



Towamencin Township Sidewalk Connectivity Study

April 2023
SC# 22041.00



Table of Contents

Introduction

1

1.1 Plan Goal 2

1.1.1 Plan Objectives 3

1.2 Project Schedule 4

1.3 Project Team 5

1.4 Township Context 6

1.4.1 Regional Context Map 7

1.5 Township History 8

Inventory and Analysis

11

2.1 Data Collection and Methodology 12

2.2 Steering Committee 12

2.3 Public Participation 14

2.4 Outreach 16

2.5 Online Survey 17

2.6 Online Mapping Tool 18

2.7	Demographics	19
2.8	Relevant Planning Documents	20
2.9	Site Reconnaissance	22
2.10	Existing Conditions	24
2.10.1	Land Use	24
2.10.2	Roadways	24
2.10.3	Sidewalks	24
2.10.4	Trails	25
2.10.5	On-Road Bike Routes	26
2.10.6	Public Transportation	
2.10.7	Parks and Open Space	26
2.10.8	Schools	26
2.10.9	Institutional Parcels	
2.10.10	Housing	26
2.11	Analysis Maps	28
2.11.1	Pedestrian and Cyclist Accident Data (2018-2022)	28
2.11.2	Level of Traffic Stress	29
2.11.3	Barriers to Connectivity	30
2.11.4	STRAVA Run & Bike	31
2.11.5	DCNR Underserved Areas	32
2.12	Radial Service Area Analysis	33
2.12.1	Schools:	34
2.12.2	Parks:	36
2.12.3	Commercial Areas:	38
2.12.4	Public Transportation:	40

3.1 Trail Design Guidelines 44

3.2 Vision Zero 45

3.3 Connectivity Improvement Features 46

3.3.1 Signage 47

3.3.2 ADA Curb Ramps 47

3.3.3 Walkway Surface Types 48

3.4 Proposed Improvements Plans 50

3.5 Improvement Toolbox 55

3.5.1 Sidewalk 56

3.5.2 Crosswalk 58

3.5.3 Multi-Use Trail 60

3.5.4 Side Path 62

3.5.5 Sharrow 64

3.5.6 Bike Lane 66

3.5.7 Trail Bridge 68

3.5.8 Hand-Man 70

3.5.9 Rapid Flashing Beacon 72

3.5.10 Speed Cushion 74

3.5.11 Pedestrian Refuge Island 76

3.5.12 Road Closure 78

3.5.13 Roundabout 80

3.5.14 Pocket Park 82

3.5.15 Connection Out of Township 84

3.6 Themed Connection Routes 86

3.6.1 Collector Route 87

3.6.2 Park Route 88

3.6.3 School Route 89

Implementation

91

4.1 Estimated Costs of Development 92

4.2 Implementation Priorities 105

4.2.1 Towamencin Township Sidewalk Deferral Program 105

4.2.2 Adopt an Official Map 106

4.2.3 Collaboration with Adjacent Municipalities 106

4.3 Potential Funding Sources 107

4.3.1 Pennsylvania Department of Transportation (PennDOT) 107

4.3.2 Office of the Budget 108

4.3.3 Pennsylvania Department of Conservation and Natural Resources (PA DCNR) 108

4.3.4 Commonwealth Financing Agency (CFA) 108

4.3.5 Department of Community and Economic Development (DCED) 109

APPENDIX

111

Meeting Agendas and Notes

Key Person Interview Notes

Public Opinion Survey

Wikimap

Regional and Township Exhibits





INTRODUCTION

1

1.1 Plan Goal

The Towamencin Township Sidewalk Connectivity Study focuses on providing strategic decisions for future sidewalk and trail amenities that will allow the residents to have an accessible, safe, and secure walking and/or biking experience throughout the Township and to connections beyond.



..... 1.1.1 Plan Objectives

- Eliminate or mitigate barriers to destinations by incorporating a network of pedestrian and bike routes and trails, ideally separated from vehicular traffic.
- Connect pedestrian and bicycle routes to destinations within the Township while also providing the groundwork for connections to surrounding townships.
- Develop a comprehensive planning document that can support efforts to attract and secure funding for the future implementation of proposed improvements.



1.2 Project Schedule

Project Schedule	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June
Task / Event										
Review background data and previous studies		█								
Site Reconnaissance		█	█			█				
Set up base mapping		█								
Existing Roadway, Sidewalk & Trail inventory & mapping		█	█							
Access ADA accessibility issues / locations		█	█							
Create proposed sidewalk & trail plan			█	█						
Concept cost estimates for proposed improvements				█	█					
Prioritize improvements						█				
Funding Strategy / Implementation Strategy						█				
Write and Assemble Sidewalk Connectivity Report							█	█		
Issue Draft Report								█		
30 day draft report review								█	█	
Revisions as necessary										█
Final Report										█
Public Meetings										
Public Mtg #1 - info. Gathering / brainstorming/program-Monday October 10		█								
Public Meeting #2 - preliminary plan concepts - Thursday Feb 9						█				
Public Meeting #3 - draft plan - Thursday April 13								█		
Public Meeting #4 - final plan Thursday June 22										█
Meeting with Board of Supervisors - Weds May 10									█	
Committee Meetings										
Committee Meeting #1 - info. gathering / brainstorming - Monday Oct 3		█								
Committee Meeting #2 - preliminary plan concepts - Monday December 5				█						
Committee Meeting #3 - pre-draft plan - Monday March 6							█			
Committee Meeting #4-review comments, revisions Monday June 5										█
Write and administer public opinion survey		█	█	█	█	█	█			
Set Up and administer Wiki Mapping Interactive mapping tool		█	█	█	█	█	█			
Meeting with Montgomery County Planning (including Meeting minutes)								█		
Meeting with PennDOT District 6-0 (including meeting minutes)								█		
Coordination with Township staff		█	█	█	█	█	█	█	█	█





1.3 Project Team

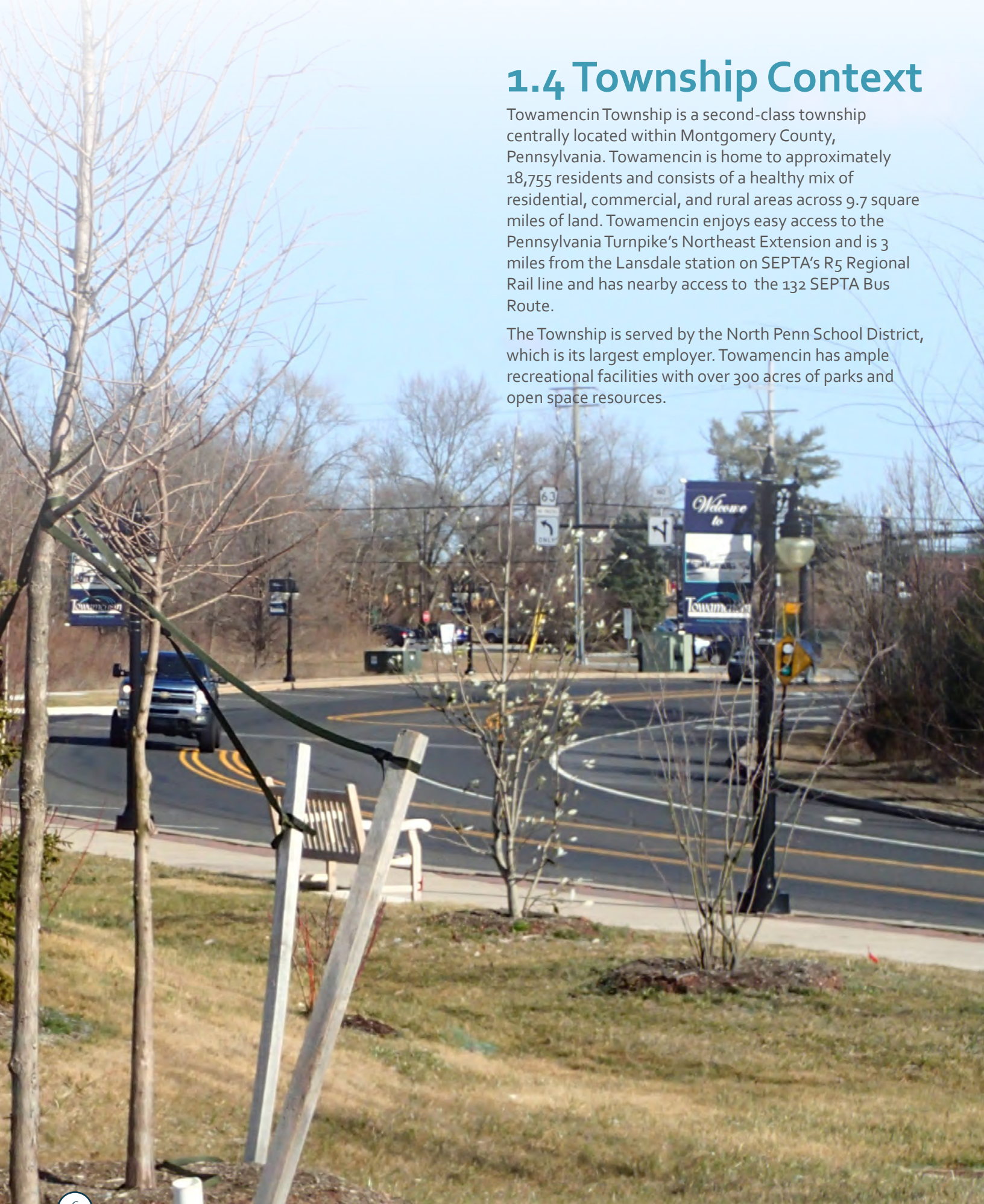
A project team composed of the Committee, Township Staff, and Consultants was formed to guide the planning process. The Committee was made up of Towamencin Township Planning Commission members. Committee insights informed and guided the team throughout the process.

Simone Collins Landscape Architecture (SC) is a planning and design firm with expertise in parks, trails, greenways, and recreational facilities. SC served as the prime consultant and was responsible for overall facility design, public participation, and coordination with the Committee, the Township, and project team.

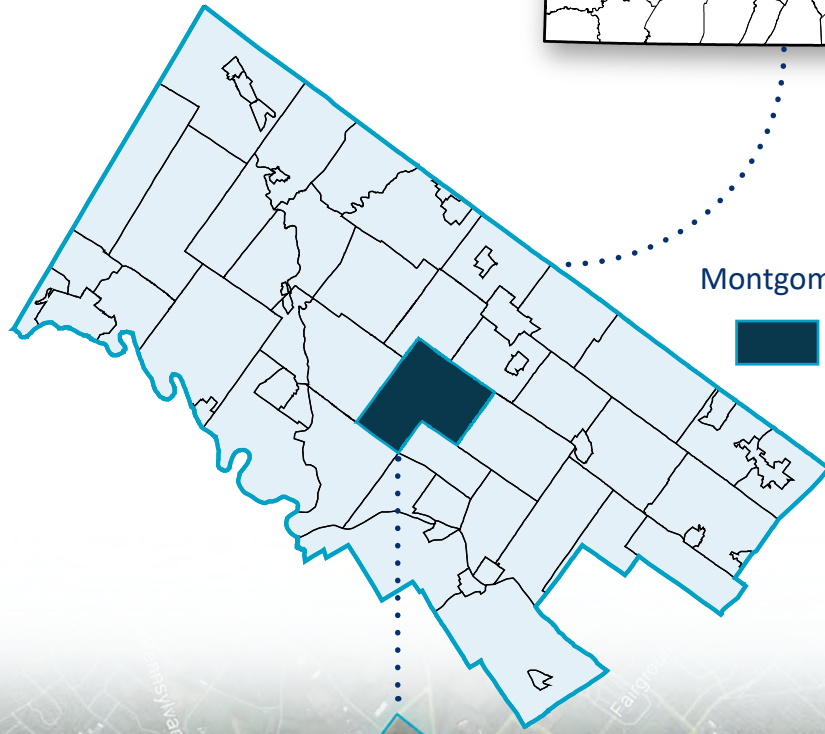
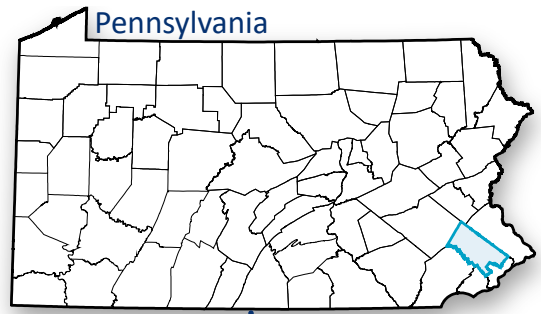
1.4 Township Context

Towamencin Township is a second-class township centrally located within Montgomery County, Pennsylvania. Towamencin is home to approximately 18,755 residents and consists of a healthy mix of residential, commercial, and rural areas across 9.7 square miles of land. Towamencin enjoys easy access to the Pennsylvania Turnpike's Northeast Extension and is 3 miles from the Lansdale station on SEPTA's R5 Regional Rail line and has nearby access to the 132 SEPTA Bus Route.

The Township is served by the North Penn School District, which is its largest employer. Towamencin has ample recreational facilities with over 300 acres of parks and open space resources.



1.4.1 Regional Context Map



1.5 Township History

Towamencin has a rich and well-documented history that dates to before the American Revolution. The original inhabitants of Towamencin were American Indians of the Lenni Lenape tribe, who had a settlement in the southwest section of the Township along the Towamencin Creek.

Late 1600s – Settlers of German, Welsh, and Dutch descent establish themselves in the area to pursue agriculture.

1777 – Towamencin played a role in the Revolutionary War, where soldiers camped and conducted military duties in the northern section of the Township.



1703 – The first land grant of 1,000 acres was granted by William Penn’s Commissioners.

1708 – Edward Morgan purchases 309 acres of the original 1,000 acre land grant. In 1734, his daughter would give birth to Daniel Boone, who would go on to become an American folk hero known for his trailblazing and pioneering efforts.

1728 – Settlers successfully petitioned William Penn’s Commissioners for Towamencin to become a Township.



1848 – Sumneytown Pike is established as a turnpike.



1855 – The North Pennsylvania Railroad opens the Lansdale/Doylestown line. The Lansdale railroad stop interrupts Kulpsville’s (located at the intersection of Sumneytown and Forty Foot Road) economic and social dominance in the North Penn area as commerce and industry activities relocate closer to the new rail line.

1954 – The Pennsylvania Turnpike interchange is constructed, re-establishing Towamencin as a critical transportation link between Philadelphia and the greater Lehigh Valley region.

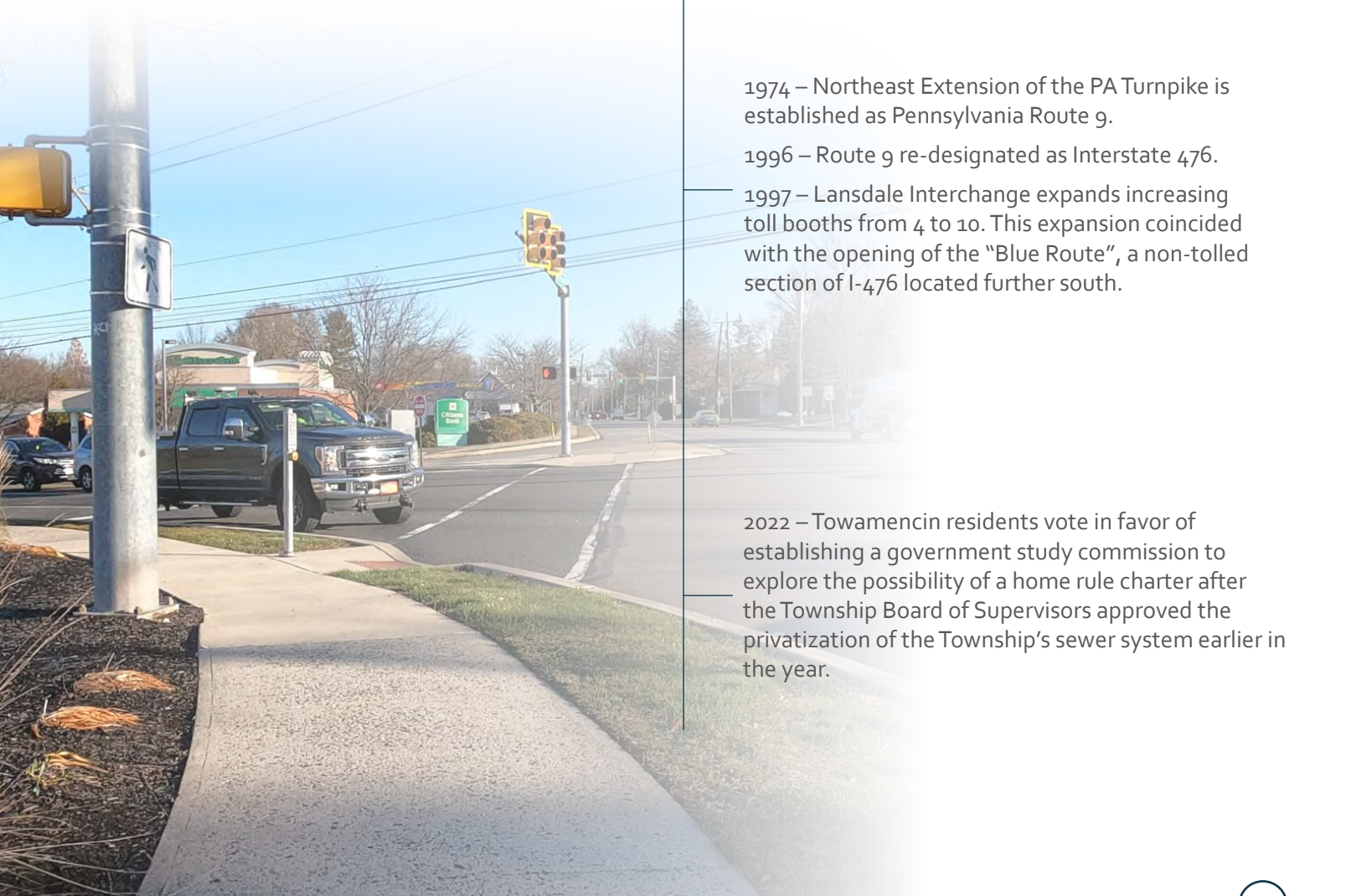


1974 – Northeast Extension of the PA Turnpike is established as Pennsylvania Route 9.

1996 – Route 9 re-designated as Interstate 476.

1997 – Lansdale Interchange expands increasing toll booths from 4 to 10. This expansion coincided with the opening of the “Blue Route”, a non-tolled section of I-476 located further south.

2022 – Towamencin residents vote in favor of establishing a government study commission to explore the possibility of a home rule charter after the Township Board of Supervisors approved the privatization of the Township’s sewer system earlier in the year.







INVENTORY AND ANALYSIS

2

2.1 Data Collection and Methodology

Simone Collins organized public participation and outreach through multiple mediums to compile data. This data was carefully managed and analyzed to inform recommendations. Additionally, data from Pennsylvania Spatial Data Access (PASDA), Delaware Valley Regional Planning Commission (DVRPC), and Towamencin Township was used. Meeting minutes, survey responses, and various exhibits can be found in the appendix of this report.

2.2 Steering Committee

- Brett Mackay
- Patricia Younce
- Douglas Leach
- Joseph Vavra
- Matt Chartrand
- Dr. Edward Buonocore
- Nancy Becker
- Dennis McGeehan
- Richard Marino
- Michael Main





2.3 Public Participation

Simone Collins coordinated thorough public involvement that included meetings with the public, Township staff, and Towamencin Sidewalk Connectivity Study Committee throughout the planning process. Public participation helped distinguish circulation patterns of challenging locations, destinations, and desired routes in the community through:

- four (4) public meetings,
- four (4) steering committee meetings,
- key person interviews (KPIs),
- an online survey,
- and an online mapping tool.

A transcript of the all the meeting notes can be found in the appendix of the report.

Meeting Summaries

Committee Meeting #1 – October 10, 2022

- Committee Meeting #1 introduced the Towamencin Sidewalk Connectivity Study to the committee and informed its members on the project and future schedule.

Public Meeting #1 – November 10, 2022

- Public Meeting #1 focused on informing the public about the Towamencin Sidewalk Connectivity Study. A presentation was given which highlighted data collection, inventory of existing conditions, and future improvement tools that can be used to achieve the project's goals. After, a brainstorming workshop was held where participants voiced their ideas and concerns.

Committee Meeting #2 – December 5, 2022

- Committee Meeting #2 focused on the status of the online survey, on-going mapping, and development of the improvement plan. The committee gave input on the progress of the improvement plan and there was discussion around later steps of funding and implementation.

Public Meeting #2 – February 9, 2023

- Public Meeting #2 provided an overview of the existing conditions, data, and inventory, which included the public opinion survey and Wikimap results to date. Then, the presentation focused on who we are designing for, the basis for connectivity design, and what tools can be used for connectivity improvements. Some preliminary connectivity ideas were discussed.

Committee Meeting #3 – March 6, 2023

- Committee Meeting #3 provided an explanation of how the 'Toolbox' of Improvements can be employed and how it has been applied to the Draft Plan which was presented. The presentation focused on preliminary route concepts, how cost estimates will be formulated and draft priorities for the Plan.



Towamencin Township: Sidewalk Connectivity Study

Public Meeting #3 – April 13, 2023

- Public meeting #3 provided a draft plan of recommendations. The improvement toolbox and route concepts were presented, and a question and answer section ensued after.

Committee Meeting #4 – June 5, 2023

- Committee Meeting #4 focused on reviewing the public feedback that was incorporated into the draft plan. A discussion then ensued about remaining comments and possible changes. The presentation continued with an update on the prioritized route scenarios based on possible TASA grant funding. Another discussion followed with questions about the plan.

Public Meeting #4 – June 22, 2023

- Public meeting #4 revealed the final improvements plan. The improvements toolbox was reviewed and additional public input followed.



2.4 Outreach

As part of the process of public participation, key stakeholders were contacted, and the plan was discussed. Notes were taken during each of the stakeholder meetings listed below. Please find those notes in the appendix of the report, and a summarized version of the notes below.

School District, Thomas Schneider, Director of Facilities and Operations

- Discussed the potential new 9th grade building on North Penn's Campus. Traffic study on Snyder and Valley Forge is being explored for a traffic signal.
- Conversed about the student population's commuting habits. Most students drive to school or get dropped off by a parent ever since the COVID pandemic.
- Talked about possible connectivity improvements for the elementary schools.

Evansburg State Park, Bethany Hare, Park Manager

- Discussed a possible trailhead at Keibler Meadows Park for Evansburg State Park.
- Noted that Evansburg State Park is currently working with Worcester Township on Green Lane Road to develop more trails.
- Reviewed the possibility of adding a trail through the park along Hedrick Road.

Towamencin Township, Mary Stover Township Engineer

- Reviewed several sidewalk and trail improvement projects that are in the process of being constructed.

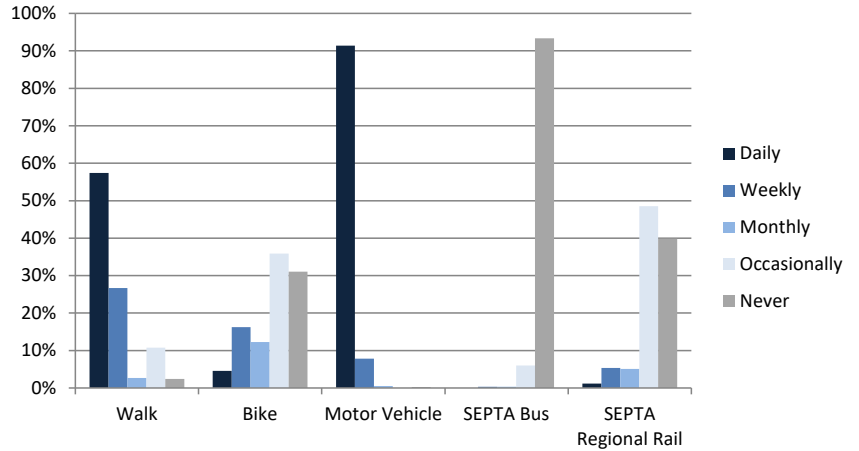


2.5 Online Survey

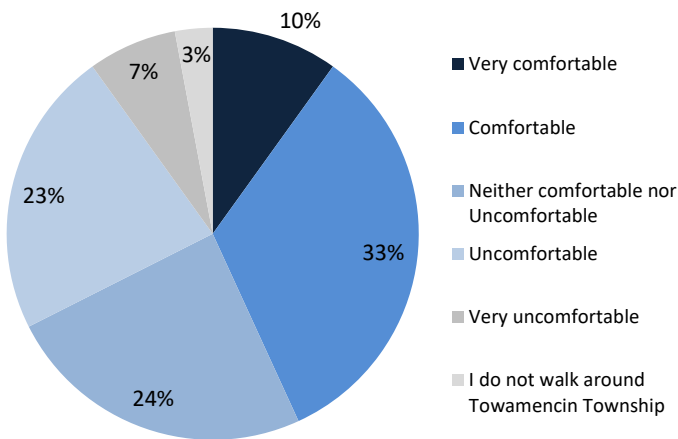
An online survey was conducted between October 2022 - April 2023. A total of 431 responses were received. The public provided responses to questions regarding household demographics, recreational habits, commuting patterns, and more. The survey also allowed users to share their thoughts and ideas related to walkability and bikeability through the Township. A few examples are as follows:

Full response data from the survey can be found in the appendix.

