps a multi-phased project

## WHICH PROJECTS MAY ADVANCE APPLICATIONS SIMULTANEOUSLY AND NOT COMPETE FOR THE SAME FUNDS?

Applying these basic criteria can help decision-makers logically winnow application options based on clear limits of available funding. Where two of the same "type" of project may have apparently equal priorities, multiple other rational criteria may be applied, such as simple assessments of BCA (benefit-cost analyses), which can be very helpful.

# FUNDING SOURCES

The following is a summary of potential partner programs that can likely assist with funding various portions of planning, design, and construction of multiple types of recreation-related projects in Bethel Township. Various sources can be pursued during preservation/improvement phases, based on availability of funds aligning goals of partner agencies, and County priorities for each year.

## FEDERAL SOURCES

US Department of Transportation (DOT)  
(Bipartisan Infrastructure Law)  
Reconnecting Communities Pilot Program (RCP)

Starting in 2022, \$1 billion in planning and capital construction grants are available, over five years, to fund projects that restore community connectivity by retrofitting, removing, or mitigating barriers imposed by transportation infrastructure, including roads, highways, and rail lines, among others. Applications from economically disadvantaged communities are given priority, and state DOTs must provide them with technical assistance through the Reconnecting Communities Institute.

For more information, visit: <https://www.transportation.gov/grants/reconnecting-communities>

### Safe Streets and Roads for All (SS4A)

Starting in 2022, \$5 billion in funding is available, over five years, for planning and implementation of projects that improve roadway safety by preventing deaths and serious injuries. SS4A grants do not "require" municipalities to have completed an Action Plan if the metropolitan planning organization (DVRPC) or a (Delaware) county has completed or is in the process of completing an Action Plan. However, it is recommended that municipalities consider completing their own Action Plans to ensure that the Action Plan features detailed, community-specific data, which otherwise may not be addressed in larger county or region-wide plans that cover much broader areas and are more general in nature. Eligible activities include roadway safety treatments, development of multimodal improvements, and installation of pedestrian safety enhancements, among many others.

For more information, visit: <https://www.transportation.gov/grants/SS4A>

### Healthy Streets Program

\$500 million in funding (with a 20% match) over five years, to reduce flooding, improve air quality, and mitigate the urban heat island effect in disadvantaged communities. The program will fund porous/cool sidewalk pavement and street trees. There is no official website yet as the program has been authorized but not yet funded as of April, 2024.

For more information, visit: <https://www.montcopa.org/4340/Transportation-IIJAPrograms>

### Active Transportation Infrastructure Investment Program

\$1 billion over five years to fund planning, design, and construction of safe and connected active transportation projects. Eligible projects include trails, sidewalks, and protected bike lanes. The matching share is set at 20%, except for areas with poverty rates over 40% (set at 0% match).

For more information, visit: <https://www.transportation.gov/rural/grant-toolkit/active-transportation-infrastructure-investment-program-atiip>

**National Fish and Wildlife Foundation (NFWF)**  
NFWF supports conservation efforts in all 50 states and U.S. territories. More than 18,600 projects have been supported since founding and are rigorously evaluated and awarded to some of the nation's largest environmental organizations. Financial commitments since the organization's founding total \$6.1 billion.

#### *The Five Star and Urban Waters Restoration Program*

The Five Star and Urban Waters Restoration Program focuses on the stewardship and restoration of coastal, wetland and riparian ecosystems across the country. Its goal is to meet the conservation needs of important species and habitats, providing measurable and meaningful conservation and educational outcomes. The program requires the establishment and/or enhancement of diverse partnerships and an education/outreach component that will help shape and sustain behavior to achieve conservation goals. To date, the Foundation has funded over 800 projects in 50 states, including the District of Columbia, Puerto Rico, and the U.S. Virgin Islands, through this program. More than \$18 million in grants has leveraged more than \$67 million in other funds or donated services.

More info at: <https://www.nfwf.org/programs/five-star-and-urban-waters-restoration-grant-program>

#### *Delaware Watershed Conservation Fund (DWCF)*

The Delaware Watershed Conservation Fund was launched in 2018 to conserve and restore natural areas, corridors and waterways on public and private lands that support native fish, wildlife and plants, and to contribute to the vitality of the communities in the Delaware River watershed. Priority strategies for on-the-ground implementation include sustaining and enhancing fish and wildlife habitat; improving and maintaining water quality for fish, wildlife, and people; sustaining and enhancing water management to benefit fish and wildlife; and improving outdoor recreational opportunities within the Delaware River watershed.