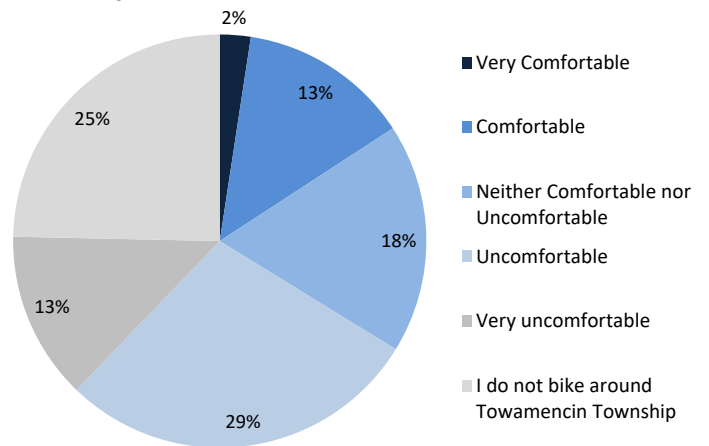
How often do you use the following modes of transportation?



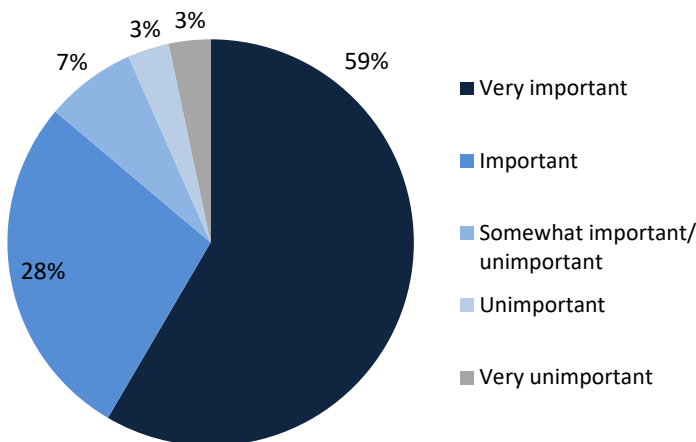
From a perspective of traffic safety, how comfortable do you feel walking in Towamencin Township?



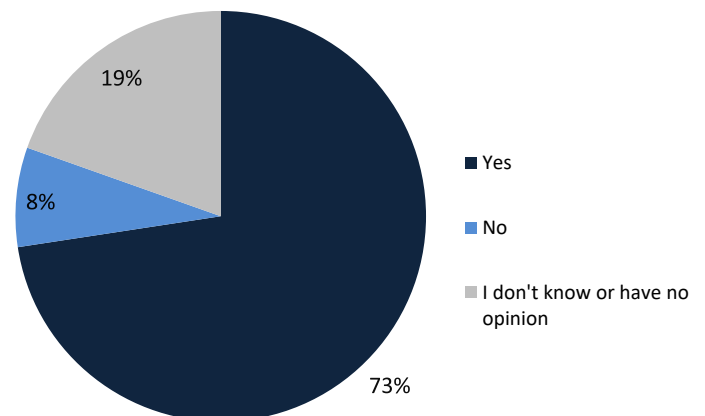
From a perspective of traffic safety, how comfortable do you feel biking in Towamencin Township?



How important are sidewalk connections and trails to the well-being of the community and quality of life in Towamencin Township?



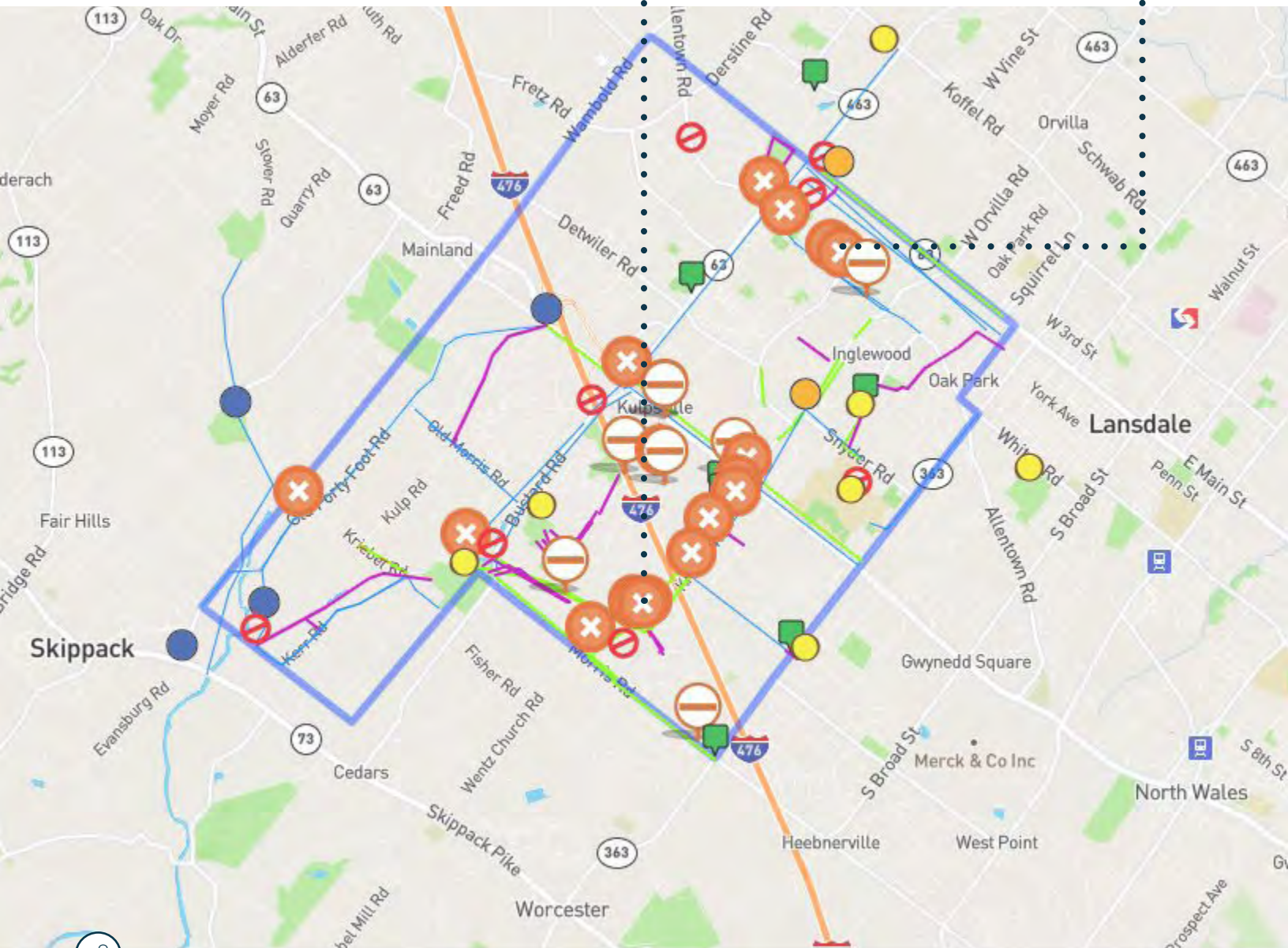
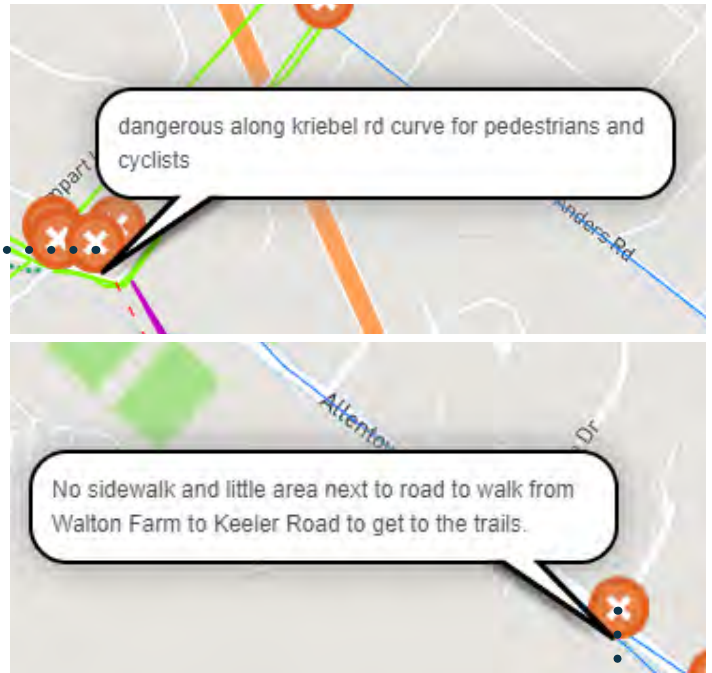
As a motorist I would accept a slightly longer travel time if that meant a safer environment for pedestrians and bicyclists.



2.6 Online Mapping Tool

An online mapping tool – Wikimap – was available from October 2022-April 2023. This map allowed users to place points and lines on a map. Participants could also attach comments and photos to these locations. 40 responses were received. Some examples can be found below.

Full response data from the Wikimap can be found in the appendix.



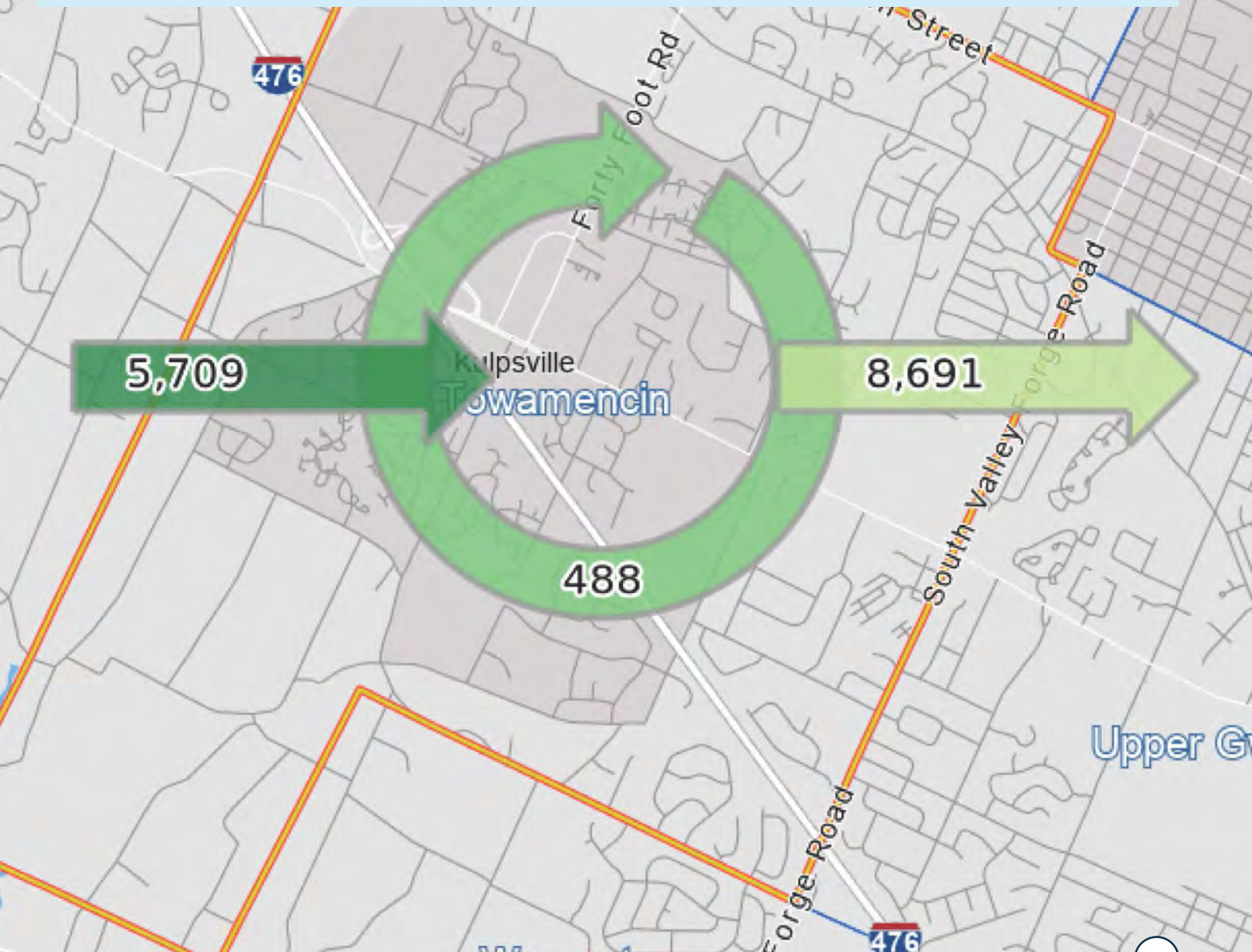
2.7 Demographics

According to the 2020 census, Towamencin Township has a population of 18,755 people. This population shows a 2.6% change from 18,272 in 2015. Towamencin is projected to reach 20,500 residents by 2045. It is representative of 2.2% of Montgomery County's population of 840,934. With Montgomery County projected to reach a population of 932,820 by 2045, Towamencin would continue to represent roughly 2.2% of the County's population into the foreseeable future.

The racial and ethnic composition of Towamencin Township is majority white with 76.03% of the population identifying as Caucasian. In 2010, this number was 83.39%, which shows a small, yet consistent diversification of the Township. The next largest

populations of the Township are Asian at 10.99% and African American at 5.38%. In comparison, Montgomery County is 72.18% White, 7.91% Asian, and 9.29% African American.

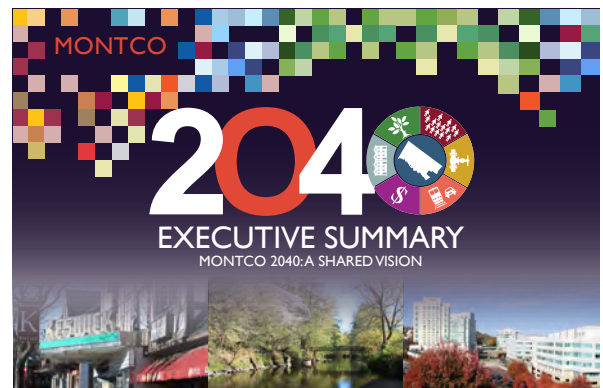
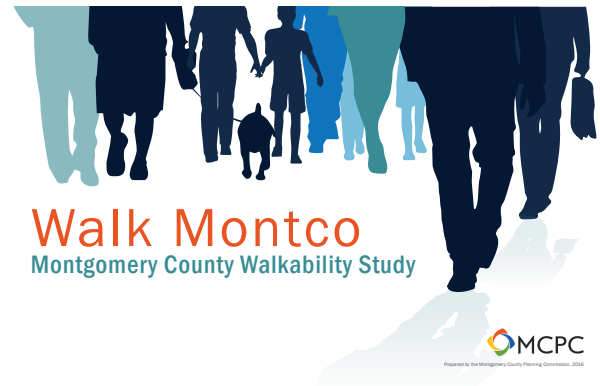
The current approximate inflow of employees to Towamencin is 5,709, while the outflow of residents who work outside of the Township is 8,691. According to the U.S Census, 448 people live and work within the Township.

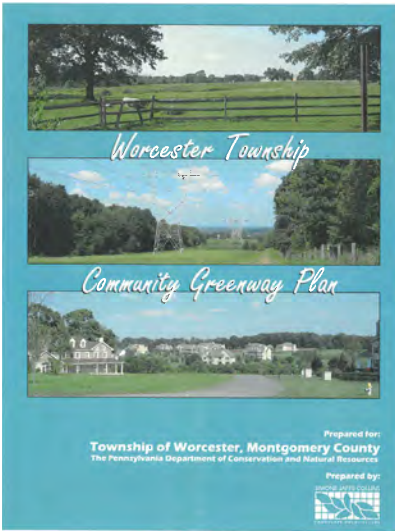


2.8 Relevant Planning Documents

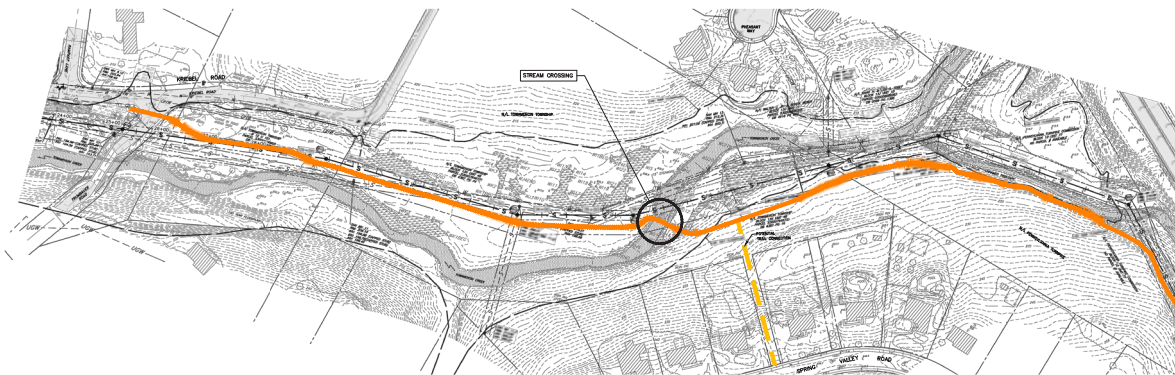
Relevant planning documents often come from the state, county, or township level. They may also be found through planning organizations or the federal government. Below are the planning documents referred to in the preparation of the Towamencin Sidewalk Connectivity Study. Some of these documents are from surrounding communities and were used to understand existing or planned connections possible beyond the limits of Towamencin Township.

- Walk Montco, Montgomery County Planning Commission, 2016
- Bike Montco, Montgomery County Planning Commission, 2018
- Montco Executive 2040 Executive Summary
- Parks and Trails System Evaluation, Simone Collins Landscape Architecture, 2019
- Kriebel Road Fischer Park Trail Plans, Gilmore & Associates, 2022
- Allentown Road Evaluation, McMahon Transportation Engineers & Planners, 2022
- Transportation Impact Study for Proposed 9th Grade Center at North Penn High School, Heinrich & Klein Associates Traffic Engineering & Planning, 2022
- Wambold Road Tract – Phase 2 Plans, STA Civil Engineers & Land Surveyors, 2021
- Core5 at Park 31 Land Development Plans, Cornerstone Consulting Engineers & Architectural
- Worcester Township Community Greenway Plan, Simone Collins, 2004
- Lansdale Borough 2040 Comprehensive Plan, 2020
- Upper Gwynedd Township 2040 Comprehensive Plan, 2021



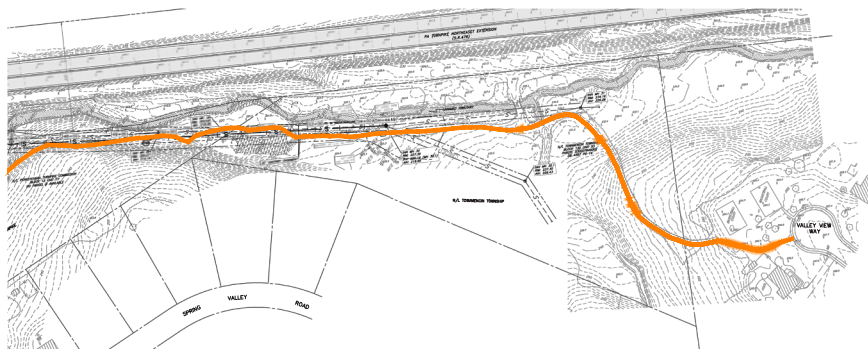


Upper Gwynedd Township
2040 Comprehensive Plan
MONTGOMERY COUNTY, PENNSYLVANIA



PLAN
STA. 25+00 TO 48+00

LEGEND:
KRIEBEL ROAD TO VALLEY VIEW WAY TRAIL ROUTE
POTENTIAL TRAIL CONNECTION



PLAN
STA. 48+00 TO VALLEY VIEW WAY

TRAIL INFORMATION
APPROXIMATELY 4,000 L.F.
ONE (1) SIGNIFICANT STREAM CROSSING
ONE (1) MINOR WETLAND CROSSING

These Kriebel Road Fischer Park Trail Plans show locations of the partially installed trail, including a stream crossing and a potential trail connection

2.9 Site Reconnaissance

The consultants conducted initial site reconnaissance on foot and by car on October 3rd, 2022. The consultant team spent time on the major roadways and thoroughfares to better understand the pedestrian, bicycle, and vehicular challenges in Towamencin.

The consultant team returned to Towamencin for a second site reconnaissance on December 2nd, 2022. The consultants toured the Township's park and school system by car and on foot to review potential connections. Additional site visits were conducted in the subsequent weeks to check field conditions.

Important data was recorded on field maps and later used to determine placement of proposed improvements. Many photographs were taken of existing conditions in Towamencin and provided valuable reference during refinement of the draft improvement plan.





2.10 Existing Conditions

Existing conditions provide a basis for further analysis and provide context for the project. A map of existing conditions can be found on page 27.

2.10.1 Land Use

Towamencin Township is mostly residential, containing several pockets of mixed-use, institutional and commercial uses, as well as several open spaces. The Township parks system is comprised of approximately 215 acres spread over 13 park sites.

There is one large piece of agricultural land left in the Township called Freddy Hills Farm which is located on Sumneytown Pike. This is also the location of a mini golf establishment and an ice cream store. Non-motorized connections to these lands should be planned for now since future use of these lands is uncertain.

2.10.2 Roadways

Towamencin Township is bounded by Welsh Road to the north, Morris Road and Hedrick Road to the south, Wambold Road to the west, and South Valley Forge Road to the east.

Forty-foot Road and Bustard Road bisects the Township and runs from Hatfield Township in the north to Worcester Township in the south. Sumneytown Pike also bisects the Township and runs from Upper Gwynedd Township in the east to the I-476 Interstate / Turnpike Ramp located in the westside of the Township. The Pennsylvania Turnpike

(I-476) cuts through the center of Township in a southeast direction.

Welsh Road, Wambold Road, Forty Foot Road, Bustard Road, South Valley Forge Road, and Sumneytown Pike (west of Forty Foot Road) are all Pennsylvania Department of Transportation (PennDOT) roads. Other notable thoroughfares and PennDOT roads include Allentown Road, Old Forty Foot Road, and Troxel Road.

2.10.3 Sidewalks

Towamencin Township possesses a relatively well-developed sidewalk network compared to other suburban townships of similar size. Based on the Delaware Valley Regional Planning Commission (DVRPC) GIS inventory data, the sidewalk network is most complete along the Forty Foot Road corridor and some nearby neighborhoods.

Sidewalk gaps and missing connections to schools, commercial areas, and other destinations exist on the collector roads on the periphery of several of these neighborhoods.

The residential areas most affected by these gaps are those separated off by the major thoroughfares. These areas include, but are not limited to:

- The residences between Sumneytown Pike and I-476;
- The neighborhoods between the Lansdale interchange and Bustard Road;
- The neighborhoods and commercial areas around Allentown Road, Welsh Road, and Forty Foot Road;
- The residences between Allentown Road and Sumneytown Pike.



2.10.4 Trails

The DVRPC inventory map and other GIS inventory also identifies several existing trails within the Township. One of the most popular trails within the Township is the loop trail within Fischer's Park. Other linear trails can be found at Firehouse Park and along a segment of Kriebel Road – between Trumbauer Road and Green Lane Road. Also, there are trails located within two private developments: in the Morgandale development (off of Forty Foot Road) and the commercial office at the intersection Sumneytown Pike and Bustard Road.

Towamencin Township has plans to extend the Kriebel Road Trail (KRT) on both the east and west ends. The side extending east is under construction and will connect into Valley View Way. The plans for extending the trail to the west are set to be built in the near future, and will connect to Green Lane Park and the Municipal Sewer Authority site.

Montgomery County has a planned multiuse trail running through Evansburg State Park, which is ultimately planned to tie into the Perkiomen Trail. This trail has been in the County's plans for decades, however it has seen no progress toward implementation. A portion of this planned trail runs through the south-west corner of the Township, and should be evaluated for proposed connections.

The Liberty Trail is another planned County trail located near the Township. Currently a section of the trail runs in Hatfield Borough, and another section runs through Lansdale Borough. The sections are planned to connect and extend beyond into adjacent townships.



2.10.5 On-Road Bike Routes

The Township has existing on-road and off road biking routes. Existing trails are noted on the proposed improvements plan.

2.10.6 Public Transportation

Currently, the only public transportation within the Township is the 132 SEPTA bus, which runs along Welsh Road, the Township's northern border. The bus connects to Lansdale Borough and Hatfield Borough, via Forty Foot Road.

SEPTA regional rail stations are located within close proximity to Towamencin in Lansdale Borough. The closest stop that would appeal most to Township residents is the Lansdale Regional Rail stop located on Main Street in the borough.

2.10.7 Parks and Open Space

There are seventeen parks or open spaces within Towamencin Township. These parks are in three categories: Township Parks, Township Open Space, and a State Park. Township parks may have active recreation features such as trails, sports fields, and built facilities. They can be larger community parks such as Fischer's Park, or smaller neighborhood parks such as Drinnon Way Park and Heebner Way Park.

Township Open Space represents designated public space that has more passive uses. Kiebler Meadows Park and the land surrounding the new Kriebel Road Trail are examples of Open Space. The northernmost tip of Evansburg State Park is in the southern portion of Towamencin Township. The park is over 3,000 acres and welcomes hikers, equestrians, and hunters. Currently, there is no formal access into the State Park's trail system from Towamencin Township.



2.10.8 Schools

Towamencin Township is home to six (6) schools. Four (4) of these schools are part of North Penn School District. These include Inglewood Elementary, Nash Elementary, Walton Farm Elementary and North Penn High School. The two remaining schools, Dock Mennonite Academy, and Calvary Baptist are private. Dock Mennonite accommodate grades 9-12 while Calvary Baptist hosts kindergarten through twelfth grade.

2.10.9 Institutional Parcels

The Township has several institutional parcels, such as: the Township municipal building, churches, day care centers, and the North Montco Technical Career Center.

2.10.10 Housing

Most of the housing types in Towamencin are single-family detached homes. The density of the homes gets higher in the central portion of the Township, and the north-east portion that approaches Lansdale Borough.



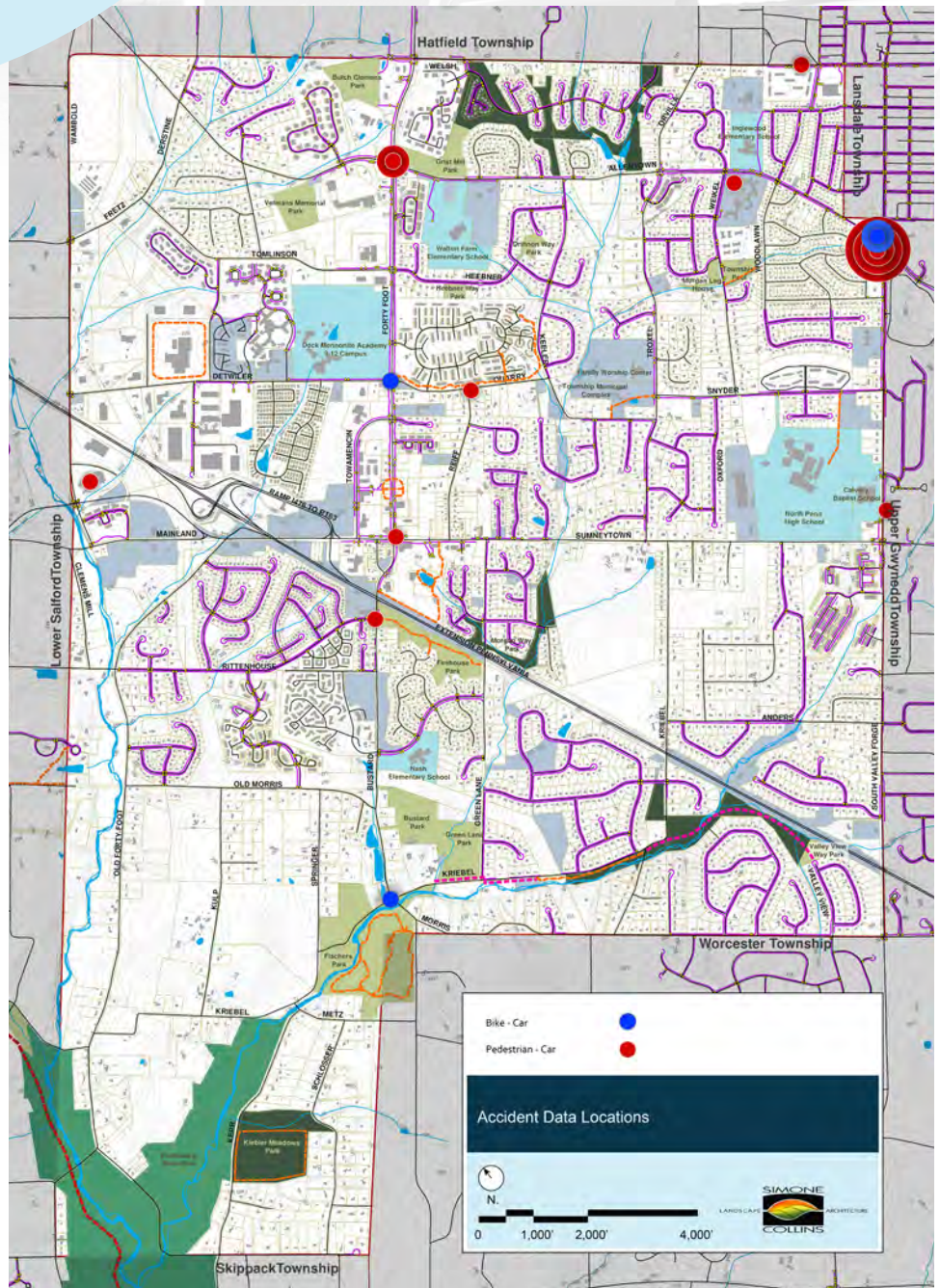


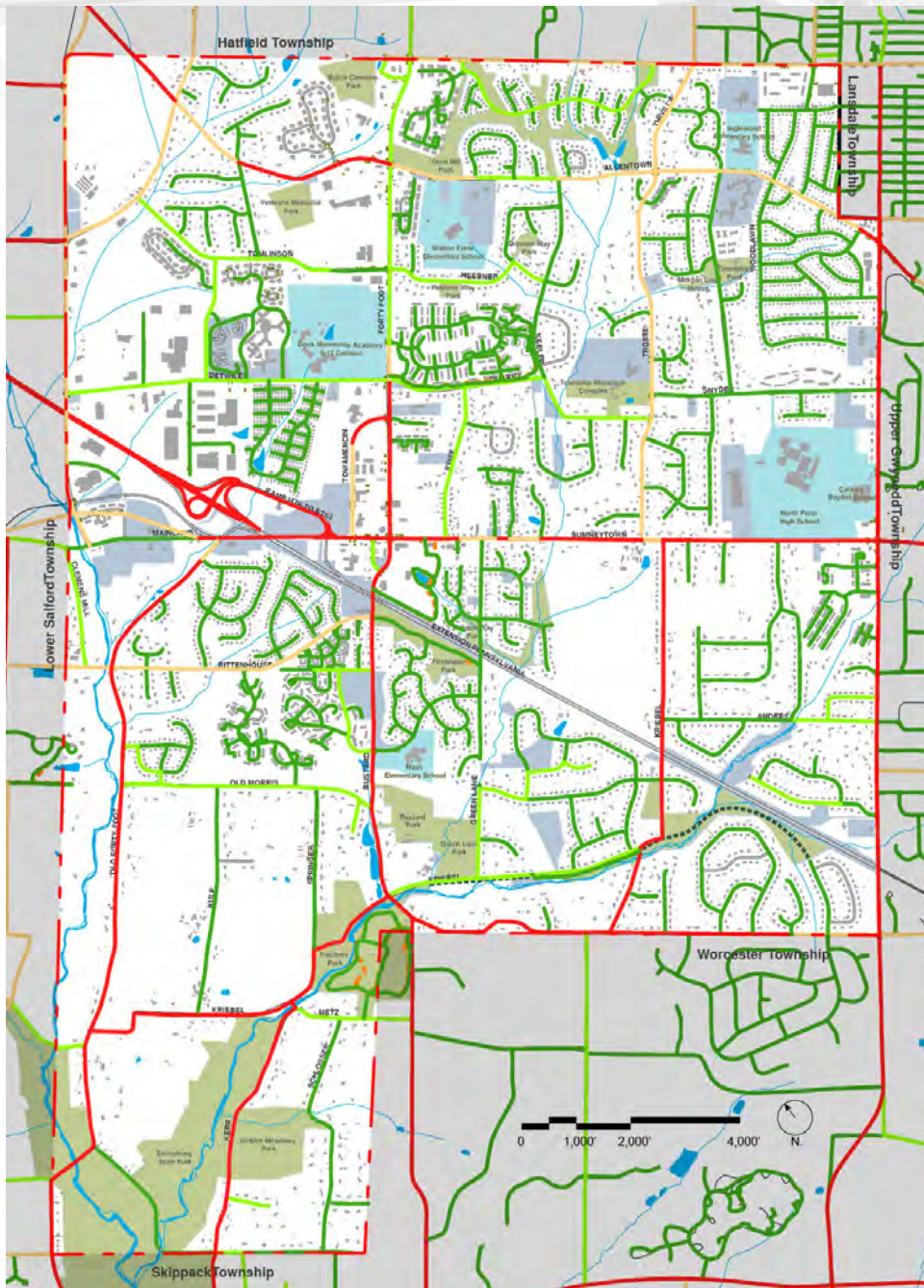
2.11 Analysis Maps

Analysis was conducted based on the Township's existing conditions, public participation, and collected data. The combined information was used to create the following maps, which can be used as planning tools.

2.11.1 Pedestrian and Cyclist Accident Data (2018-2022)

Data from Towamencin Township Police Department showing incidents involving pedestrians and bicyclists is shown in the following map. Accidents involving vehicles and pedestrians are shown in red, while vehicle and bicycle accidents are shown in blue. Each of these locations were scrutinized by the consultant team for potential pedestrian and bicycle safety improvements.





2.11.2 Level of Traffic Stress

The Delaware Valley Regional Planning Commission (DVRPC) developed a tool which measures the level of traffic stress based on number of lanes, vehicle speed, and bicycle facilities. This is used to determine what the estimated experience level of riders should be for specific roads.

The roadways in green are the lowest stress routes (most comfortable) for pedestrians and cyclists, roadways in yellow are mildly stressful, and roadways in red are the most stressful for multi-modal transportation (least comfortable).

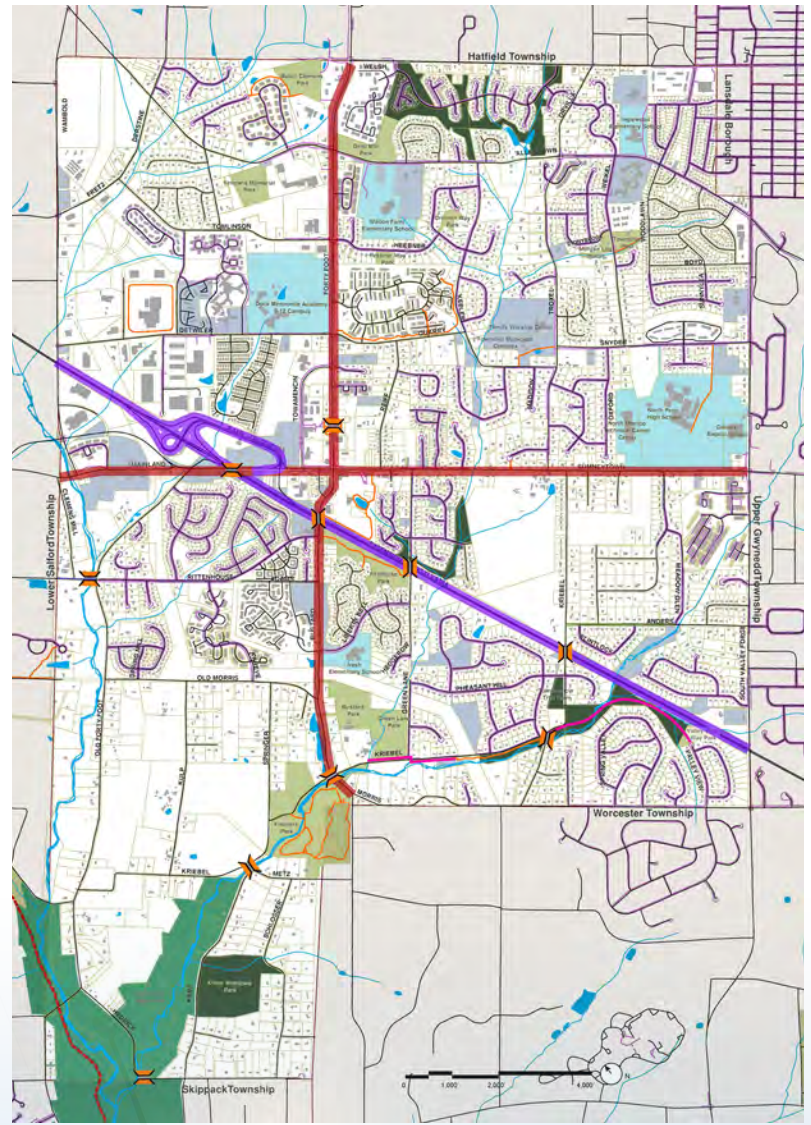
This data was combined with STRAVA data (see page 31), survey results, collision data, and other data to determine routes best suited for pedestrians and cyclists.

2.11.3 Barriers to Connectivity

Major highways, highly-trafficked roads, and waterways are often barriers to multi-modal connectivity. Based on the opinion survey and the DVRPC level of stress data, several roads in Towamencin Township were identified as “barriers,” or roads residents are concerned with pedestrian and/or bicyclist safety.

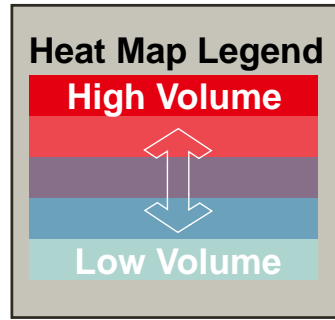
The graphic to the right highlights I-476 in purple as a major barrier that slices the Township in half. The high-trafficked roads that concern residents are highlighted in red and begins to demonstrate how the roads divide the neighborhoods.

The bridges on this map show where existing bridges or underpasses are located for vehicles to pass under or over the “barrier” roads or waterways. The wide shoulders on bridges and/or underpasses present opportunities for pedestrian and bicyclist access improvements.

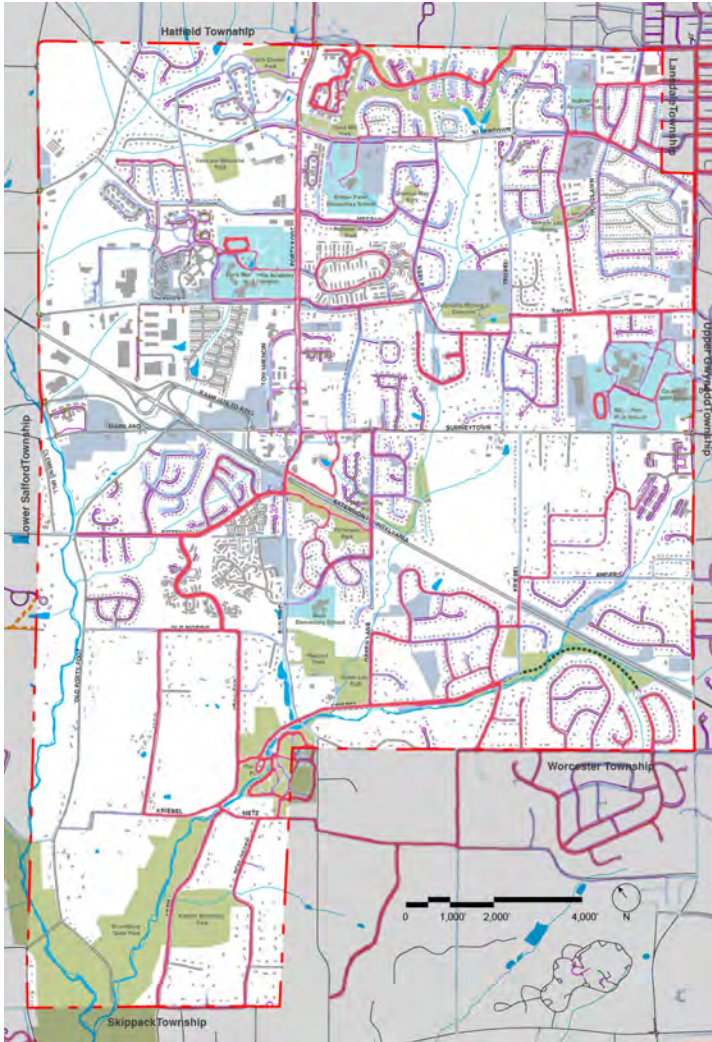


2.11.4 STRAVA Run & Bike

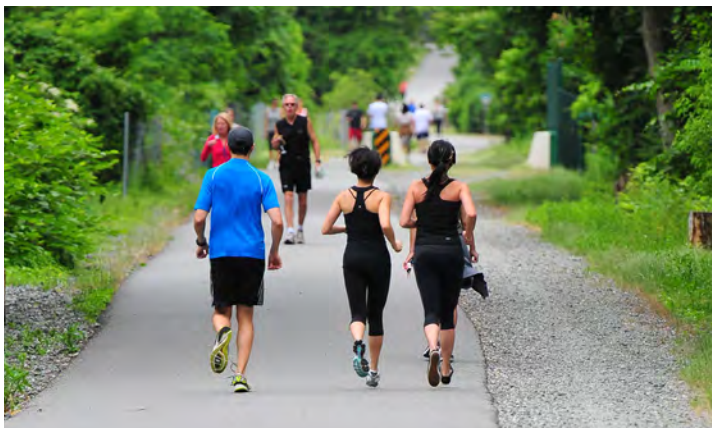
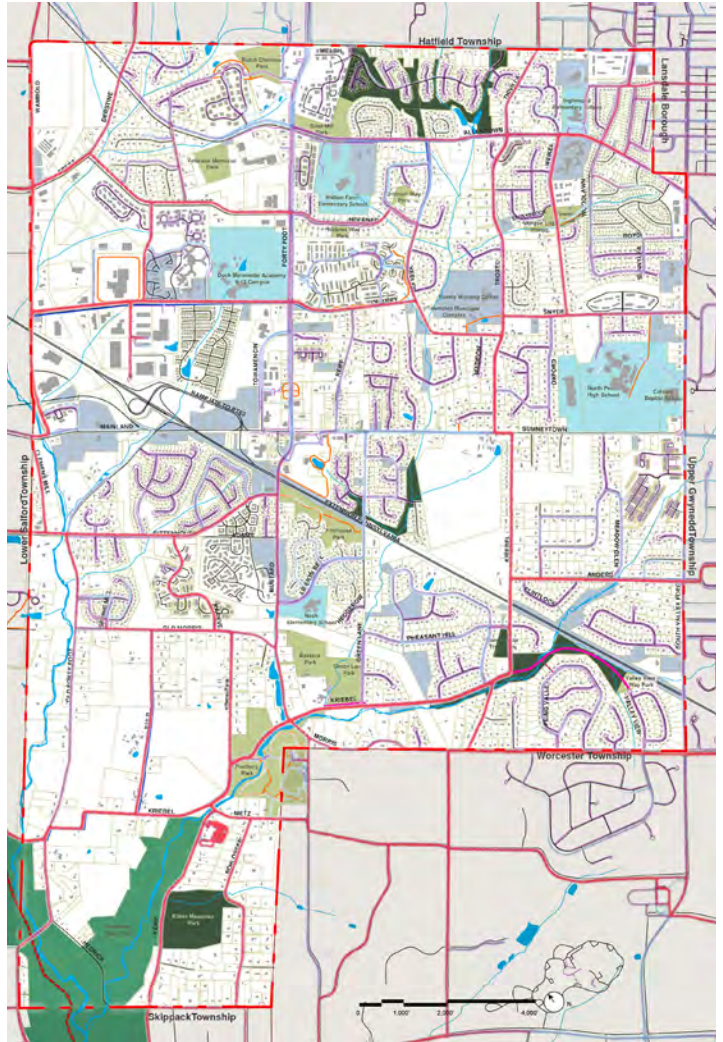
Strava is an app that athletes use to track exercise. The heatmap below shows use patterns made by aggregated activities, such as running and bicycling, over the last year. The heatmap is updated monthly. Although the data is made up of mostly experienced runners and cyclists, the platform provides insight to the most well-traveled and potentially safest routes to utilize for future pedestrian and bicycle improvements.