For more information, visit: <https://www.nfwf.org/programs/delaware-river-program>

#### *Delaware River Restoration Fund*

The Fund was launched in late 2013 to help community-based nonprofits and government agencies work together to restore polluted waters and improve habitat for target species, including eastern brook trout and river herring. The Fund awards at least \$2 million per year in competitive grants, geographically focused on three priority strategies: (1) stewardship of working lands; (2) restoration of wetlands, floodplains and stream corridors; and (3) promoting the adoption of green infrastructure in urban/suburban landscapes. Since 2014, the Delaware River Restoration Fund has awarded 90 grants totaling roughly \$14.7 million. These investments leveraged more than

\$23.36 million in grantee matching funds to fund agriculture conservation, green stormwater infrastructure and innovative projects to improve the water quality of the Delaware River. To date, the fund has implemented more than 23,500 acres of best management practices to improve water quality, and restored more than 190 acres of wetlands and 60 miles of riparian habitat. The Delaware River Restoration Fund is administered by NFWF in cooperation with the Delaware River Watershed Initiative, with major funding from the William Penn Foundation.

For more information, visit: <https://www.nfwf.org/programs/delaware-river-program>

#### *The Delaware River Watershed Initiative (DRWI)*

Launched in 2014 by The William Penn Foundation to address four primary threats to clean water in the river basin: stormwater, runoff from agricultural fields, forest loss, and groundwater depletion. The DRWI coordinates and aligns the work of over 50 organizations funded by the William Penn Foundation, with a goal of creating a critical mass of land preservation and restoration work in targeted sub-watersheds where they can demonstrate significant, durable water quality improvements. Through a combination of high-level coordination and on-the-ground work, the DRWI mitigates threats to water quality through strategic, science-informed land protection and restoration.

For more information, visit: <https://4states1source.org/>

## STATE SOURCES

Pennsylvania Department of Conservation & Natural Resources (PA DCNR)

Community Conservation Partnership Program (C2P2)

The Community Conservation Partnership Program (C2P2) provides funding to municipalities and authorized nonprofit organizations for recreation, park, trail, and conservation projects. Eligible projects include feasibility planning studies; trail studies; conservation plans; master site development plans; comprehensive recreation, park, open space, and greenway plans; land acquisition for active or passive parks, trails, and conservation purposes; and new development and rehabilitation of parks, trails, riparian forest buffers, and recreation facilities.

Most C2P2-funded projects require a 50% match, which can include a combination of cash and/or non-cash values. Funding from DCNR for "sidewalk" connections is not usually granted unless these facilities are eligible as multi-use trails.

For more information, visit: <https://brcgrants.dcnr.pa.gov/>

### *Land and Water Conservation Fund (LWCF)*

The Land and Water Conservation Fund (LWCF) State Assistance Program, established in 1965, is a federal source of funding distributed to all states by the U.S. Department of the Interior's National Park Service. The program provides matching grants for the acquisition and development of public outdoor recreation areas and facilities. DCNR administers the LWCF Program for Pennsylvania.

For more information, visit: <https://www.dcnr.pa.gov/Communities/Grants/Pages/default.aspx>

### *Wild Resources Conservation Program*

Each year, these funds support the survey, research, management, and conservation of wild resources through DCNR's Wild Resource Conservation Program (WRCP). WRCP identifies research and conservation needs on the Commonwealth's native flora and non-game wildlife. The program provides grants and facilitates the flow of information between researchers, conservationists, and educators.

For more information, visit: <https://www.dcnr.pa.gov/Conservation/Biodiversity/WildResourceConservationProgram/Pages/default.aspx>

### *DCNR Forest Buffer Program*

The PA DCNR Riparian Forest Buffer Program provides funding for organizations to implement a variety of forest buffers including conventional riparian forest buffers and multi-functional buffers. Pennsylvania has a goal of planting 95,000 acres of riparian buffers by 2025 to improve state waterways and the Chesapeake Bay. No match is required to be eligible for this grant. Grant applications are usually accepted October to late December. DCNR has provided funding to County Conservation Offices. Grants awards are made by the local conservation office for the planting of multi-functional buffers.

For more information, visit: <https://www.dcnr.pa.gov/Conservation/Water/RiparianBuffers/Pages/default.aspx>

Pennsylvania Department of Community and Economic Development (DCED), Commonwealth Financing Agency (CFA) Greenways, Trails and Recreation Program (GTRP)

The Greenways, Trails and Recreation Program (GTRP) is administered through DCED, and provides funding for planning, acquisition, development, rehabilitation, and repair of greenways, recreational trails, open space, parks, and beautification projects. The program awards up to \$250,000 per project to eligible applicants and requires a local match of 15% of the total project cost. GTRP funding for "sidewalk" connections will likely need to be eligible as "multi-use trails."

More information can be found at: <https://dced.pa.gov/programs/greenways-trails-and-recreation-program-gtrp/>

*Multimodal Transportation Fund (MTF)*

The DCED Multimodal Transportation Fund (MTF) is administered through the PA Department of Community and Economic Development (DCED) and provides grants to encourage economic development by ensuring that a safe and reliable multimodal transportation system is available to the residents of the Commonwealth. Funds may be used for preliminary engineering tasks, as well as development, rehabilitation, and enhancement of transportation assets within existing communities – such as: streetscape, lighting, sidewalk enhancement, pedestrian safety, connectivity of transportation assets

and transit-oriented development. MTF grants are available for projects with a total cost of \$100,000 or more, and grants shall not exceed \$3,000,000 for any project. The CFA will consider grant requests over \$3,000,000 for projects that will significantly impact the CFA's goal to leverage private investment and create jobs in the Commonwealth. Financial assistance under the Multimodal Transportation Fund shall be matched by local funding in an amount not less than 30% of the non-federal share of the project costs.

For more information, visit: <https://dced.pa.gov/programs/multimodaltransportation-fund/>

*Keystone Communities Program (KCP)*

The Keystone Communities (KC) program is designed to encourage the creation of partnerships between the public and private sectors that jointly support local initiatives such as the growth and stability of neighborhoods and communities; social and economic diversity; and a strong and secure quality of life. The program allows communities to tailor the assistance to meet the needs of its specific revitalization effort. Communities may wish to consider designation through the KC program as a Keystone Main Street, Keystone Elm Street, Keystone Enterprise Zone, or Keystone Community. Designation is an opportunity for targeted investment and development including the identification of specific needs for investment and/ or development and the design and implementation of a strategy to address those needs.

For more information, visit: <https://dced.pa.gov/programs/keystone-communities-program-kcp/>

## Pennsylvania Department of Environmental Protection (DEP)

### DEP Growing Greener Watershed Protection Program

DEP funds local projects through the state Growing Greener Environment Stewardship Funds Program. Applications should be targeted toward clean-up of non-point source pollution. The grant will fund local watershed-based conservation projects with average awards totaling \$150,000, and requires a 15% match from a non-DEP fund source. Applications are typically due in January.

For more information, visit: <http://www.dep.pa.gov/Citizens/GrantsLoansRebates/Growing-Greener/Pages/default.aspx>

### DEP Non-Point Source Implementation Programs Grant

Provides funding assistance for projects aimed at implementing Pennsylvania's Non-point Source Management Program. Targeted projects include control of urban runoff and natural channel design/stream bank stabilization projects. The grant will fund local projects with the average award being \$200,000. Applications are typically due in June.

More information on this program can be found at the DEP website: <http://www.dep.pa.gov/Business/Water/PlanningConservation/NonpointSource/Pages/default.aspx>

## PennDOT

### Transportation Alternatives Set-Aside Program (TASA)

PennDOT administers the Federal Highway Administration (FHWA) Transportation Alternatives Set-Aside Program (TASA) under the Surface Transportation Program (STP) for community-based "non-traditional" projects that are designed to strengthen the cultural, aesthetic, and environmental aspects of the nation's intermodal transportation system. The program seeks to provide funding for construction of on-road and off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation. Non-motorized forms of transportation include sidewalks, bicycle infrastructure, pedestrian and bicycle signals, traffic calming techniques, lighting, and other safety-related infrastructure; and transportation projects are required to achieve compliance with the Americans with Disabilities Act of 1990. There is a minimum award of \$50,000 for construction projects and a maximum award of \$1,000,000, although higher awards can be justified for "exceptional" projects. No applicant match is required, but all engineering and environmental clearances must be completed with non-FHWA funds to enable the TASA funds to be used for construction and construction inspections.