Run



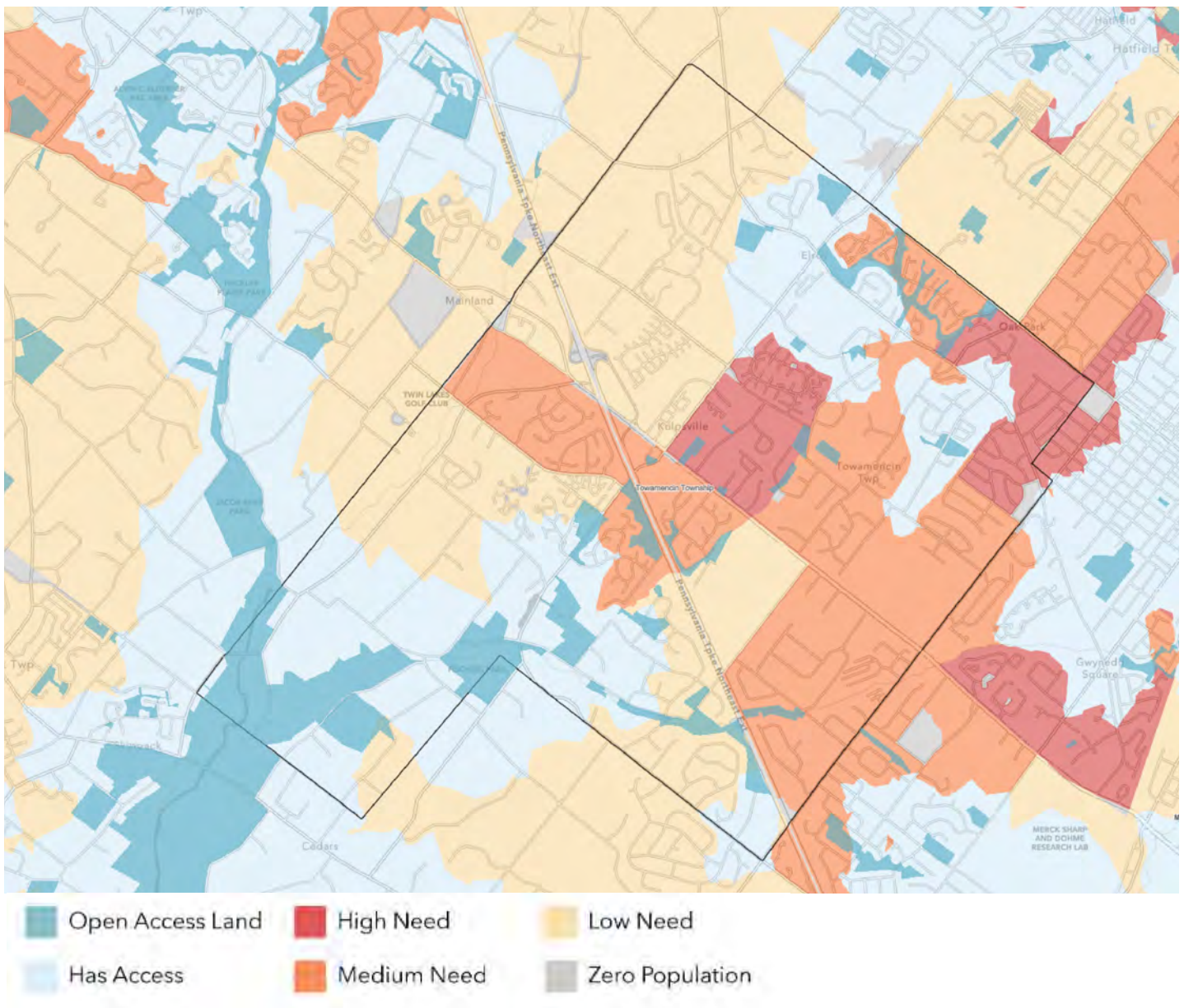
Ride



2.11.5 DCNR Underserved Areas

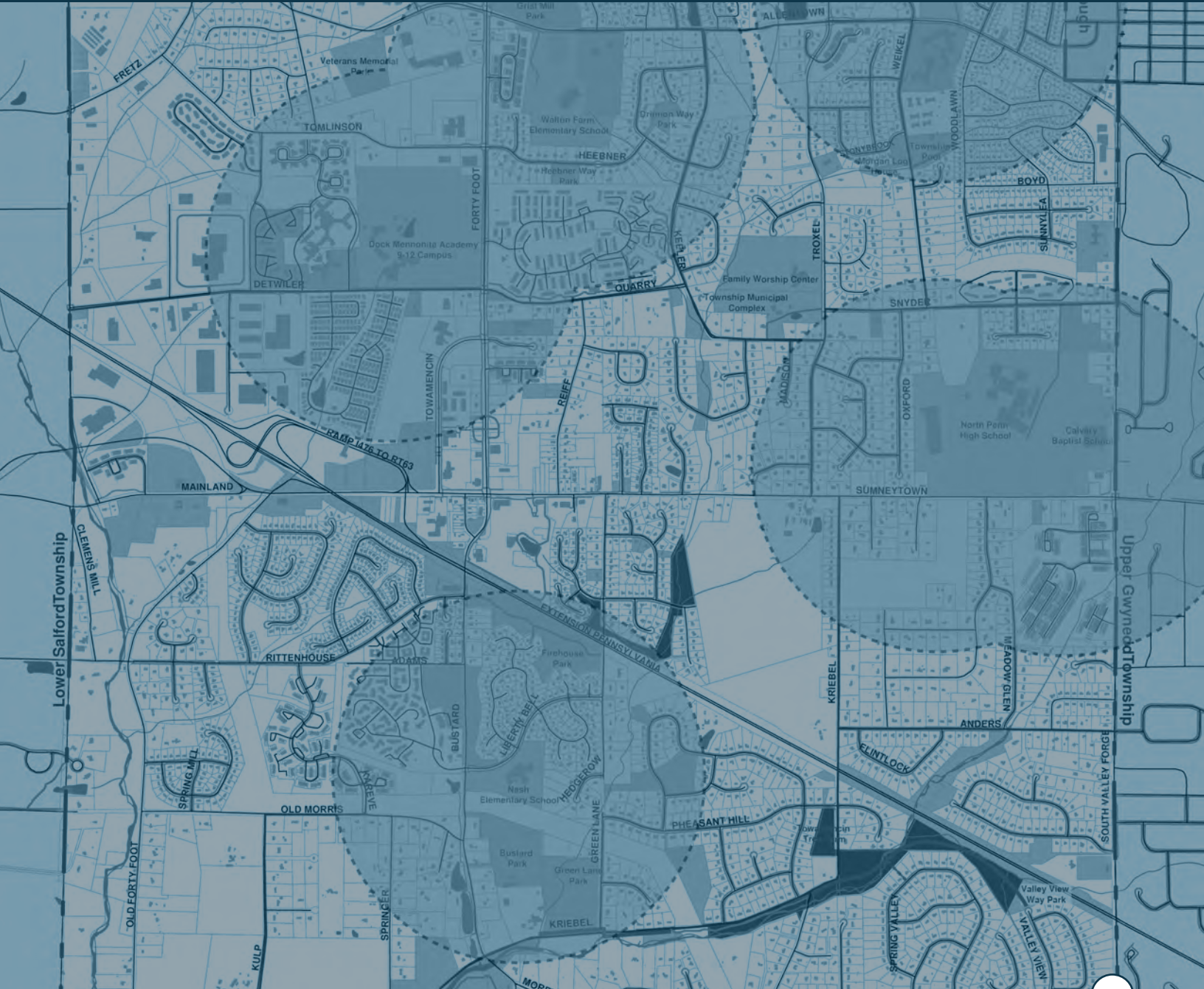
The Pennsylvania Department of Conservation and Natural Resources (DCNR) provides a tool which illustrates the need for access to parks, trails, and open space. The analysis is based on a 10-minute walk or vehicle ride to these trail and park/open space destinations. While geographic proximity plays a part in travel time, it is important to note that the previously mentioned barriers create longer and often more difficult routes to these destinations.

Please note that the consultant focused on reviewing the underserved areas in orange and red, which represented areas of medium and high need.



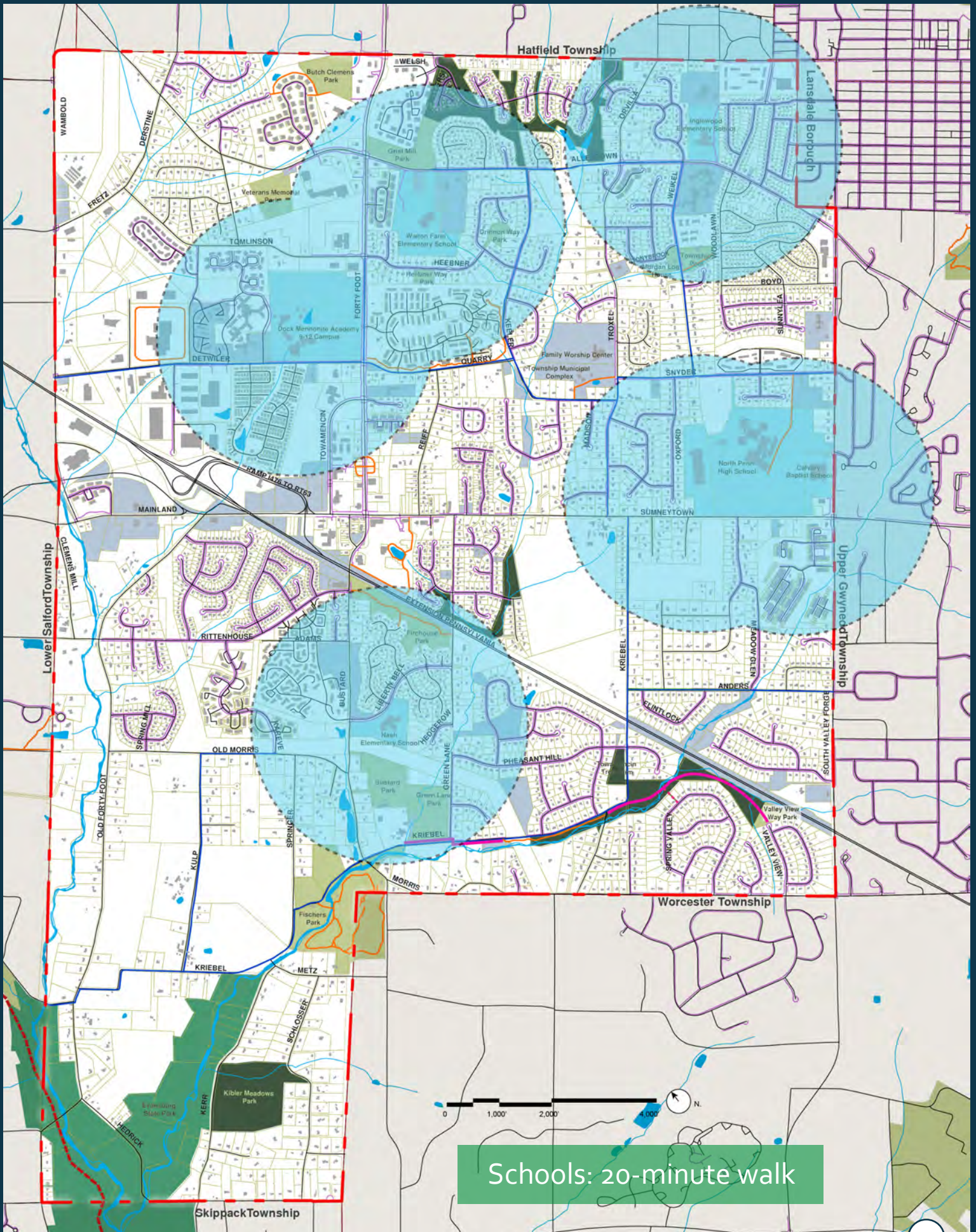
2.12 Radial Service Area Analysis

The following 'service area' graphics display specific radiuses around destination areas: schools, parks, commercial areas, and public transportation. Currently, these destinations exist in isolation with no clear routes connecting residents in Towamencin to them. All roads with the service areas have been analyzed for the best possible improvements to allow residents to walk or bike to a destination efficiently and safely.



2.12.1 Schools:

The service areas represented on the following page show a one-mile radius around school entrance points. This distance shown represents an approximate walking time of 20 minutes, or a 5-minute bike ride. Evaluating the roads within all the service areas allows for a potential safe school route to be defined.



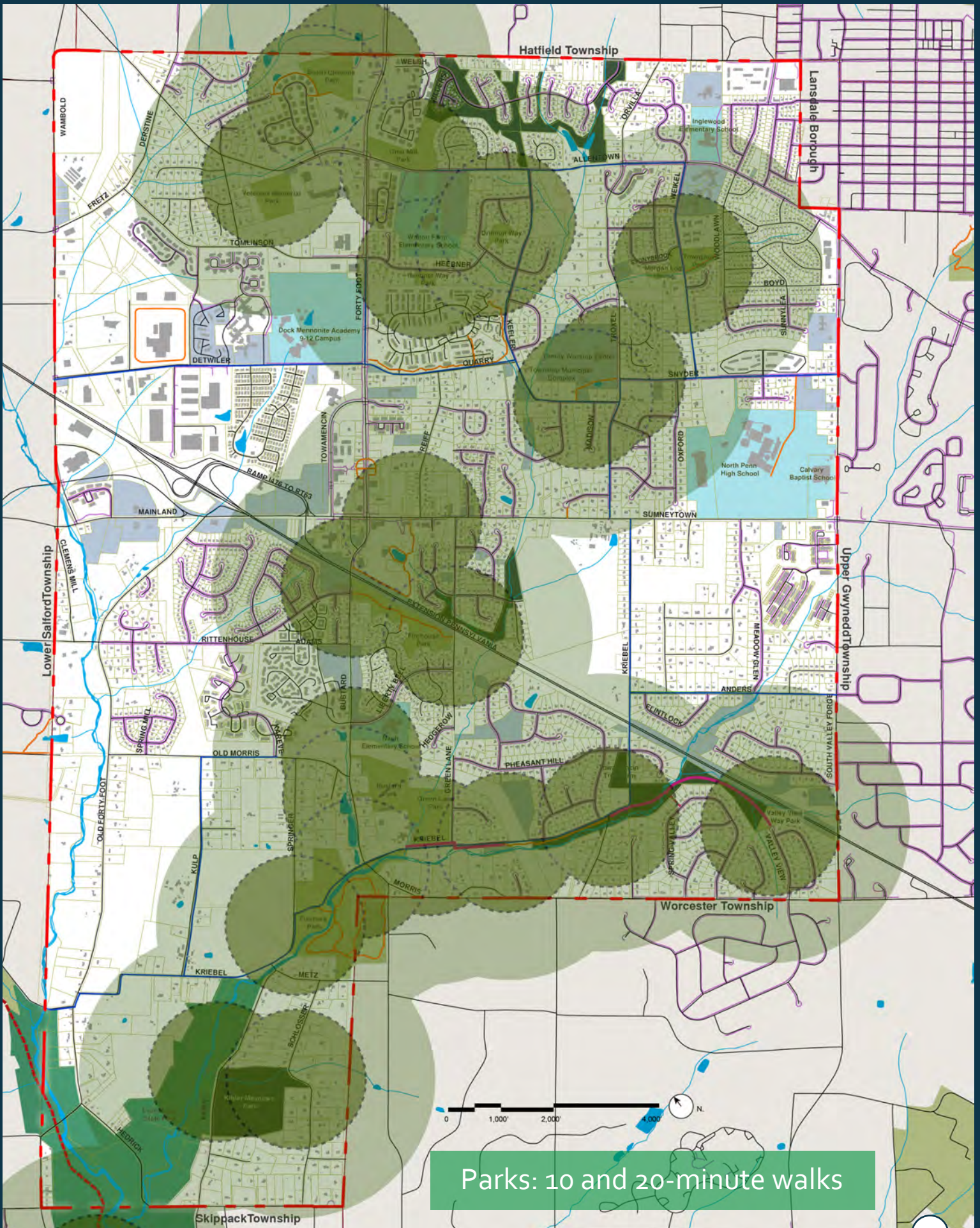
Schools: 20-minute walk

2.12.2 Parks:

The darker green symbol in the following map represents a half-mile radius around Township parks. This distance correlates with the DCNR “10-minute walk” initiative. The surrounding, lighter shade of green shows a one-mile radius, which represents a 20-minute walk or 5-minute bike ride. The purple lines highlight roads that fall within the service area and provide a connection from a park trail entrance to the next intersection or road break.

This representation helps define where connections within the service areas could be made to provide access to and between parks.





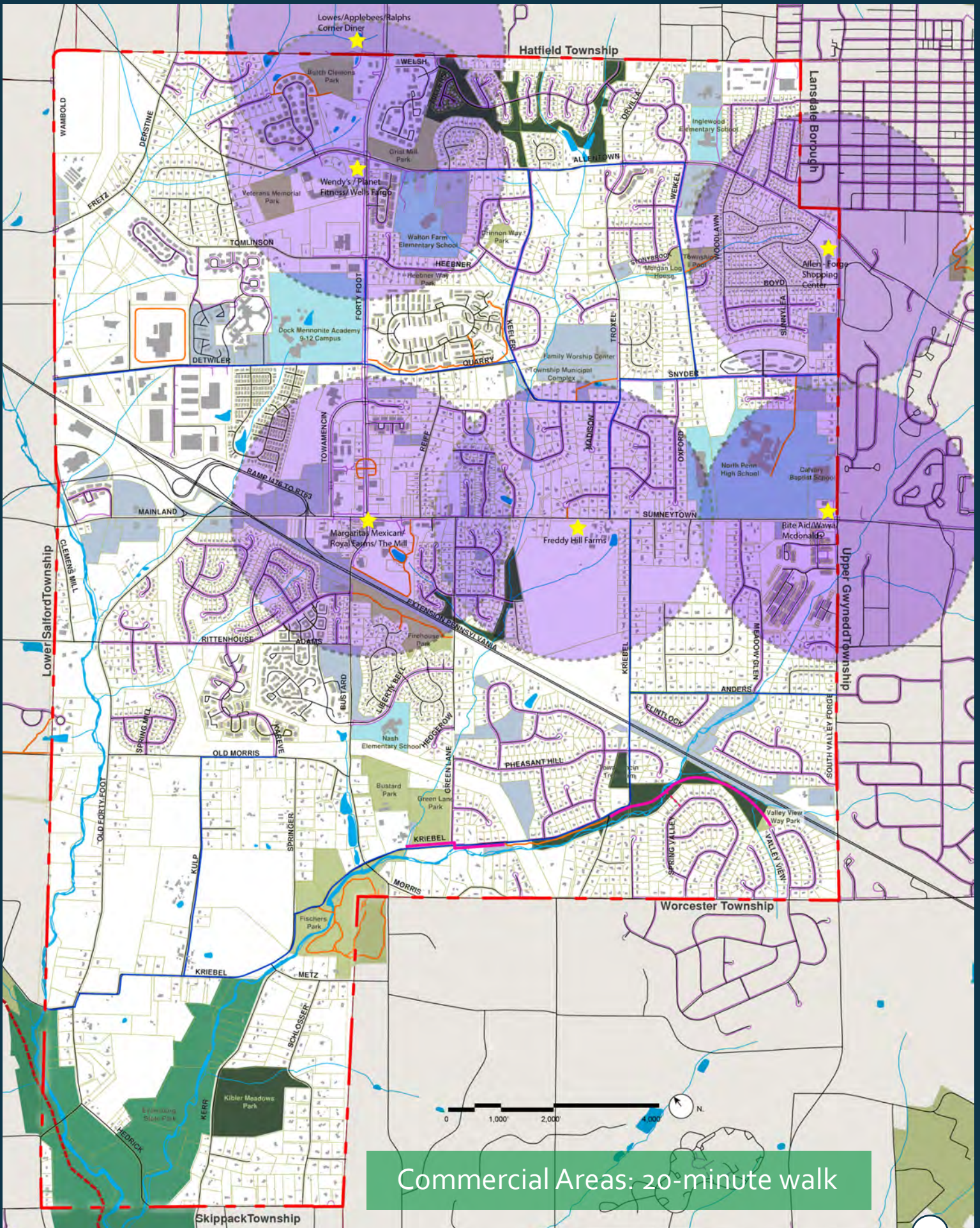
Parks: 10 and 20-minute walks

2.12.3 Commercial Areas:

The stars on the following map denote general areas where clusters of commercial uses are located within and outside of the Township. A one-mile radius has been set around each of these points, which represents a 20-minute walk, or 5-minute bike ride.



Image Source: North Penn Now



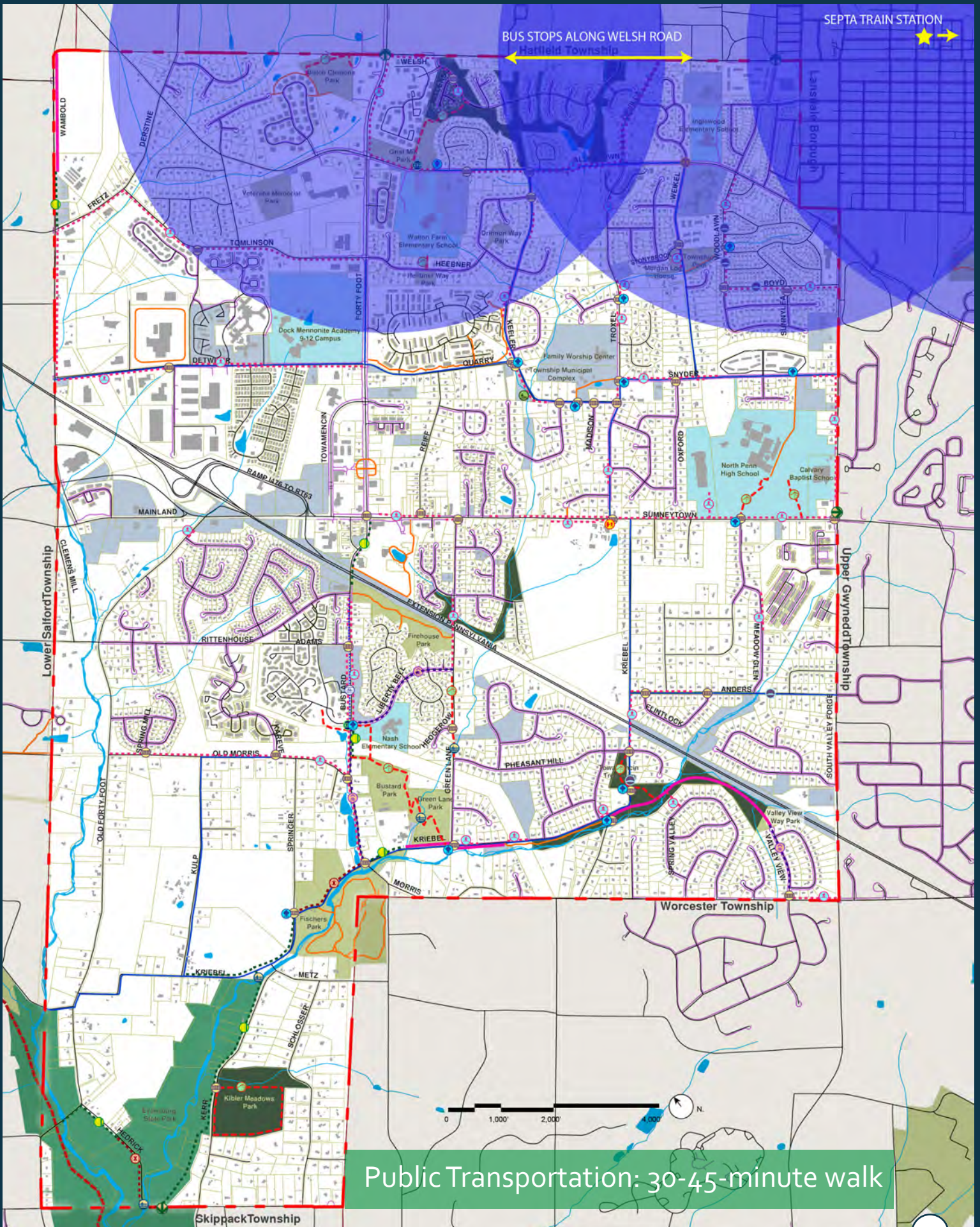
Commercial Areas: 20-minute walk

2.12.4 Public Transportation:

The following map shows a two-mile radius around bus and rail stops, which represents an approximate 30-45 minute walk, or a 10-minute bike ride. The service area on these destinations is set higher than the others because it is a part of the consultant's due diligence to provide multiple forms of transportation to a wider cross section of Township residents. This analysis provides information on which populations would benefit from improvements providing safe routes for travel beyond the Township.



Image Source: Philadelphia Inquirer



Public Transportation: 30-45-minute walk





RECOMMENDATIONS

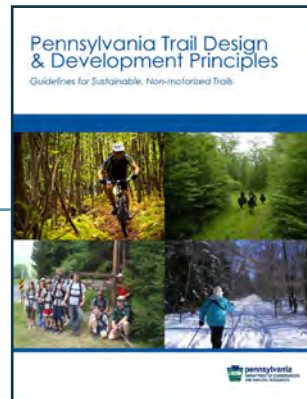
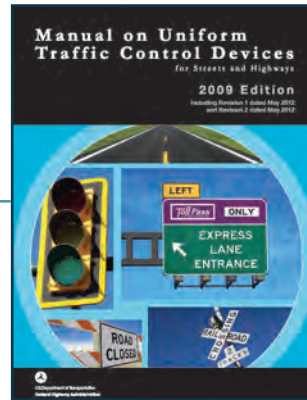
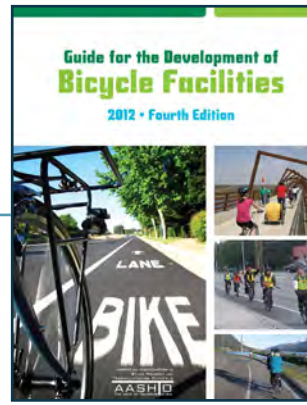
3

3.1 Trail Design Guidelines

Trails improvements are designed based on standards created to maximize the safety of their users. These standards are developed by national and local organizations. Examples of these standards and manuals can be found below:

- The American Association of State Highway Transportation Officials (AASHTO)
 - Guide for the Development of Bicycle Facilities
- Federal Highway Administration (FHWA)
 - Manual on Uniform Traffic Control Devices
 - Small Town and Rural Multimodal Networks
- Department of Natural Resources (DCNR)
 - The Pennsylvania Trail Design and Development Principles
- The National Association of City Transportation Officials (NACTO)
 - Urban Bikeway Design Guide

AASHTO and FHWA standards are federally recognized and should be adhered to for all on-road and multi-use trail improvements. DCNR guidelines are recognized at the state level and provide techniques for sustainable design methods that make use of natural systems. NACTO is an association of North American cities and transit agencies formed to ideate on transportation issues. Their standards provide insight into the design of safe and accessible streets.



3.2 Vision Zero

Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all. First implemented in Sweden in the 1990s, Vision Zero has proved successful across Europe, and is now gaining momentum in American towns and cities. The guidebook provides foundational elements and actionable strategies for any community to incorporate into their transportation network.

VISION ZERO



3.3 Connectivity Improvement Features

The improvements plan captures all the high-level improvements necessary to help the Township begin to strengthen their multi-modal network. All improvements have applications or features folded into them that must be designed and engineered in order to be implemented correctly. The following applications are not identified as a 'tool' in the improvements plan, but should be recognized as a supporting improvement feature.



3.3.1 Signage

Signage can be provided along the road or trail under many applications and scenarios. Signage informs motorists to watch out for bicyclists on the roadway. Manual on Uniform Traffic Control Devices (MUTCD) standards: Share the Road (W11- and W16-1P) signs have been replaced with "Bicyclist May Use Full Lane" (R4-11) signs; Place signs at the beginning of the bike route, roadway intersections, and throughout the segment where deemed required, and at the end of the bike route. There are many other applications where trail signage is necessary and appropriate and should be included when proposed improvements advance to full engineering.