For more information, visit: <https://www.penndot.gov/ProjectAndPrograms/Planning/Pages/Transportation%20Alternatives%20Set-Aside%20-%20Surface%20Trans.%20Block%20Grant%20Program.aspx>

## Safe Routes to Schools (SRTS)

The Safe Routes to Schools (SRTS) program is administered by PennDOT through the Federal TASA program. SRTS is a national and international movement to create safe, convenient, and healthy opportunities for children to walk and bicycle to school. By getting more children to walk and bicycle to school, communities are helping children be healthier, they are reducing fuel consumption, alleviating traffic congestion, and improving air quality. SRTS programs are built on collaborative partnerships among many stakeholders, including educators, parents, students, elected officials, engineers, city planners, business and community leaders, health officials, and bicycle and pedestrian advocates. Eligible activities include new or reconstructed sidewalks or walkways, pedestrian and bicycle signs or signals, transportation projects that achieve ADA compliance, such as curb ramps, bike parking facilities or bus bike racks, shared use paths, side paths, trails that serve a transportation purpose, crossing improvements, and traffic realignments, road diets, or intersection changes.

For more information, visit: <https://www.penndot.gov/TravelInPA/Safety/SchoolResourcesAndPrograms/SafeRoutesToSchool/Pages/default.aspx>

## Multimodal Transportation Fund (MTF)

PennDOT administers Federal Highway Administration funds as a state Multimodal Transportation Fund (MTF) program to provide grants that ensure that a safe and reliable system of transportation is available directly to the communities and residents of the Commonwealth. The program is intended to provide financial assistance to municipalities, councils of governments, businesses, economic development organizations, public transportation agencies, rail freight, passenger rail, and ports to improve transportation assets that enhance communities, pedestrian safety, and transit revitalization. Grants are available for projects with a total cost of \$100,000 or more. Grants shall normally not exceed \$3,000,000 for any project. The PennDOT Office of Multimodal Transportation will consider grant requests over \$3,000,000 for projects that will significantly impact PennDOT's goal to leverage private investment and create jobs in the Commonwealth. Financial assistance under the MTF shall be matched by local funding in an amount not less than 30% of the amount awarded. These federal funds cannot be matched by other federal funding.

For more information, visit: <https://www.penndot.gov/ProjectAndPrograms/MultimodalProgram/pages/default.aspx>

## PennVEST (Pennsylvania Infrastructure Investment Authority)

PennVEST offers both grants and low interest loans for projects that help to manage stormwater and improve water quality. Several recommendations for Lower Providence may attract PennVEST funds, since they include stormwater BMPs.

For more information, visit: <https://www.pennvest.pa.gov/Information/Funding-Programs/Pages/Clean-Water-State-Revolving-Fund.aspx>

## Clean Water State Revolving Fund (CWSRF)

The PENNVEST Clean Water State Revolving Fund (CWSRF) provides affordable financing for wastewater and certain other projects throughout Pennsylvania for the construction, improvement, extension, expansion, repair or rehabilitation of wastewater collection, treatment or disposal facilities, storm water management, nonpoint source pollution controls including but not limited to agricultural best management practices and watershed and estuary management.

The program offers low interest loans with flexible terms and principal forgiveness funds where applicable and available. PENNVEST performs similarly to a bank for the CWSRF program in Pennsylvania and manages the financial aspects of the fund, while the Department of Environmental Protection is the technical arm for the program.

The seed money for the CWSRF has been distributed to states annually under Congressional authorization pursuant to the Clean Water Act of 1987. The funds and the program are administered nationally by United States Environmental Protection Agency (EPA).

For more information, visit: <https://www.pennvest.pa.gov/Information/Funding-Programs/Pages/Clean-Water-State-Revolving-Fund.aspx>

## Pennsylvania Fish & Boat Commission (PFBC) State Wildlife Grants Program (SWG)

Created in 2000 by Congress, SWG has enabled the Pennsylvania Fish & Boat Commission and Pennsylvania Game Commission to direct conservation efforts toward species in decline or vulnerable to decline, with the goal of preventing endangered species listings. State Wildlife Grant funding to Pennsylvania has ranged from \$1.5 to \$2.5 million per year, shared equally between the Fish & Boat Commission and Game Commission.