3.3.2 ADA Curb Ramps

An ADA curb ramp is a sloped section through a curb that individuals use to transition up from the street to the sidewalk or vice versa. More specifically, an ADA curb ramp aides as an accessibility route for people with mobility issues. The Americans with Disabilities Act (ADA) has extensive laws, regulations, and standards set for the design and construction of the ramps at intersections.

The ADA curb ramps within the Township are documented and mapped by DVRPC. Based on the data, the Township has an extensive network of existing curb ramps. Through site reconnaissance, some curb ramps in the Township should be re-evaluated based on the current ADA standards.

As the Township begins to implement some of the accessibility tools presented in this document, ADA curb ramps should accompany the design where needed.



3.3.3 Walkway Surface Types

Asphalt Surfaces

Asphalt surfaces provide for the widest variety of trail users including bicyclists, walkers, joggers, wheelchair users, parents with baby strollers, and in-line skaters. Initial installation costs are relatively high (lower than Portland cement concrete however) compared to other trail surface types. However, long-term maintenance costs will remain moderate 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 the voids in the pavement.

Concrete Surfaces

Portland cement concrete pavement is the most durable material for trail surfaces but is more expensive than asphalt. Concrete trails are commonly used in urban environments. 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.



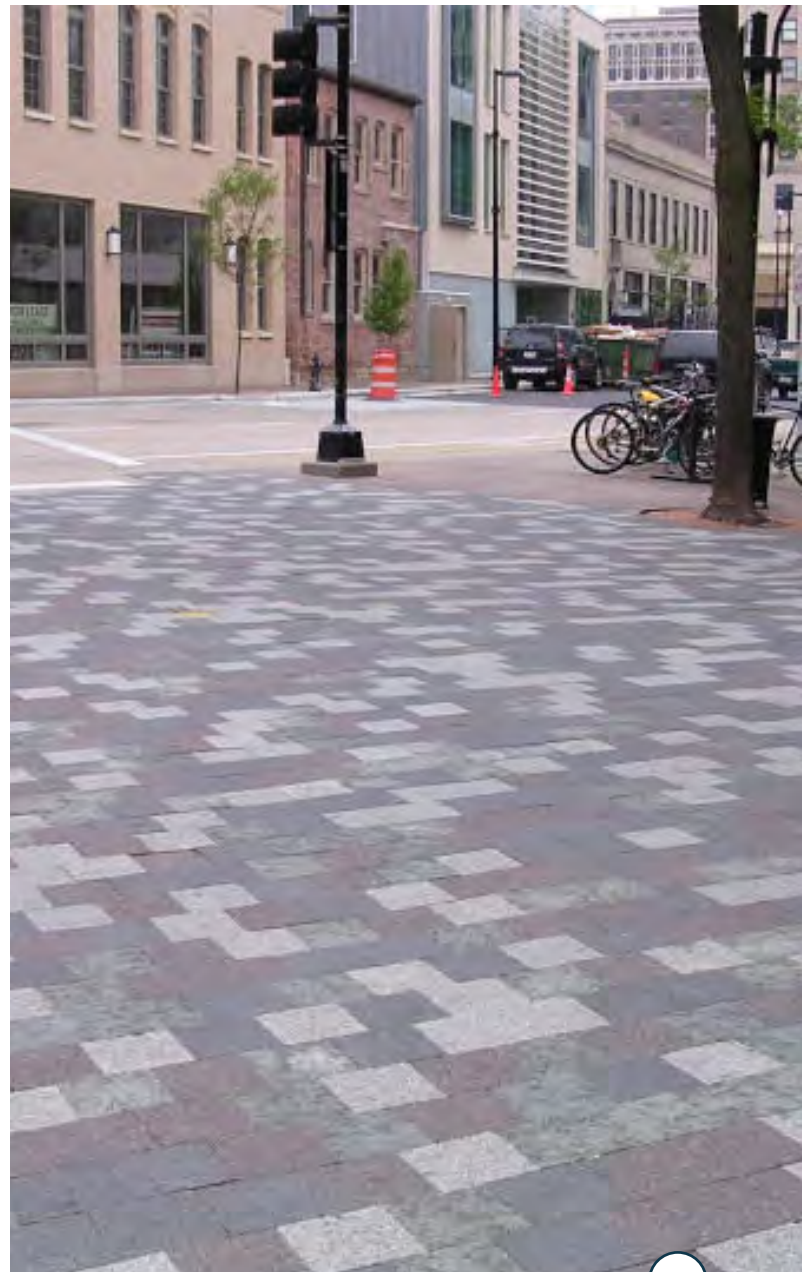
Compacted Aggregate Surfaces

Compacted aggregate surfaces, or stone dust trails, can accommodate all trail user types with the exception of in-line skaters. Initial installation costs for this trail surface are relatively low, however 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 typical aggregates used in this situation. 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 on slopes over 3%.



Pavers

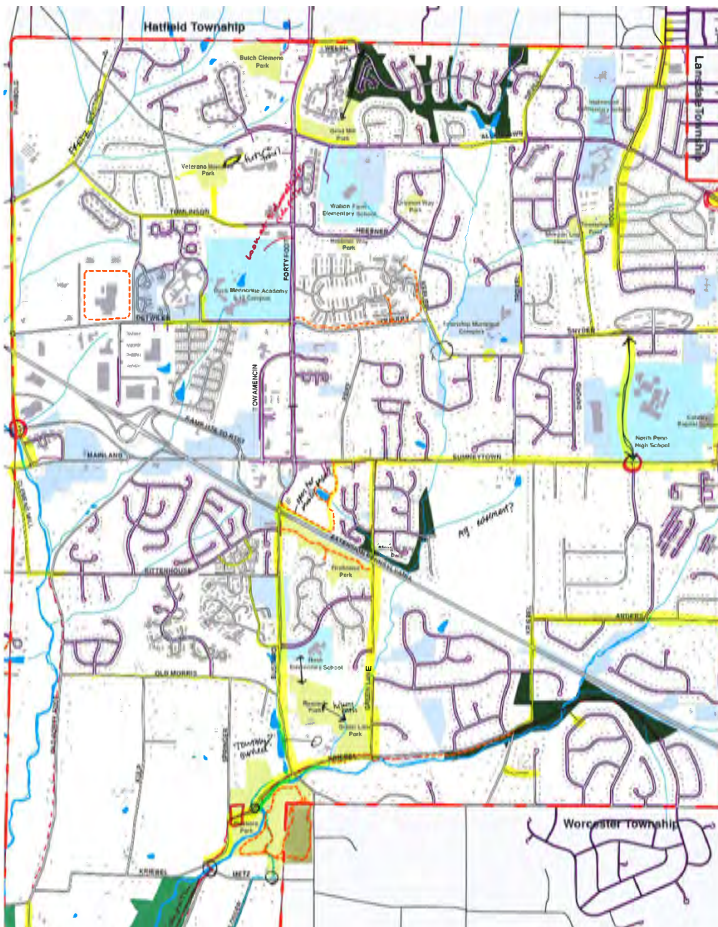
Pavers, composed of clay or concrete, may be a suitable pavement material where the context is of a historic or institutional nature. This material is highly aesthetically pleasing and durable. However, this material is the most expensive type of trail or sidewalk surface and is typically used only in areas of high visibility or in areas of historic significance.



3.4 Proposed Improvements Plans

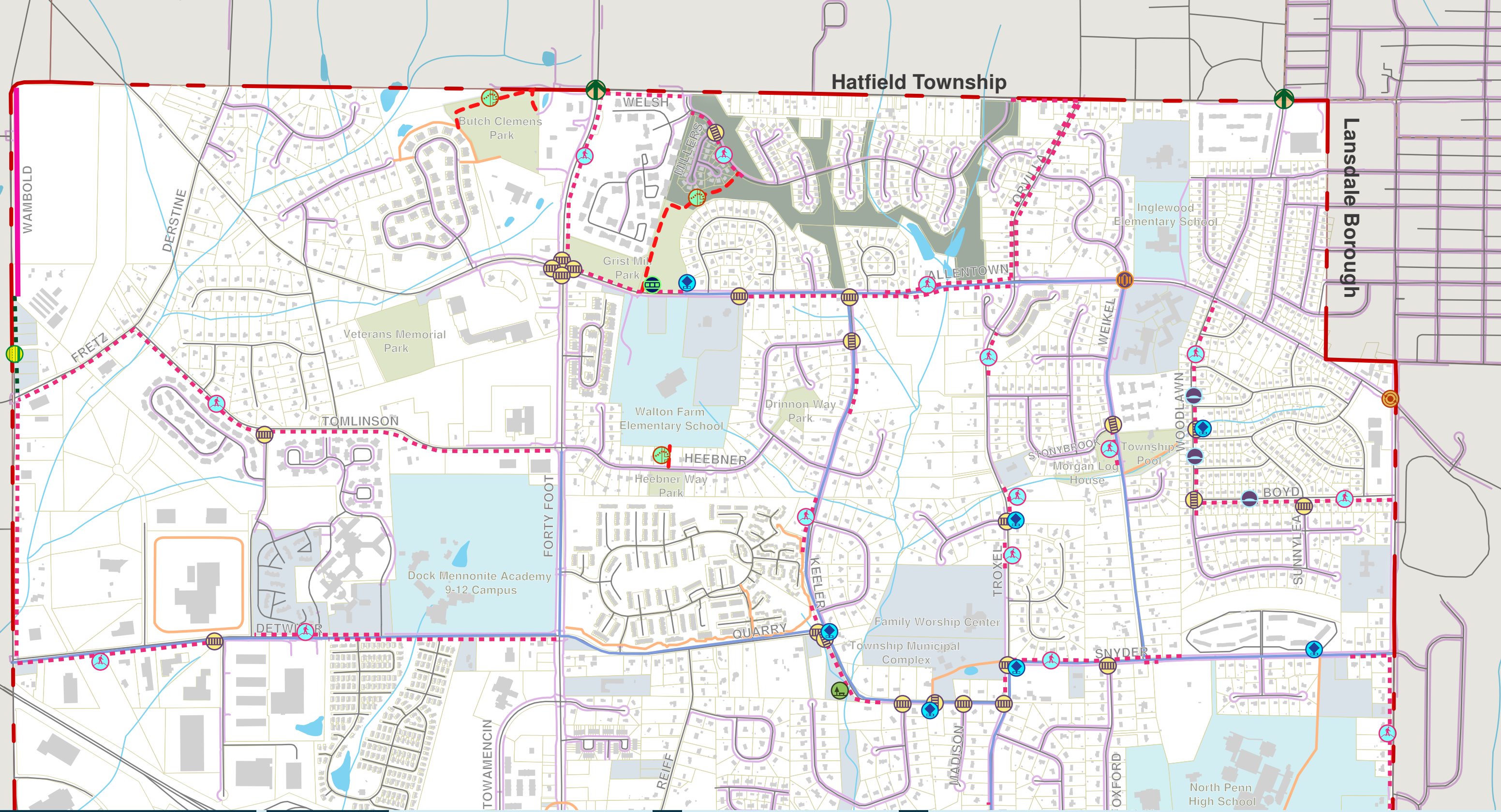
The proposed improvement plans are divided into three (3) pages with plans drawn at a scale of 1" = 1,000'. These plans illustrate the locations of pedestrian and bicycle improvements in Towamencin. Based upon site analysis, field reconnaissance, and information gathered at committee and public meetings, several guiding principles were established. These are as follows:

- Establish safe connections to schools.
- Connect to parks, trails, and open space within Towamencin and the surrounding area.
- Establish safe connections across "barriers" such as railroad lines and high-volume roadways.
- Connect to the amenities and services in Towamencin as well as in adjacent municipalities.
- Establish cross-township connections (north/south & east/west) on low-stress or low-traffic volume routes.
- Connect neighborhoods to other destinations in the Township.



Hatfield Township

Lansdale Borough



Sheet A
Sheet B
Sheet C

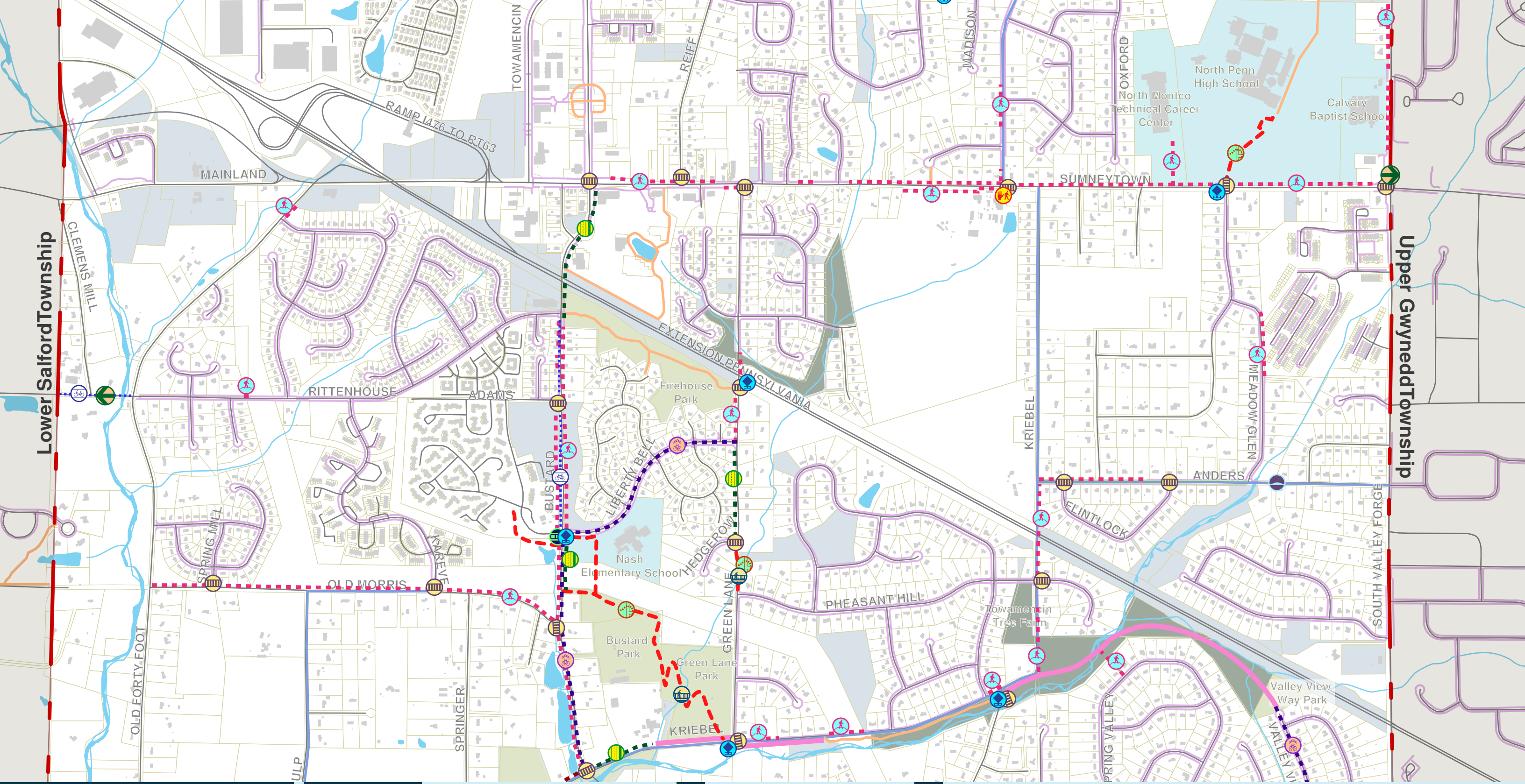


Existing

- State Park
- Township Park
- Open Space
- Institutional
- School
- Existing Sidewalk
- Existing On Road Route
- Existing Trail

Proposed

- Township Trail
- County Trail
- Sidewalk
- Multi-Use Trail
- Side Path
- Sharrow
- Bicycle Lane
- Road/Lane Closure
- Crosswalk
- Decorative Crosswalk
- Speed Cushion
- Rapid Flashing Beacon
- Hand Man
- Pedestrian Refuge Island
- Trail Bridge
- Pocket Park
- Connection to Adjacent Twp
- Roundabout



Towamencin
T O W N S H I P
Connectivity Study

Sheet A
Sheet B
Sheet C

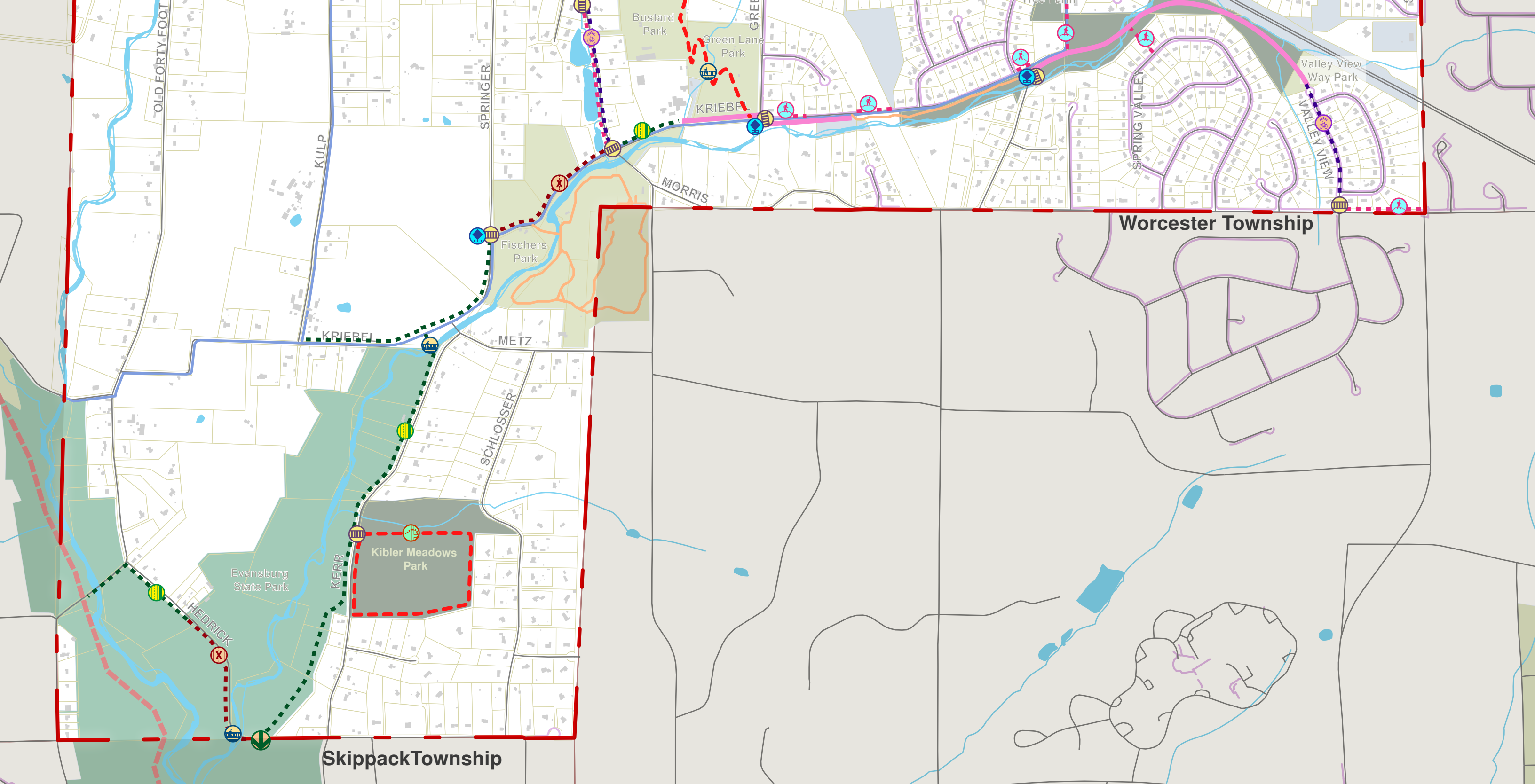


Existing

- State Park
- Township Park
- Open Space
- Institutional
- School
- Existing Sidewalk
- Existing On Road Route
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Proposed

- Township Trail
- County Trail
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Existing

- State Park
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- Open Space
- Institutional
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- Existing Sidewalk
- Existing On Road Route
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Proposed

- Township Trail
- County Trail
- Sidewalk
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- Hand Man
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- Connection to Adjacent Twp
- Roundabout



3.5 Improvement Toolbox

A list of needed connectivity improvements for Towamencin Township was developed. These improvements adhere to the previously described design standards and include off-road and on-road recommendations. The following section of this report will provide information on each toolbox item.





3.5.1 Sidewalk

Sidewalks are the basic transportation network for pedestrians in any village or town, and probably the most familiar 'improvement tool' to residents.

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. The existing sidewalk infrastructure has been expanded to connect to other areas in 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.

TOOL METRICS

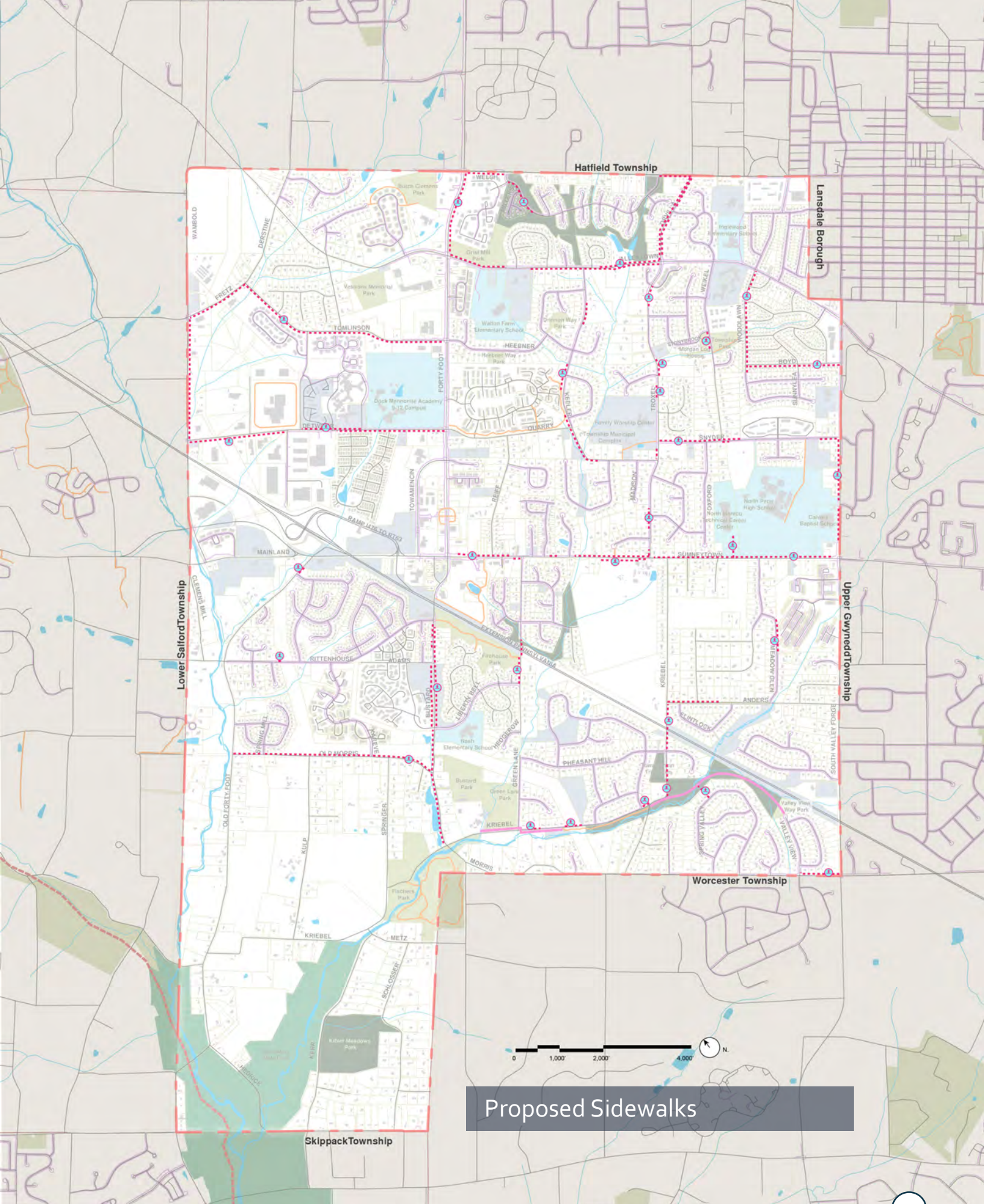
67,880 linear feet of new sidewalk are proposed.

Equivalent to 13 miles

DESIGN GUIDELINES

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





Proposed Sidewalks



3.5.2 Crosswalk

Similar to sidewalks, crosswalks are proposed to benefit the largest number of residents and establish safe travel corridors to and from the destinations of Towamencin.

Crosswalks can be delineated in several ways. The continental crosswalks (“piano keys or “zebra stripes”) are the most common type and highly visible crosswalks and are generally preferred by PennDOT and most regulatory agencies. The “keys” or “stripes” can be contained (or not) by another thick white stripe parallel to the direction of pedestrian traffic. Continental crosswalks are generally constructed of thermoplastic materials that are applied onto the surface of asphalt paving and are highly durable, generally with an effective life span of up to ten years

(dependent on traffic). In recent years, thermoplastic materials have been preferred to pavers placed in crosswalks since pavers become loose are subject to damage from snowplows.

When used on state roads, PennDOT engineers must be consulted to approve of decorative crosswalks as some engineers note that decorative crosswalks may potentially distract drivers. The decision to allow or not allow a decorative crosswalk on a state road includes levels of traffic or level of service at an intersection, accident history, posted speed limit and other contextual considerations.

Similar to sidewalks, crosswalks are proposed to benefit the largest number of residents and establish safe travel corridors to and from the destinations of Towamencin.

DESIGN GUIDELINES

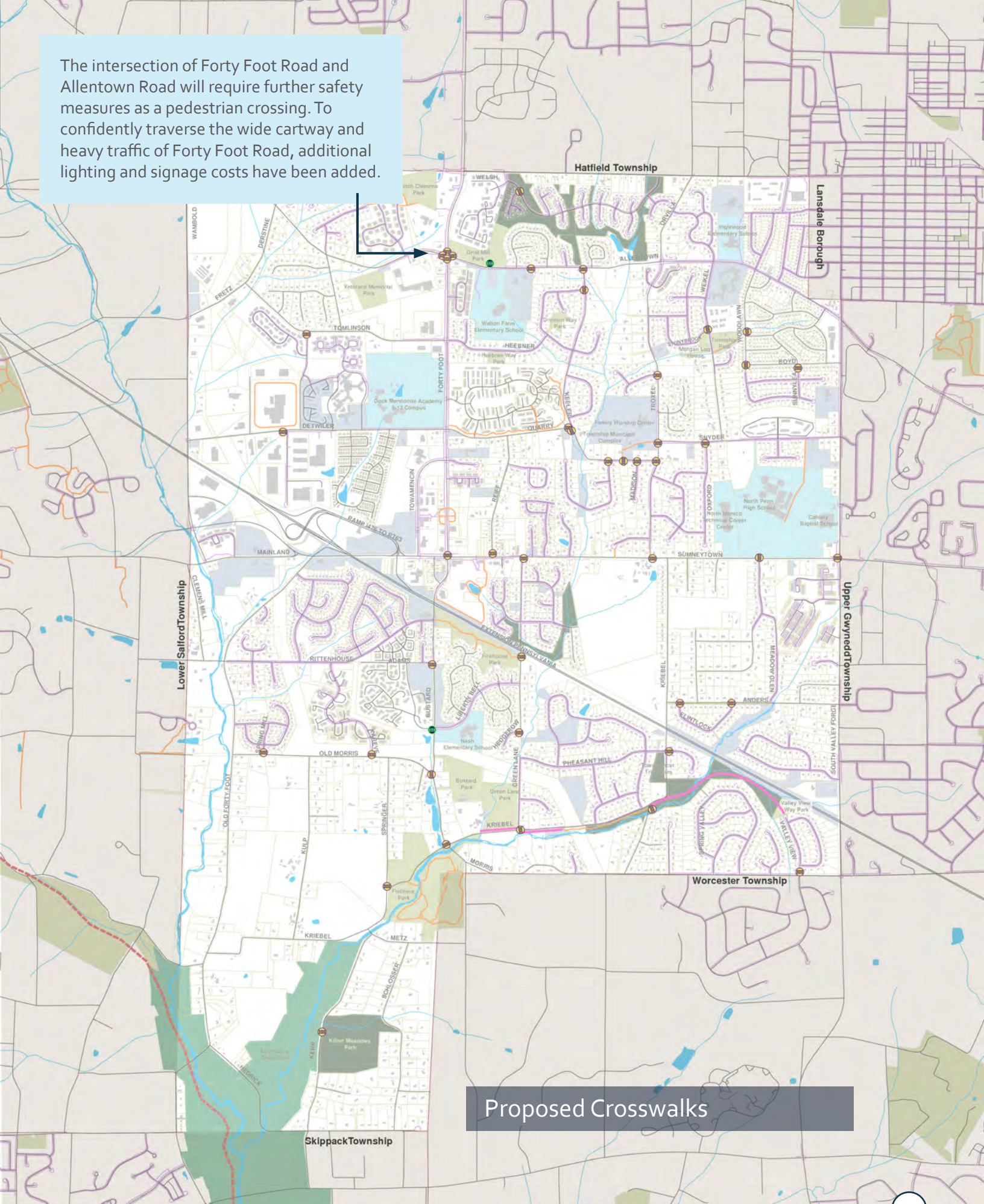
- Crosswalks must contain parallel white stripes
- Generally constructed using thermoplastic materials

TOOL METRICS

46 locations proposed in plan



The intersection of Forty Foot Road and Allentown Road will require further safety measures as a pedestrian crossing. To confidently traverse the wide cartway and heavy traffic of Forty Foot Road, additional lighting and signage costs have been added.



Proposed Crosswalks



3.5.3 Multi-Use Trail

Multi-use trails, also referred to as multi-modal or shared use trails, provide a safe and distinct route for pedestrians and similar user groups.

These trails are generally a minimum of 10 feet in width and may be designed at widths of up to 14 feet for high-volume routes. 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.

The Towamencin Township Connectivity Study includes multi-use trails at multiple parks, open space, and school areas. Many of the multi-use trails connect into existing trail infrastructure in order to expand on the existing network.

In Grist Mill Park, a multi-use trail is proposed to promote a more formal connection between the park and the adjacent residents to the northeast. connecting to the adjacent residential area to its northeast. In Butch Clemens Park, a trail is proposed which connects to an existing trail in the residential area on Pleasant Valley Drive. A loop trail is proposed in Kibler Meadows Park, near Evansburg State Park.

A trail is proposed on the Walton Farm Elementary School property, connecting to sidewalks on Heebner Way. North Penn High School has two proposed multi-use trails connecting sidewalks from improvements on Bridal Path Road and the existing school sidewalk. The example pictured below shows a multi-use trail. This is the trail type proposed to connect Nash Elementary School to Bustard Park. This segment also contains a small loop trail.

TOOL METRICS

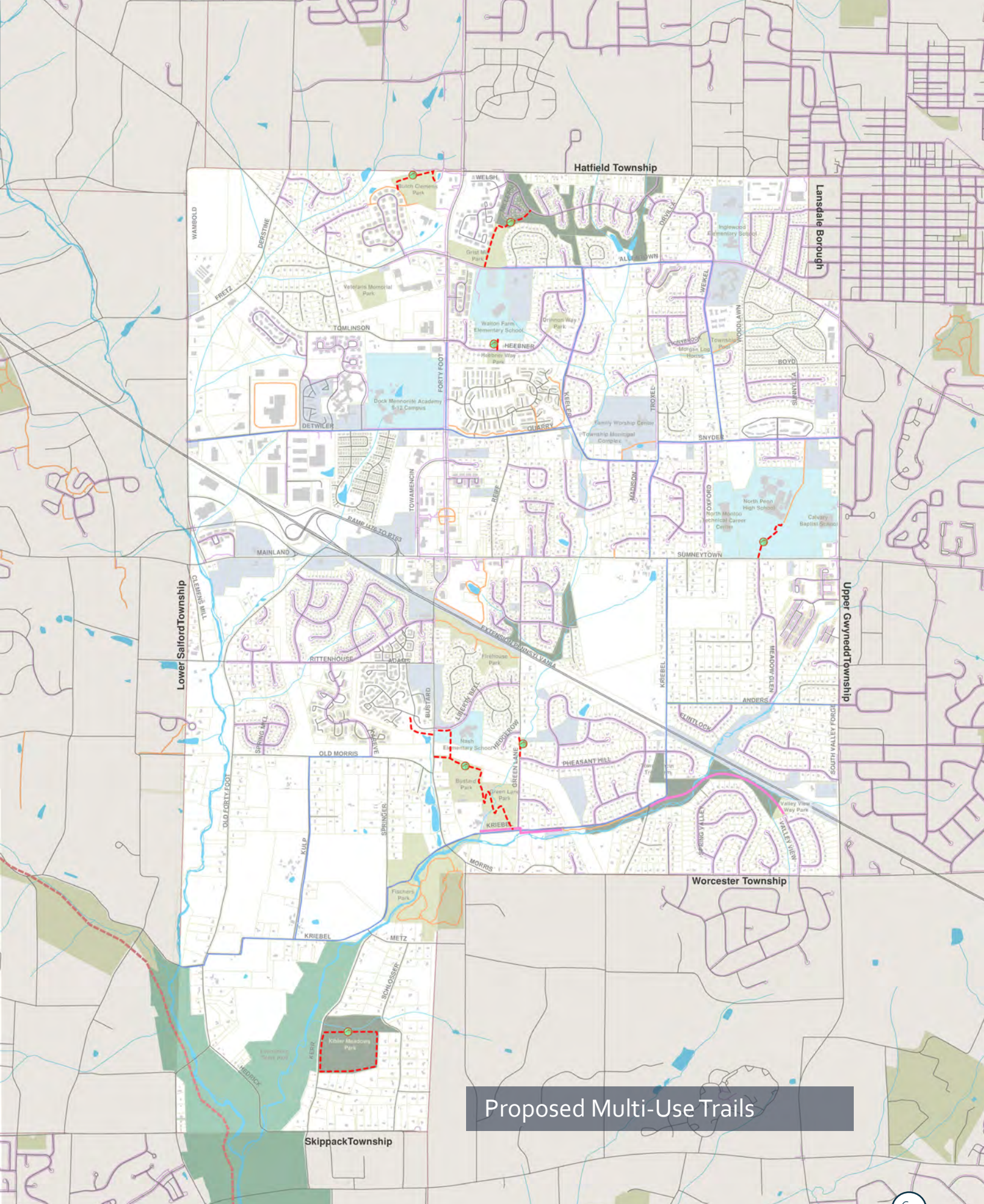
12,750 linear feet of new multi-used trails are proposed.

Equivalent to 2.4 miles

DESIGN GUIDELINES

8'-14' wide, depending on existing conditions





Proposed Multi-Use Trails



3.5.4 Side Path

A side path can encourage bicycling and walking in areas where high-volume traffic and/or high-speed traffic might otherwise discourage such activity.

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.

A side path is recommended along Bustard Road from the intersection of Sumneytown Pike to the entrance of Firehouse Park. An opening in the guiderail needs to be created at the end of the bridge to safely get pedestrians and bicyclists off of the road, and onto the side path.

A side path is also recommended from the intersection of Liberty Bell Drive and the entrance to Bustard Park.

The Kriebel Road Trail project, which is currently under construction, ends at Green Lane Park. This connectivity study recommends a side path continuation of this trail, west to Bustard Road.

Other trail and sidewalk projects are being developed along Wambold Road, as noted on the Improvements Plan. The Plan proposes extending a side path south to Fretz Road in order to connect to proposed sidewalks along Fretz Road and Wambold Road.

DESIGN GUIDELINES

- 5'-8' in Width
- Require 5' setback from cartway if no curb or barrier is present

TOOL METRICS

4,500 linear feet proposed in plan

Equivalent to 0.85 mile





3.5.5 Sharrow

These pavement markings represent a bicyclist and directional arrows and are designed to alert motorists to the presence of cyclists.

Sharrows are pavement markings that represent a bicyclist and directional arrows and are designed to alert motorists to the presence of cyclists.

In the Towamencin Connectivity Study, sharrows are proposed along Liberty Bell Drive near Nash Elementary School. This section is already a dedicated school zone with other precautionary signage and a 25 mile per hour speed limit. The on-road addition of sharrows would guide cyclists to other trail destinations such as the proposed side path between Bustard Park and Green Lane Park.

Sharrows are also proposed along Bustard Road from its intersection with Liberty Bell Drive to its intersection with Kriebel Road.

TOOL METRICS

5,000 linear feet of "Share the Road"

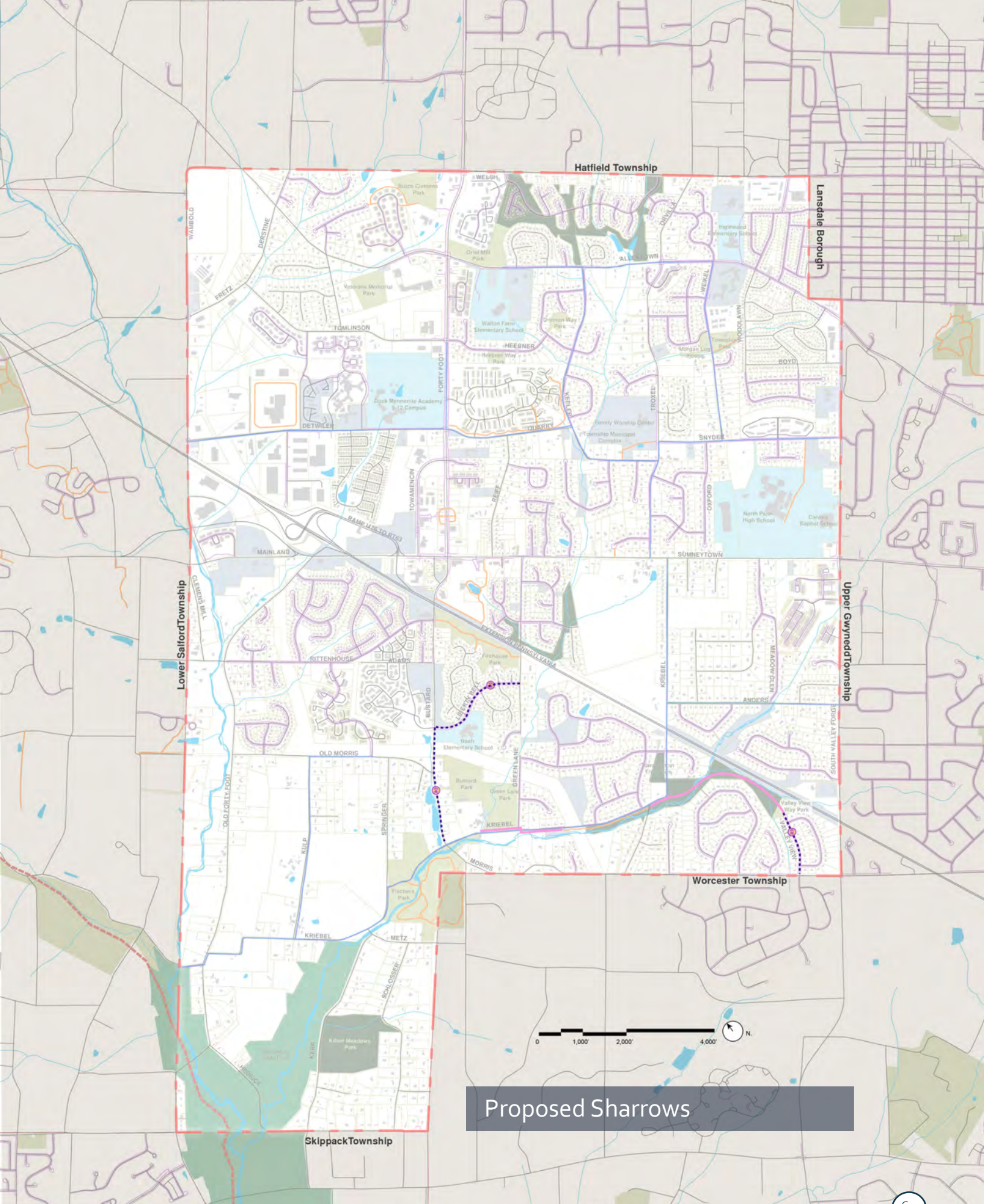
Equivalent to 1 mile

Total of 21 Sharrow Markings

SHARROW DESIGN GUIDELINES

- Not to be used on roads with posted speed limits more than 35 mph.
- Placed at intersections and at intervals not greater than 250'.
- The striping position on cartway with parallel parking should be 11' from face of curb or edge of travel way.
- The striping position on cartway with no parking should be 4' from face of curb or edge of travel way.
- Sharrows are accompanied by signage. Guidelines from the MUTCD for signage are as follows:
 - Signage informs motorists to watch out for bicyclists on the roadway.
 - Bicyclist May Use Full Lane (MUTCD R4-11) signs.
 - Place signs at the beginning of the bike route, roadway intersections, and throughout the segment where deemed required.





Proposed Sharrows



3.5.6 Bike Lane

Bike lanes enable cyclists to ride at a comfortable speed without interference from traffic.

Bicycle lanes are designed to create corridors of increased safety, separated from motorists using pavement markings, striping, and signage. Bike lanes enable cyclists to ride at a comfortable speed without interference from traffic.

When evaluating locations for potential bike lanes, wide shoulders on a roadway should be prioritized.

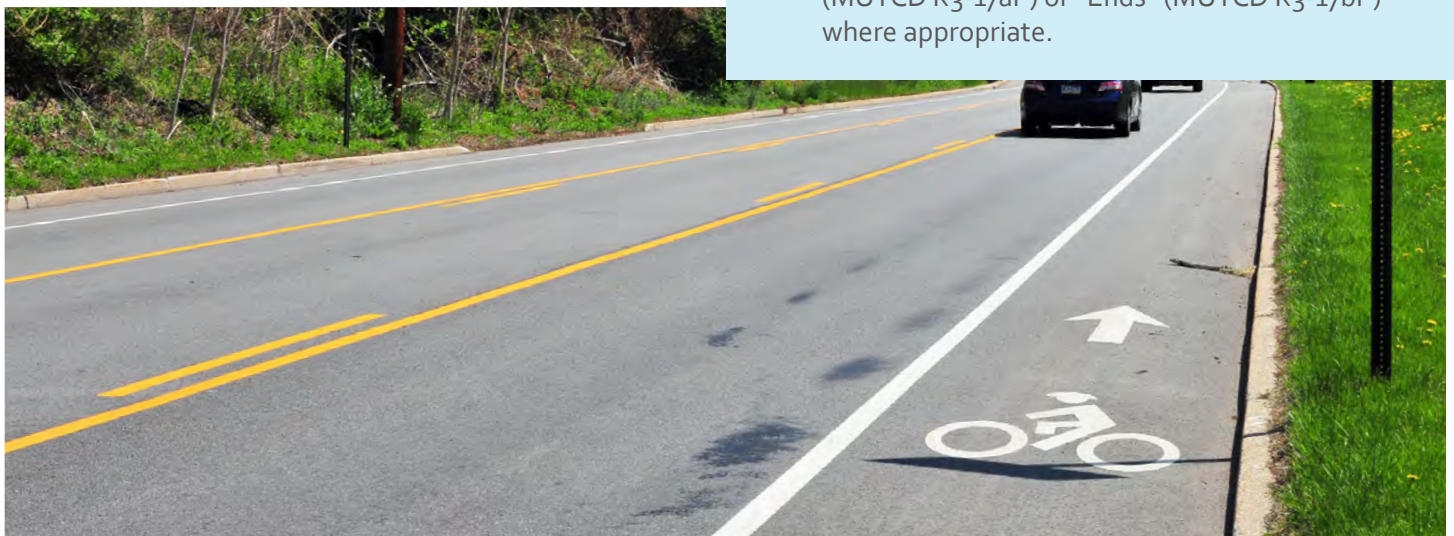
Large shoulders along Bustard Road are an opportunity to create more dedicated bicycle lanes in Towamencin Township. Beginning at Rittenhouse Road and continuing to Adams Road, the cartway shoulder is 12' wide and is only on the west side of Bustard Road. It is recommended that this 12' shoulder be redistributed as two 5' bike lanes with 1' buffers for each.

After this intersection, from Adams Road to Liberty Bell Drive, shoulder easement on both sides of the road. It is recommended that this width be redistributed as two 5' foot bike lanes with 2' buffers on either side of the road. The remaining 10' shall be a remaining shoulder on the west side of the road. See the photo below for an example of a bike lane.

TOOL METRICS

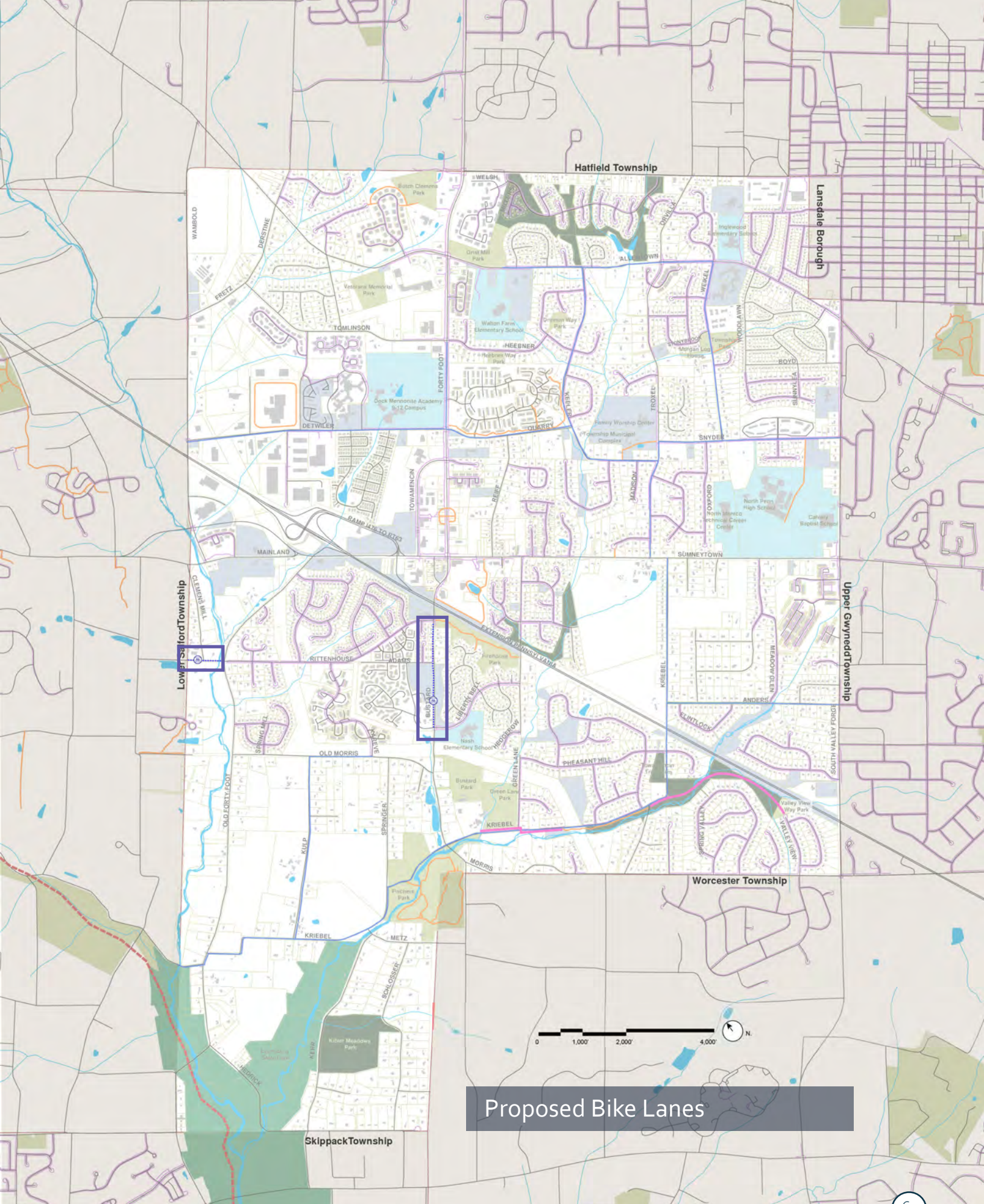
5,000 linear feet of bike lanes

Equivalent to 1 mile



BIKE LANE DESIGN GUIDELINES

- Bike lanes should be provided on both sides of two-way streets.
- Bike Lane Widths without Parking: 4' minimum (not adjacent to curb) and 5' minimum (adjacent to curb or other obstacles).
- Bike Lane Widths with Parallel Parking: 5' minimum to 7' (wider bike lanes are recommended adjacent to parking areas to reduce conflict with opening vehicle doors).
- Bike lanes should be placed between the parking lane and travel lane (this applies to diagonal and parallel parking).
- Storm Drains and Utility Covers: Bike lanes should be wide enough to accommodate bicyclists swerving to avoid obstructions.
- Bike Lane Striping: 4" to 6" solid white line (dotted lines are optional at major driveways and intersections, solid lines should be continued at all minor driveways).
- Pavement Marking: Bike Lane Symbols (MUTCD 9C - 3).
- Bike Lane Signage: Bike Lane (MUTCD R3-17) placed at periodic intervals with either "Ahead" (MUTCD R3-17aP) or "Ends" (MUTCD R3-17bP) where appropriate.