The State Wildlife Grants program (SWG) is the nation's core program for preventing species from becoming endangered. This program provides needed funds to states to develop and implement conservation actions identified in their State Wildlife Action Plan. These funds benefit wildlife and their habitat, including species not hunted or fished.

Since 2001, the Pennsylvania Fish & Boat Commission has supported more than 60 fish, amphibian, reptile, and freshwater invertebrate conservation projects through State Wildlife Grant funding, including research, species surveys, habitat improvement, and other efforts.

More info at <https://www.fishandboat.com/Resource/StateWildlifeGrantProgram/Pages/default.aspx>

## REGIONAL / COUNTY SOURCES

### Delaware Valley Regional Planning Commission (DVRPC) Regional Trails Program (RTP)

The Regional Trails Program provides trail developers – including counties, municipalities, and nonprofit organizations – with technical assistance and funding opportunities to plan and implement trails that will contribute to The Circuit, the greater Philadelphia 800+ mile trail network.

For more information, visit: <https://www.dvRPC.org/trails/regionaltrailsprogram/>

### Delaware County Greenways Grant Program

This Program's objective is to advance the County's goals as outlined in Delaware County's Delaware County 2035: Open Space, Recreation, and Greenway Plan. It funds four types of projects: Conserve Projects, Enhance Projects, Connect Projects and Planning & Design Projects. For Conserve Projects, the County may contribute up to \$500,000 for the protection of undeveloped land in perpetuity and for fee simple acquisition, conservation or trail easements on private land. For Enhance Projects, the County may contribute up to \$250,000 for capital improvements to park and / or recreational facilities. For Connect Projects, the County may contribute up to \$500,000 for the development of multi-use trails included on the countywide Primary Trail Network (PTN) or up to \$250,000 for trails that are not part of the PTN. For Planning &

Design Projects, the County may contribute up to \$100,000 for park, recreation and open space plans, trail network plans, feasibility studies, master plans and other planning studies.

For more information, visit: <https://www.delcopa.gov/planning/greenspace/GreenSpaceGWGP.html>

## OTHER SOURCES

### AARP Community Challenge

The AARP Community Challenge provides small grants to fund quick-action projects that can help communities become more livable for people of all ages. Eligible applicants include 501(c)(3), 501(c)(4) and 501(c)(6) nonprofits, government entities, and other types of organizations on a case-by-case basis. Project types include permanent physical improvements in the community; temporary demonstrations that lead to long-term change; and new, innovative programming pilots or services. In 2024, the AARP Community Challenge accepted applications for three different grant opportunities, each described below:

- Flagship Grants - In AARP's flagship Community Challenge grant program, grants have ranged from several hundred dollars for smaller, short-term activities to tens of thousands of dollars for larger projects. Projects that benefit residents aged 50 and older are prioritized, and include the following categories: public places, transportation and mobility.

- Capacity-Building Microgrants - Combining \$2,500 grants with additional resources — such as webinars, cohort learning opportunities, up to two hours of one-on-one coaching with leading national organizations and AARP publications — this grant opportunity will accept applications for projects that benefit residents (especially those age 50 and older). Two included categories are bike audits to enhance safety and bikeability and walk audits to enhance safety and walkability.
- Demonstration Grants - This grant opportunity supports projects that encourage the replication of promising efforts that benefit residents (especially those age 50 and older). While there is not a defined budget range for this category, similar projects have tended to fall between \$10,000 and \$20,000 and will not exceed \$50,000. One included category is facilitating equitable engagement to reconnect communities that have been divided by infrastructure.

For more information, visit: <https://www.aarp.org/livable-communities/community-challenge/>

### Legislative Funding

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

### Private Foundations

There may be regional corporations and foundations that support public works such as park development. Competition for these funds is usually brisk, but opportunities should be researched. Funding is often to non-profit organizations. Foundations and institutions represent another potential source of funding for education-related site improvements and programming. Grants are available to support student field trips, provide teacher training in science, and provide other educational opportunities. Education tied to research can increase the pool of potential funds. The science community and research institutions are the logical starting points for solicitation foundation funds.

## Schools and Local Organizations

Local schools and local organizations may also be of assistance in several ways. Local scout groups and mountain bike community are two such examples. These groups might get involved with club, fundraising events, and park cleanup days. While the amount of funds raised may be relatively small, this process builds constituents and support for the parks and recreation system.

## Friends Groups & Park Nonprofits

Similar to participation by school groups, the establishment of a non-profit (501(C)3) Friends-of-the-Park groups can help raise grass roots funding for the individual parks and be a conduit for tax-deductible donations and foundation funding. The Friends can serve as additional eyes and ears for the parks, providing necessary feedback to the administration and maintenance staff.

A Friends group can be an important vehicle for park stewardship, organizing volunteers, providing environmental education.

For more detailed guidelines for establishing a (501(C)3) non-profit charitable organization in Pennsylvania: <https://pano.org/starting-a-nonprofit-organization-in-pennsylvania/>

## Donation Opportunities

It is recommended that the Township create a list, with prices, of physical donation opportunities for the parks consistent with the plan. Rather than having physical markers in parks noting the donation (which can become cumbersome over time) a list of donors might be prominently displayed on the Township Parks website or a funders' donation wall at a central location.

## General Township Fund / Fee-in-Lieu

### *Fee-in-Lieu of Park Dedication*

To ensure residents have enough park and open space to meet their recreational needs, municipalities may require developers to dedicate land as part of their development to the municipality to be used for open space or park purposes. As an alternative, municipalities may offer the option for the developer to pay a fee to the municipality instead of dedicating land as open space. This fee-in-lieu of dedication of land for parks and recreation can then only be used for providing, acquiring, maintaining or operating park facilities.

Bethel Township has provisions in place for a fee-in-lieu, which are described in Section 395-43.1 of the SALDO. The current fee-in-lieu is \$100,000 per acre of land that the applicant would otherwise be required to designate as recreational land area, prorated for any portion of an acre.

# ESTIMATED COSTS FOR MULTIMODAL IMPROVEMENTS

Costs to implement multimodal recommendations are shown below. This plan will need to be revisited and updated periodically – at least every decade – to address new recreational trends and other changes that may occur within the Township.

Multimodal Improvements Cost Estimates						
Section	Item Description	Quantity	Unit Cost	Total Item Cost	Total Cost	
1	<b>Off-Road Multi-use Trail/Sidepath - 8' wide Asphalt</b>					<b>\$ 536,585</b>
	Tank Farm Loop	8,229	LF	\$ 41.40	\$ 340,681	
	Bethel Springs Elementary School Loop	3,163	LF	\$ 41.40	\$ 130,948	
	Penn Del Archers	858	LF	\$ 41.40	\$ 35,521	
	Green Creek off Bethel Road	614	LF	\$ 41.40	\$ 25,420	
	Deer Meadow Lane Connector	97	LF	\$ 41.40	\$ 4,016	
2	<b>Sidewalk - 5' wide Concrete</b>					<b>\$ 348,518</b>
	Various Locations	13,561	LF	\$ 25.70	\$ 348,518	
	<b>Shaffer Preserve*</b>					<b>\$ 393,353</b>
	Main asphalt pathways - 9'wide	3,022	LF	\$ 25.90	\$ 78,269.80	
	Secondary pathways - 5'wide	1,884	LF	\$ 7.17	\$ 13,508.28	
	Concrete Pavers - patio	1,572	sq/ft	\$ 25.00	\$ 39,300.00	
	Concrete Pavers - path with compass rose	315	sq/ft	\$ 25.00	\$ 7,875.00	
	Boardwalk with railing - 5' wide	40	LF	\$ 600.00	\$ 24,000.00	
	Boardwalk with toe kick - 5' wide	512	LF	\$ 450.00	\$ 230,400.00	
*Cost estimates from completed Shaffer Preserve Construction Documents						

<b>Total Proposed Site Improvements (Section 1 &amp; 2)</b>	<b>\$ 1,278,456</b>
Mobilization (3%)	\$ 38,354
Erosion and Sedimentation Control (2%)	\$ 25,569
Stormwater BMPs (2%)	\$ 25,569
Construction Contingency (10%)	\$ 127,846
Design & Engineering (15%)	\$ 191,768
<b>Total Estimated Project Costs</b>	<b>\$ 1,687,562</b>

# RECOMMENDED IMPLEMENTATION SCHEDULE

Implementation of all plan recommendations will require at least a decade or more. Plan recommendations are categorized by timeline priorities of immediate (1-3 years), mid-term (4-7 years), and long-term (8+ years) with relative estimated costs, potential partners, and funding sources. Costs to implement recommendations are divided into three categories:

- Low = less than \$100K,
- Medium = less than \$500K, and
- High = greater than \$500K.