Proposed Bike Lanes



3.5.7 Trail Bridge

Trail Bridges are used for pedestrians and bicyclists to traverse site obstacles such as streams.

While trail bridges are often prefabricated, their application costs are based on site conditions.

There are 4 locations within the connectivity study where trail bridges are proposed.

Kriebel Road and Metz Road

A recommended side path going north from Kibler Meadows Park on Kerr Road eventually reaches a barrier at Towamencin Creek. While there is a vehicular bridge on Metz Road, it does not provide enough space for pedestrians and cyclists to safely cross. A trail bridge is recommended to the west side of the existing bridge.

Bustard Park and Green Lane Park

The recommended multi-use trail that winds through Bustard Park eventually approaches a tributary crossing through Green Lane Park. In order to complete the connection between the two parks, a trail bridge is recommended.

Green Lane Road

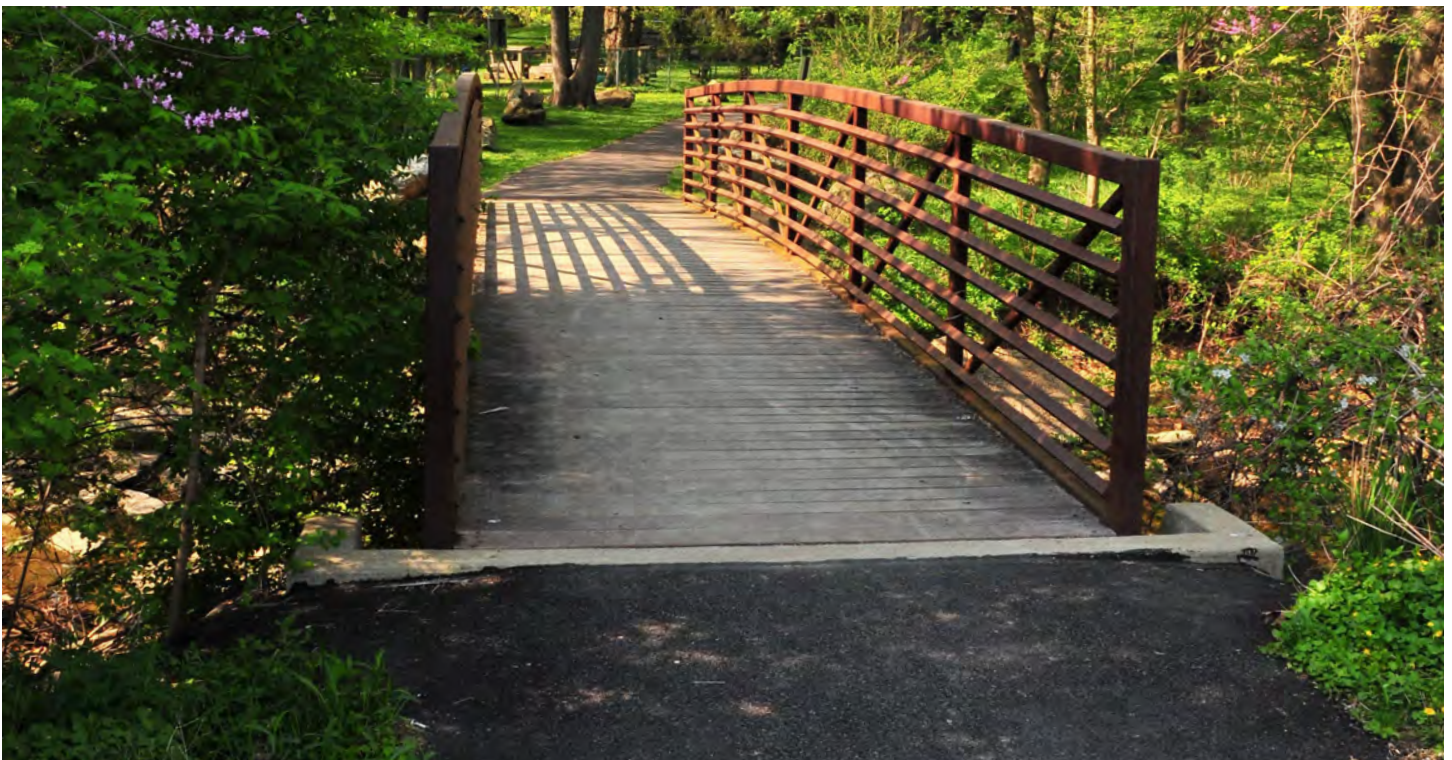
Currently, the portion of Green Lane Road south of the Turnpike is segmented by a small tributary. A side path is recommended along the northern half to the dead end of Green Lane Road. A recommended trail bridge will link the proposed side path with an existing sidewalk.

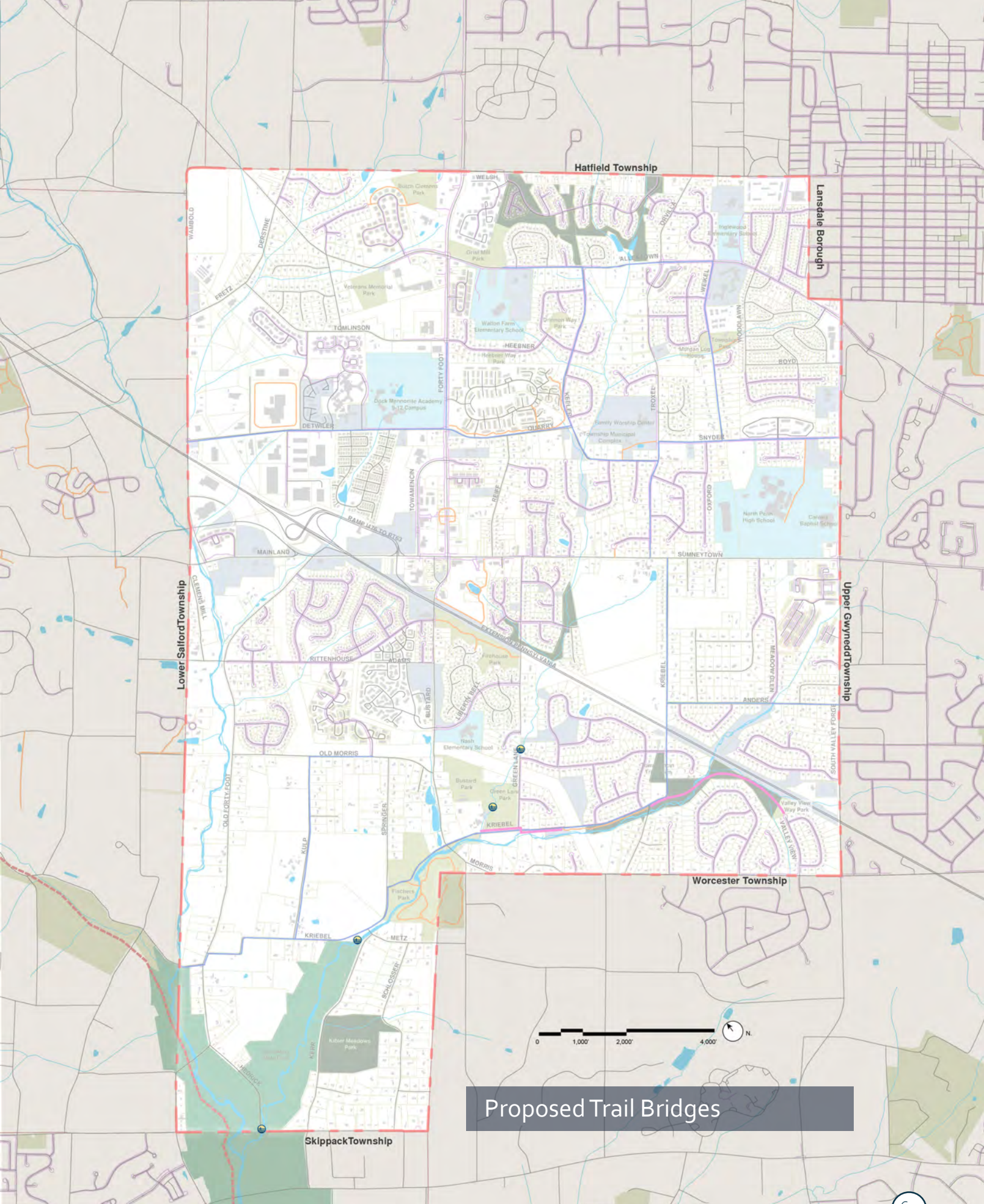
Hedrick Road in Evansburg State Park

Currently, the segment of Hedrick Road within Evansburg State Park is not accessible to the public because the existing bridge over Towamencin Creek is deemed structurally unsound. In order to incorporate this segment of Hedrick Road (see the Road Closure improvement), while connecting to the other proposed features, a trail bridge is recommended to replace the existing bridge.

TOOL METRICS

4 new trail bridges





Proposed Trail Bridges



3.5.8 Hand-Man

A "Hand-Man" or pedestrian crossing signal indicates to pedestrians or cyclists when it is safe to cross a road intersection. These devices can be visual-only or also equipped with an auditory component.

Hand/Man pedestrian crossing indicators can be installed at existing signalized intersections. These indicators alert pedestrians when and for how long it is safe to cross.

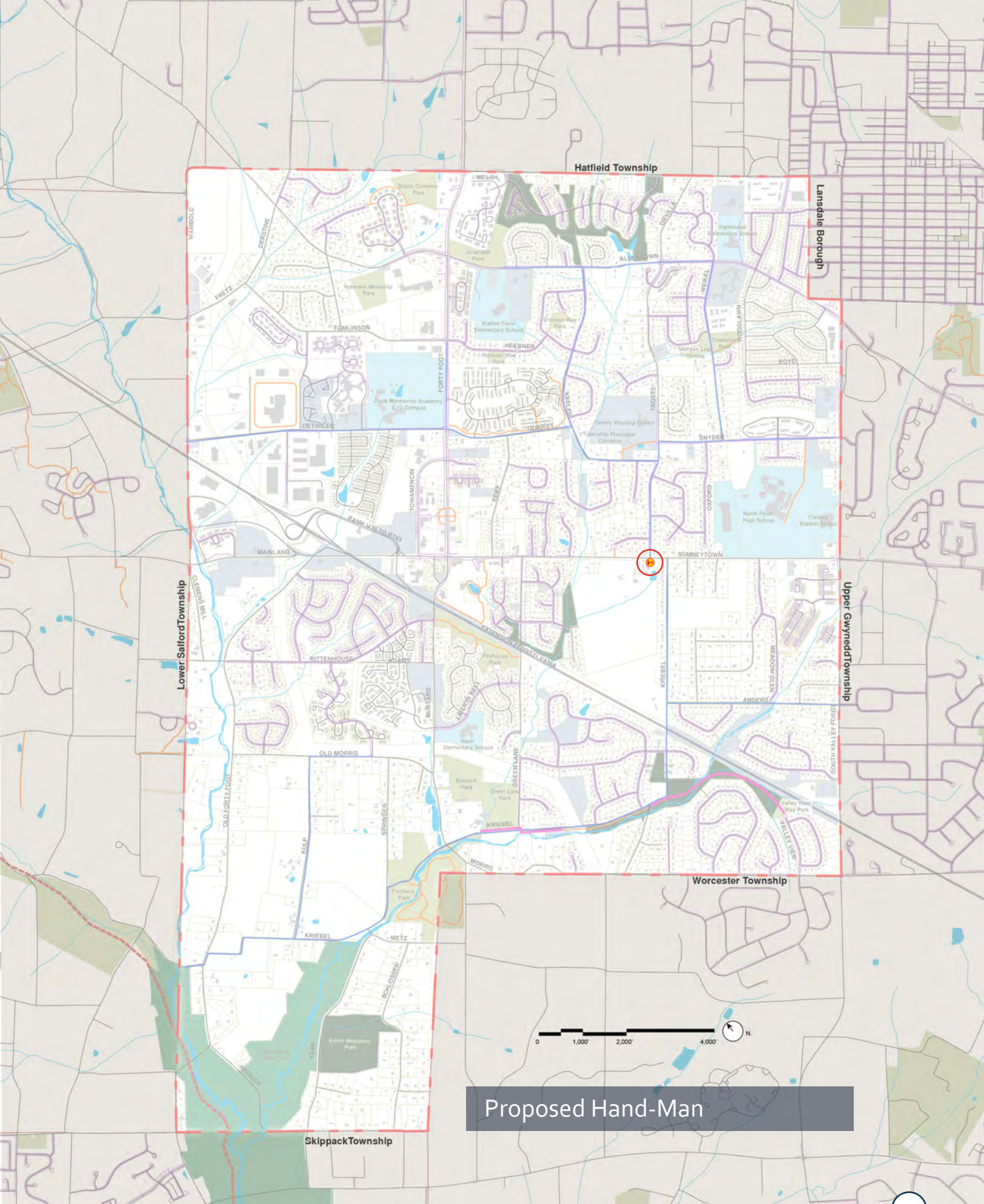
The MUTCD (Manual on Uniform Traffic Control Devices) states that an "upraised hand" or "don't walk" signal informs pedestrians they cannot enter the street at that moment. A numbered countdown will appear as the signal prepares to change. A steady "walking man" indicates when it is safe for pedestrians to cross the street.

Hand/Man signals are funded by PennDOT for PennDOT roads.

TOOL METRICS

1 hand-man





Proposed Hand-Man



3.5.9 Rapid Flashing Beacon

These beacons alert motorists to the presence of pedestrians or cyclists crossing the street.

Rapid flashing beacons are traffic devices used at non-signalized intersections or at mid-block pedestrian crossings. These beacons alert motorists to the presence of pedestrians or cyclists crossing the street.

Rapid flashing beacons can be activated in a number of ways. Users may press a button to activate the light. Beacons may include cameras that detect the presence of a pedestrian/cyclist about to go through an intersection that activates the flashing beacon. Beacons may include infra-red heat sensing devices that sense body heat and activate the beacon.

Rapid flashing beacons are used in the Township to safely get the pedestrian / cyclist from one side of the road to a destination point, without them having to travel up to a roadway intersection to cross.

TOOL METRICS

13 new rapid flashing beacon locations



Image: Texas A&M Transportation Institute



3.5.10 Speed Cushion

Speed cushions are effective traffic calming measures that may be appropriate in the areas around Towamencin Township parks and neighborhood streets.

Speed cushions are mounted on the road and slow the movement of vehicular traffic while allowing bicycles and first responders to travel unimpeded.

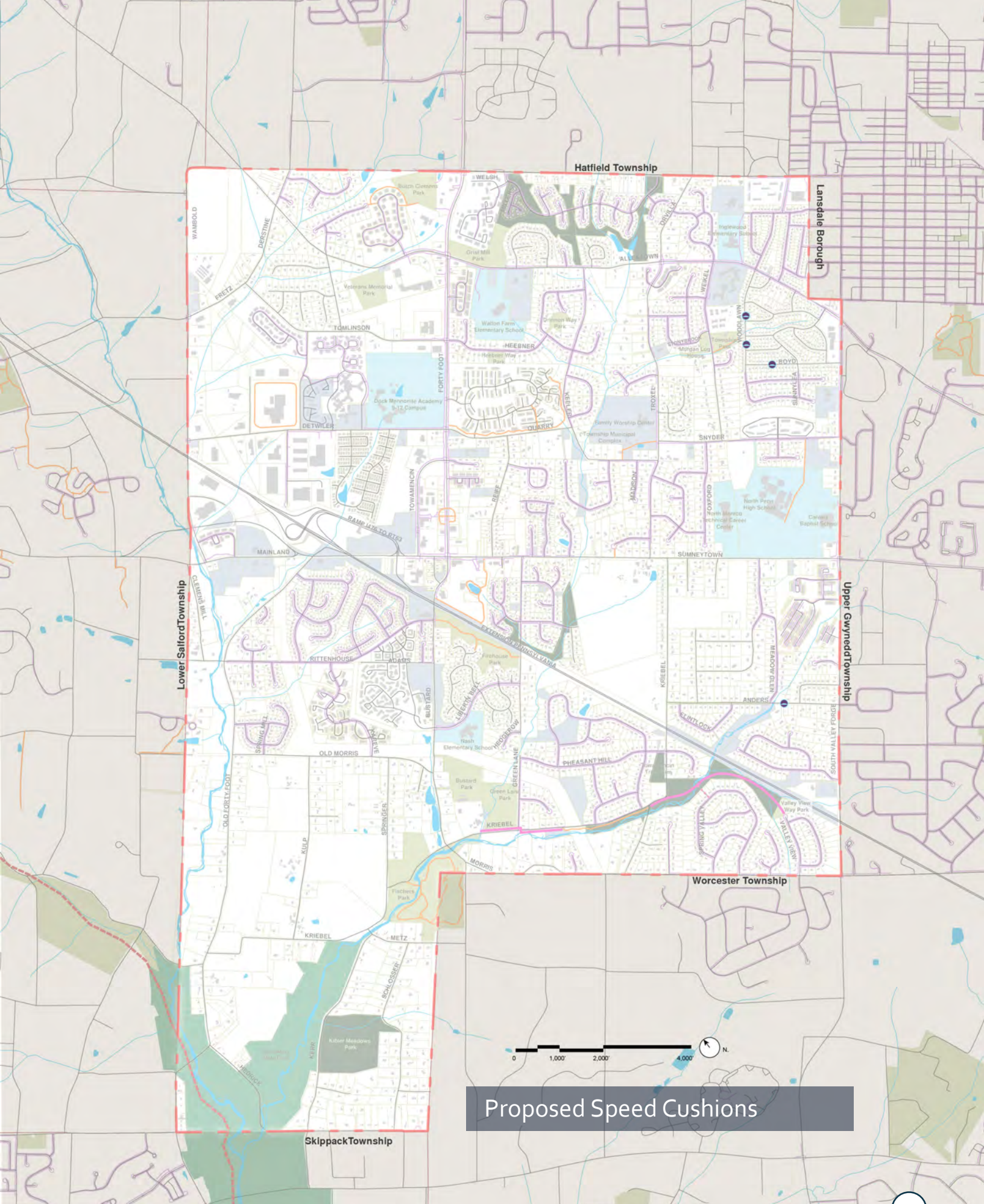
Speed cushions are traffic control devices that can be designed for specific speeds and may be combined with crosswalks for greater pedestrian visibility. Speed cushions are effective traffic calming measures that may be appropriate in the areas around Towamencin Township parks and neighborhood streets.

Public meeting participants expressed concern about vehicle speeds on neighborhood streets. Speed cushions are recommended at strategic locations along Township-owned or local roads. These locations include areas that approach intersections where a high volume of foot traffic is expected, such as at the intersection leading up to the Towamencin Township Pool.

TOOL METRICS

4 new speed cushion locations





Proposed Speed Cushions



3.5.11 Pedestrian Refuge Island

A pedestrian refuge island is a pedestrian road crossing safety device that is used between lanes of opposing traffic.

A pedestrian refuge island is a pedestrian road crossing safety device that is used between lanes of opposing traffic. This provides pedestrians a place of “refuge” to pause or rest when crossing busy or wide streets. Pedestrian refuge islands can take many forms - from basic islands to large expanses of pavement seen in larger urban settings. Pedestrian refuge islands may be combined with stormwater management solutions.

Pedestrian refuge islands should be at least 6 feet wide but have a preferred width of 8’-10’.

The width of Allentown Road presents the opportunity to incorporate the toolbox item in front of Inglewood Elementary School. This recommendation will create safer access to the school, especially for the neighborhoods directly south of the Elementary school.

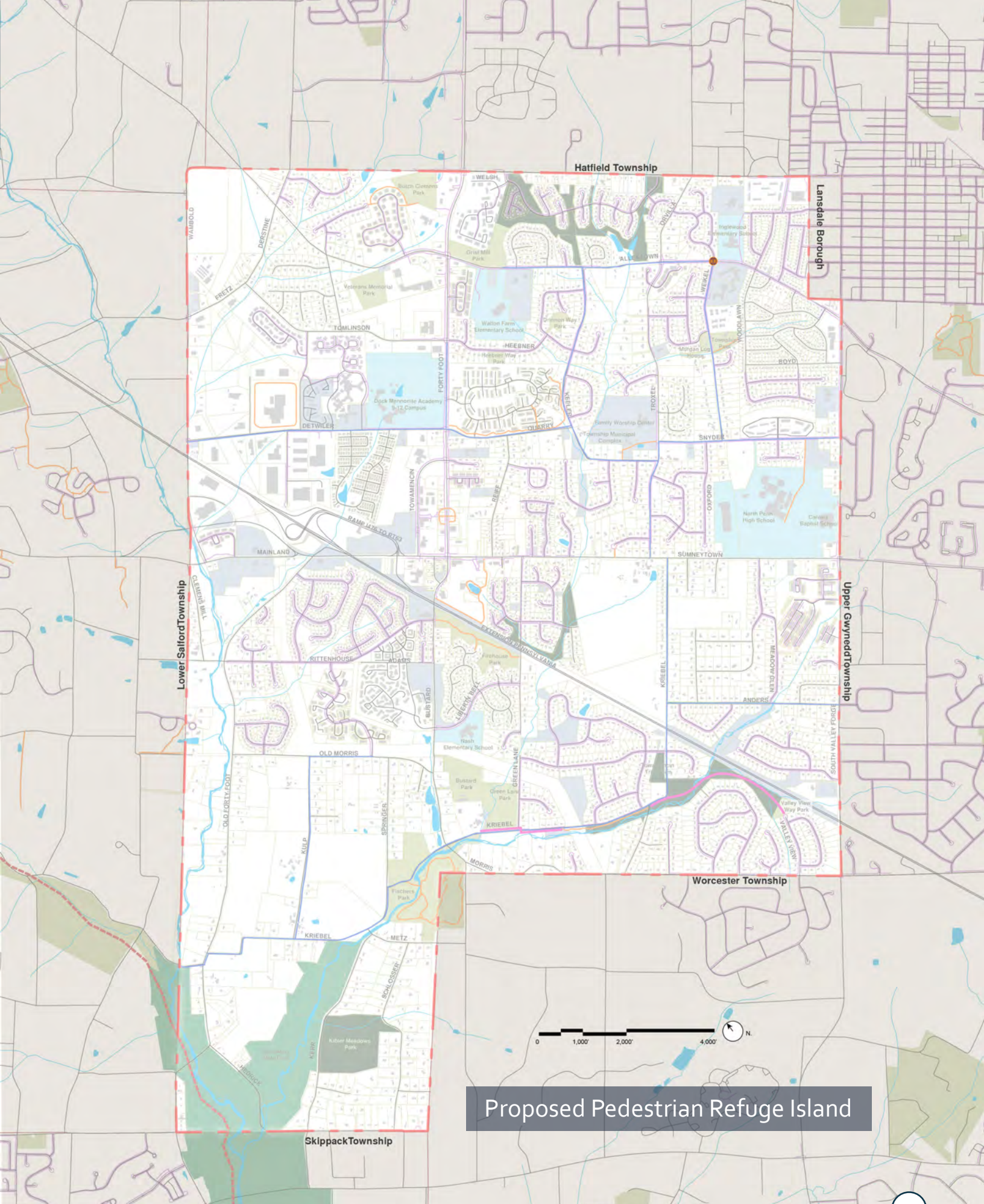
TOOL METRICS

1 new pedestrian refuge island location

DESIGN GUIDELINES

- 6’ wide minimum
- 8’-10’ wide preferred





Proposed Pedestrian Refuge Island



3.5.12 Road Closure

Road closures provide opportunities for safe multi-modal transportation.

The Road Closure tool removes or restricts vehicular access in favor of pedestrian and cyclist access.

Accessibility for emergency vehicles should still be provided.

Kriebel Road Segment within Fischer's Park

Kriebel Road, between Springer Road and Bustard Road, mostly runs through Fischer's Park. The narrow segment of road poses a safety risk for pedestrians accessing the park by foot or bicycle. The road closure has been mentioned in the 'Trails and Parks Evaluation' and is being proposed again in this report to reinforce a stronger network of paths. The improvement will not only add to the growing network of proposed trails within the Township, but also add to the park's current walking path route. This closure will also make the intersection of Bustard and Kriebel safer since a lane of traffic is

essentially eliminated.