This plan will need to be revisited and updated periodically, at least every decade, to address new recreational trends and other changes that may occur within the Township.

The following chart identifies the recommendations for Bethel Township with the anticipated timelines.

Recommended Implementation Schedule			
Timeframe	Partnerships	Funding Sources	Costs
Costs : <\$100K = low, <\$500K = medium, >\$500K = high			
<b>Park and Trail Improvements</b>			
<b>Immediate (1-3)</b>			
Start to implement recommendations of park improvements	Board of Supervisors, Parks and Recreation Board, Highway Department	DCNR, DCED, PennVest, General Funds	medium/ high
Annual Park Audit	Certified Playground Safety Inspector	General Funds	low
Bethel Springs Elementary School Loop Trail	Board of Supervisors, Garney Valley School District	School District General Funds	medium
Shaffer Preserve Trail	Board of Supervisors, Parks and Recreation Board, Highway Department	DCNR, DCED, General Funds	medium/high
Start to construct sidewalk improvements	Board of Supervisors, Highway Department	DCNR, DCED, PennDOT, General Funds	medium/high
<b>Mid-term (4-7)</b>			
Continue to implement recommendations of park improvements	Board of Supervisors, Parks and Recreation Board, Highway Department	DCNR, DCED, PennVest, General Funds	medium/ high
Tank Farm Loop Trail	Board of Supervisors, Parks and Recreation Board, Highway Department, Site owner	DCNR, DCED, General Funds	medium/high
Trail along Green Creek off from Bethel Road	Board of Supervisors, Parks and Recreation Board, Highway Department	DCNR, DCED, General Funds	low
Deer Meadow Lane Connector	Board of Supervisors, Parks and Recreation Board, Highway Department	DCNR, DCED, General Funds	low
Continue sidewalk improvements	Board of Supervisors, Highway Department	DCNR, DCED, PennDOT, General Funds	medium/high
<b>Long-term (8+)</b>			
Continue implementation of recommendations of park improvements	Board of Supervisors, Parks and Recreation Board, Highway Department	DCNR, DCED, PennVest, General Funds	medium/ high
Continue sidewalk improvements	Board of Supervisors, Highway Department	DCNR, DCED, PennDOT, General Funds	medium/high
Penn Del Archers Trail (if site is protected as open space)	Board of Supervisors, Parks and Recreation Board, Highway Department	DCNR, DCED, General Funds	low

Open Space Acquisition / Preservation			
Immediate (1-3)			
Prepare an Official Map to identify approved parcels and the trails plan	Planning Commission, Board of Supervisors	General Funds	low
Work with landowners for open space acquisition or preservation	Planning Commission, Board of Supervisors, Property owners	DCNR, PennVest, DCED, General Funds	high
Mid-term (4-7)			
Continue to work with landowners for open space acquisition or preservation	Planning Commission, Board of Supervisors, Property owners	DCNR, PennVest, DCED, General Funds	high
Long-term (8+)			
Continue to work with landowners for open space acquisition or preservation	Planning Commission, Board of Supervisors, Property owners	DCNR, DCED, PennVest, General Funds	high

## Administration, Operations & Maintenance

### Immediate (1-3) and Mid-term (4-7)

Timeframe	Partnerships	Funding Sources	Costs
Develop preliminary programming plan	Parks and Recreation Board, Board of Supervisors	General funds, revenue from programs	low
Partnership with school district or facility (such as Ascent) for building usage	Parks and Recreation Board, Board of Supervisors, Garney Valley School District, Private Recreation Providers	General Funds	low
Explore existing or new sites for maintenance storage facility (possibly at one of the potential parcels for acquisition such as the mushroom farm)	Parks and Recreation Board, Board of Supervisors, Highway Department	General funds	low
Review of Consumer Product Safety Commission guidelines for park and playgrounds	Parks and Recreation Board, Highway Department	General Funds	low
Continued adherence to ADA guidelines (bench close to a path or trail, play equipment for persons with disabilities, etc.)	Parks and Recreation Board, Highway Department	General funds	low



# APPENDIX

5