Hedrick Road Segment within Evansburg State Park

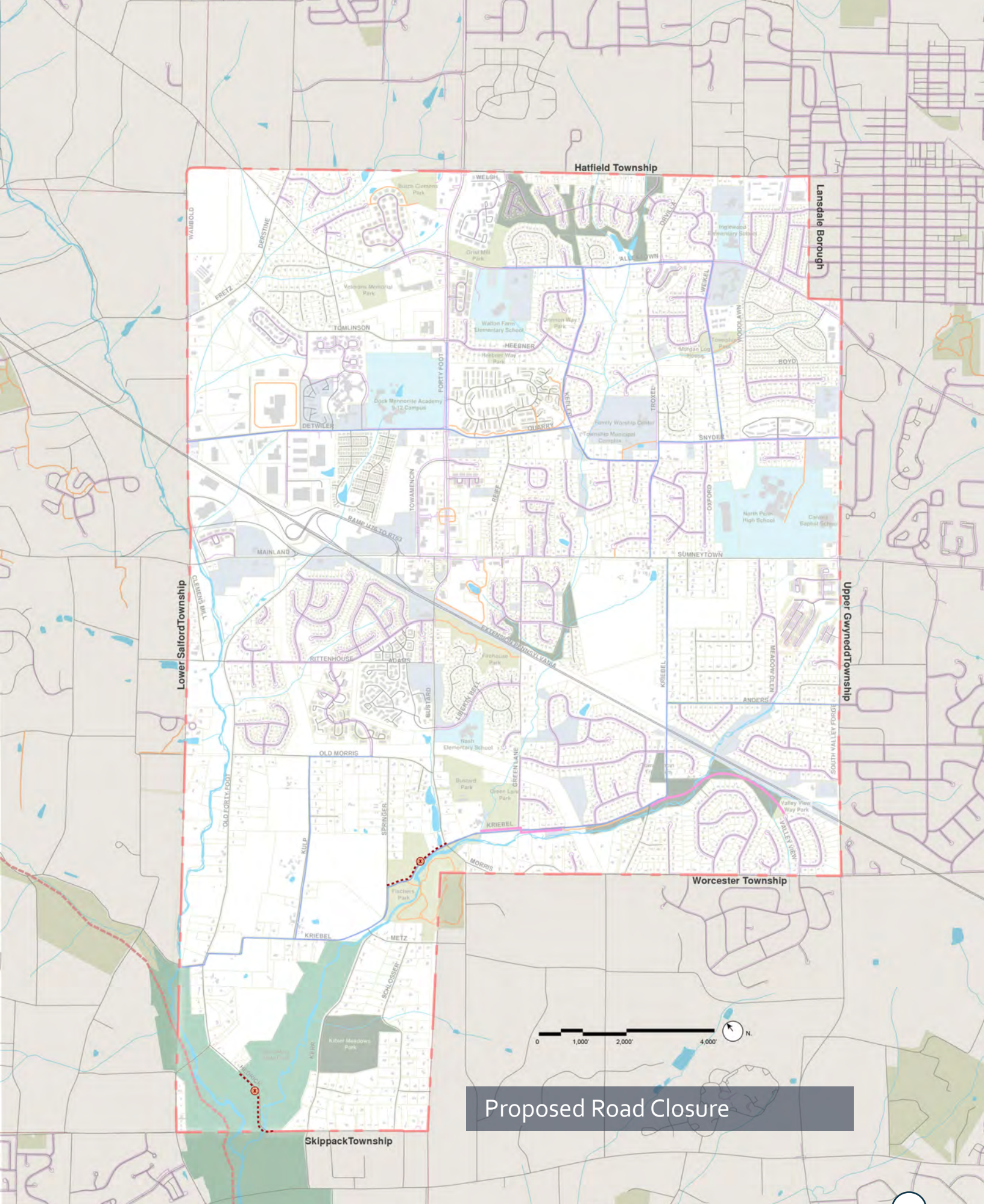
Under current conditions, the stretch of Hedrick Road that falls within Evansburg State Park is closed to the public. The road was closed in the 1980's because the bridge spanning the Towamencin Creek was deemed no longer safe for vehicles or pedestrians. If the bridge were to ever be restored or redesigned (see Trail Bridge for proposed improvement), the road is recommended to be for pedestrians and bicyclists only. The segment of road will contribute to the Evansburg State Park trail network, and provide a great connection from Towamencin and Skippack Townships into the Park.

TOOL METRICS

3,200 linear feet of closed road

Equivalent to 0.6 mile





Proposed Road Closure



3.5.13 Roundabout

A roundabout is a circular intersection in which three or more roads join and direct traffic to flow in one direction around a central island.

A roundabout is a type of circular intersection in which three or more roads join and direct traffic to flow in one direction around a central island.

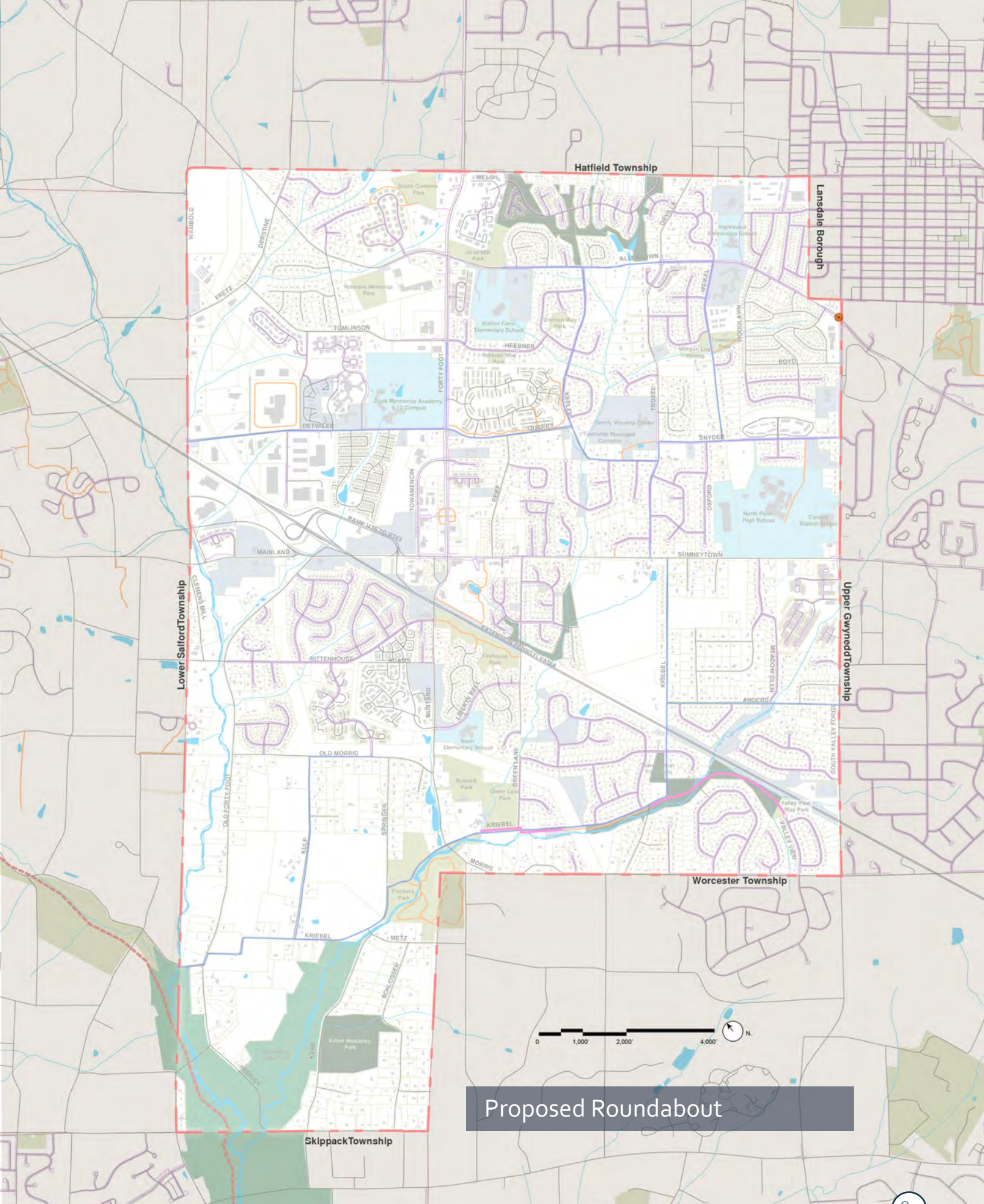
Roundabouts are a traffic calming device for not only vehicles, but also for cyclists and pedestrians to cross busy roads. The flow of traffic exiting the roundabout comes from one direction, instead of possibly three, which simplifies the pedestrian's sightlines. Slower traffic enables better visual engagement between the driver and the pedestrian.

There is one roundabout recommended within the Township – at the intersection of South Valley Forge Road and Allentown Road. The collected accident data and conversations during public meetings helped identify the crossroads as the most challenging intersection within the Township. This improvement will require the cooperation of Upper Gwynedd Township and PennDOT.

TOOL METRICS

1 new roundabout location





Proposed Roundabout



3.5.14 Pocket Park

A pocket park is a small park or open space accessible to the public.

A pocket park is a small park or open space accessible to the public. The functions of a pocket park can vary from a small play areas for children, to a space to sit or meet friends.

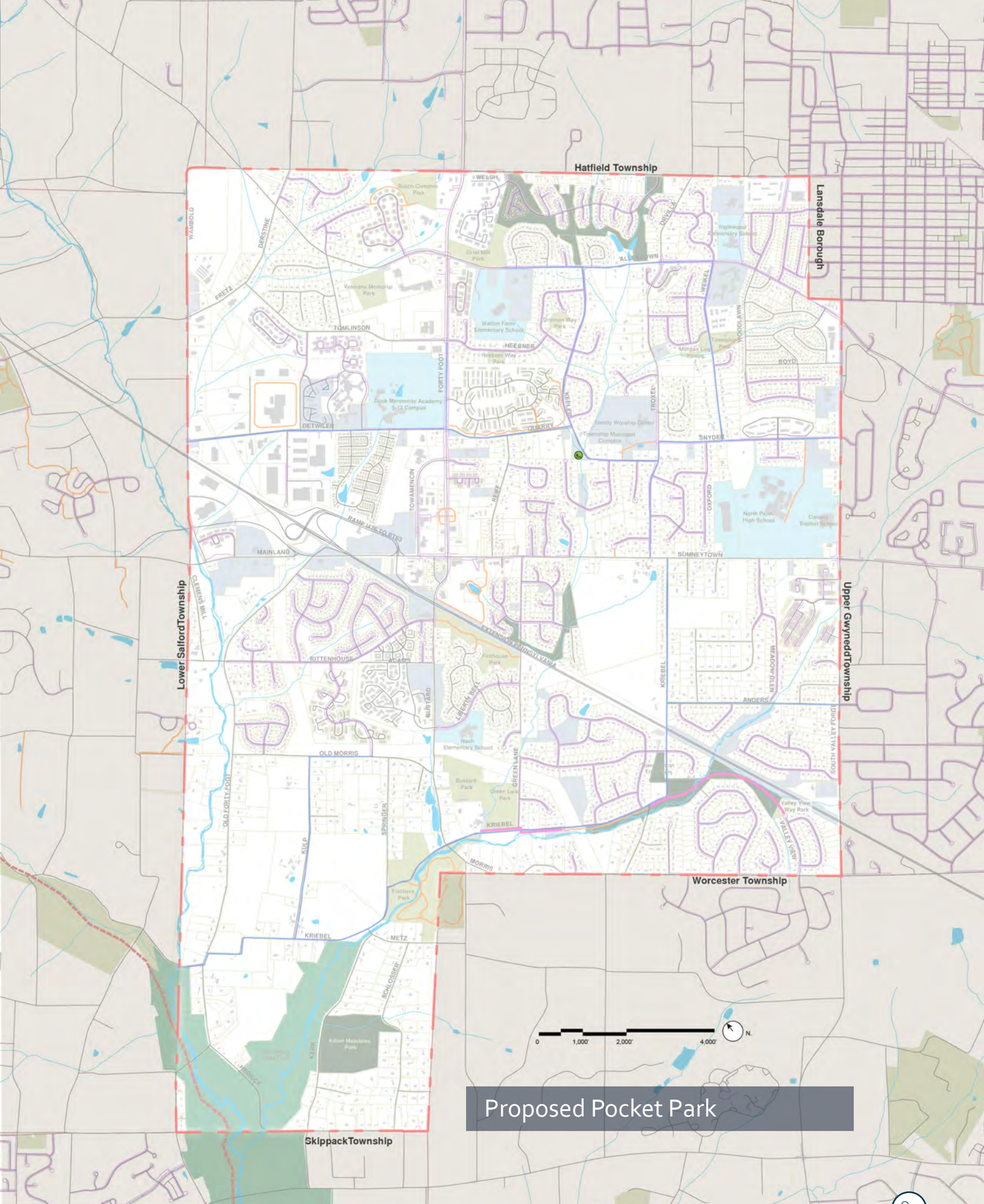
In this instance, the recommended pocket park can be a sitting area along the sidewalk on Keeler Road.

TOOL METRICS

1 new pocket park location

Approximatly 0.9 acres





Proposed Pocket Park



3.5.15 Connection Out of Township

Identifies the best locations to connect pedestrians and cyclists into neighboring municipalities.

The 'Connection Out of Township' toolbox item is not tangible like the rest of the toolbox items. Incorporating wayfinding or signage might be a way to incorporate the tool into the landscape, but not needed for the use of this planning document. Instead, the icon calls out the best corridor connections between the improvements recommended in the Plan to popular destinations in other surrounding townships. The tool identifies where collaboration between two townships might be needed to ensure an improvement is completed to a destination.

A. Connection to Hatfield Township

The connection to Hatfield Township is identified at the intersection of Forty Foot Road and Welsh Road. This junction leads the way for township residents to access Ralphs Corner Shopping Center and Hatfield Pointe Shopping Mall, which were identified as a key destinations by the community.

B. Connection to Lansdale Borough

Lansdale Borough is the densest municipality surrounding Towamencin Township – filled with a variety of shops, bars, and restaurants. Some major destinations located within Lansdale Borough are the SEPTA regional stop and the Liberty Bell Trail. A connection between the two municipalities is identified at the intersection of S Valley Road and Columbia Road as an important access point for Towamencin Township residents to access the two destinations. The improvements along Woodlawn Road strengthen that connection for accessibility.

C. Connection to Upper Gwynedd Township

The connection to Upper Gwynedd Township is identified at the intersection S Valley Road and Sumneytown Pike. The community identified the Wawa located right outside of the Township as a destination point. The improvements proposed along Sumneytown Pike for Towamencin Township should continue into Upper Gwynedd to allow each of the township residents to access the amenity.

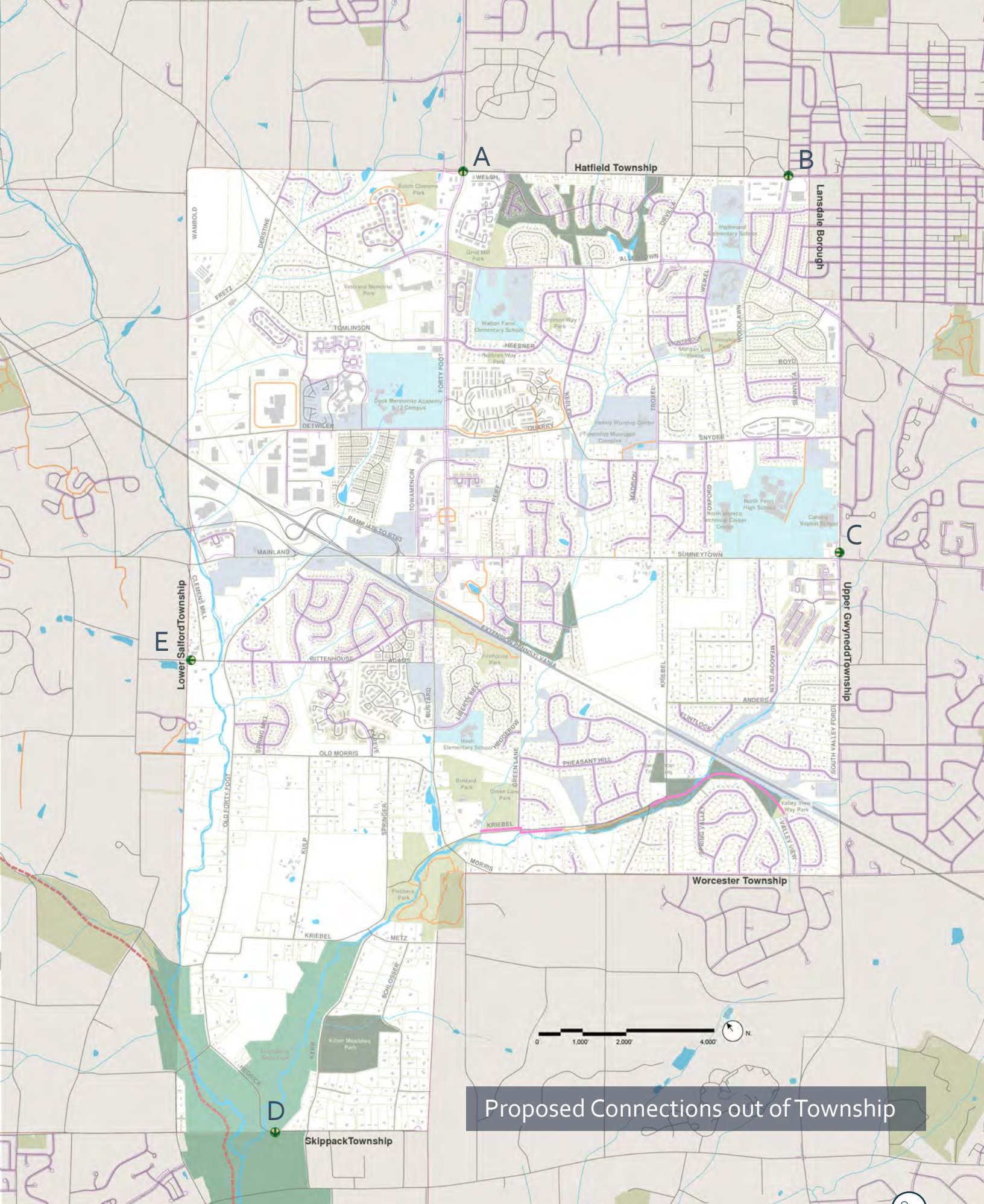
D. Connection to Skippack Township through Evansburg State Park

The connection to Skippack Township is identified within the Evansburg State Park. The side path proposed alongside the State Park will enable and strengthen the connection between the two townships, and open each township up to a larger network of trails throughout the State Park. In order for Towamencin Township to gain access to Evansburg State Park's trail system, it is recommended that Evansburg State Park explores a Trail Network Master Plan. The plan should extend trails within the northern portion of Skippack Township (adjacent to Towamencin Township) to provide a connection for Towamencin Township residents to connect to the State Park trail head located on Leshar Road.

E. Connection to Lower Salford

Lower Salford Township is located along the western edge of the township, and a connection to the township is identified at Rittenhouse Road. A bike lane is proposed to start on the existing bridge and run west to the edge of the Township boundary. The connection will provide for residents to safely access the Mainland Golf Course and Restaurant in Lower Salford. Coordination with Lower Salford Township should be pursued to create a completed improvement to the intersection of Store Road.





Proposed Connections out of Township

3.6 Themed Connection Routes

The following pages delineate several themed routes. These routes take users across multiple improvement facilities, including sidewalks, side paths, and multi-use trails. These routes can give a particular mobility improvement an identity when seeking grant funding.

Out of each of the routes, the committee members prioritized improvements along the School Connection Route.

Township Collector Connection Route

This route explores the opportunity to connect all directions or quadrants of the Township together. More specifically, it re-envisioned major thoroughfares like Forty Foot Road, Bustard Road, and Sumneytown Pike as multi-modal passages.

This route has been divided into three corridors for phasing efforts:

- The Bustard Road Corridor: from the intersection of Sumneytown Pike to the intersection of Kriebel Road, then along Kriebel Road to the intersection of Springer Road.
- Evansburg State Park Corridor: from the intersection of Springer Road and Kriebel Road along the edge of Evansburg State Park, then along Hedrick Road to Old Forty Foot Road, and a short segment of Old Forty Foot Road until it connects into the planned county trail in Evansburg State Park.
- Sumneytown Pike Corridor: from the intersection of Bustard Road to South Valley Forge Road.

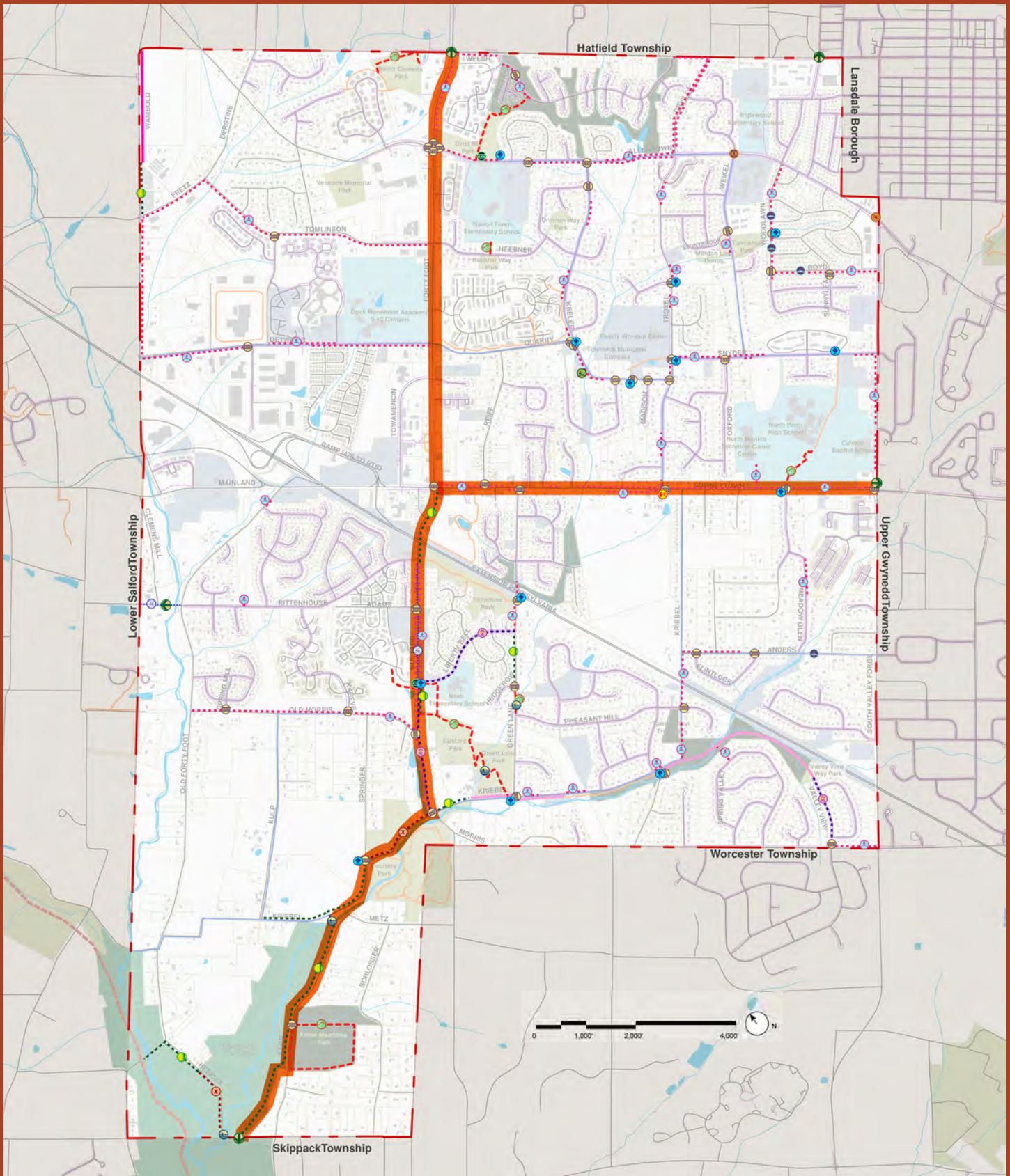
School Connection Route

There are six schools in Towamencin Township. The purpose of the route is to provide safer connections for children and parents to walk or bike to school. A high concentration of 'toolbox' improvements can be found along these routes; such as, crosswalks, bike lanes, and side paths.

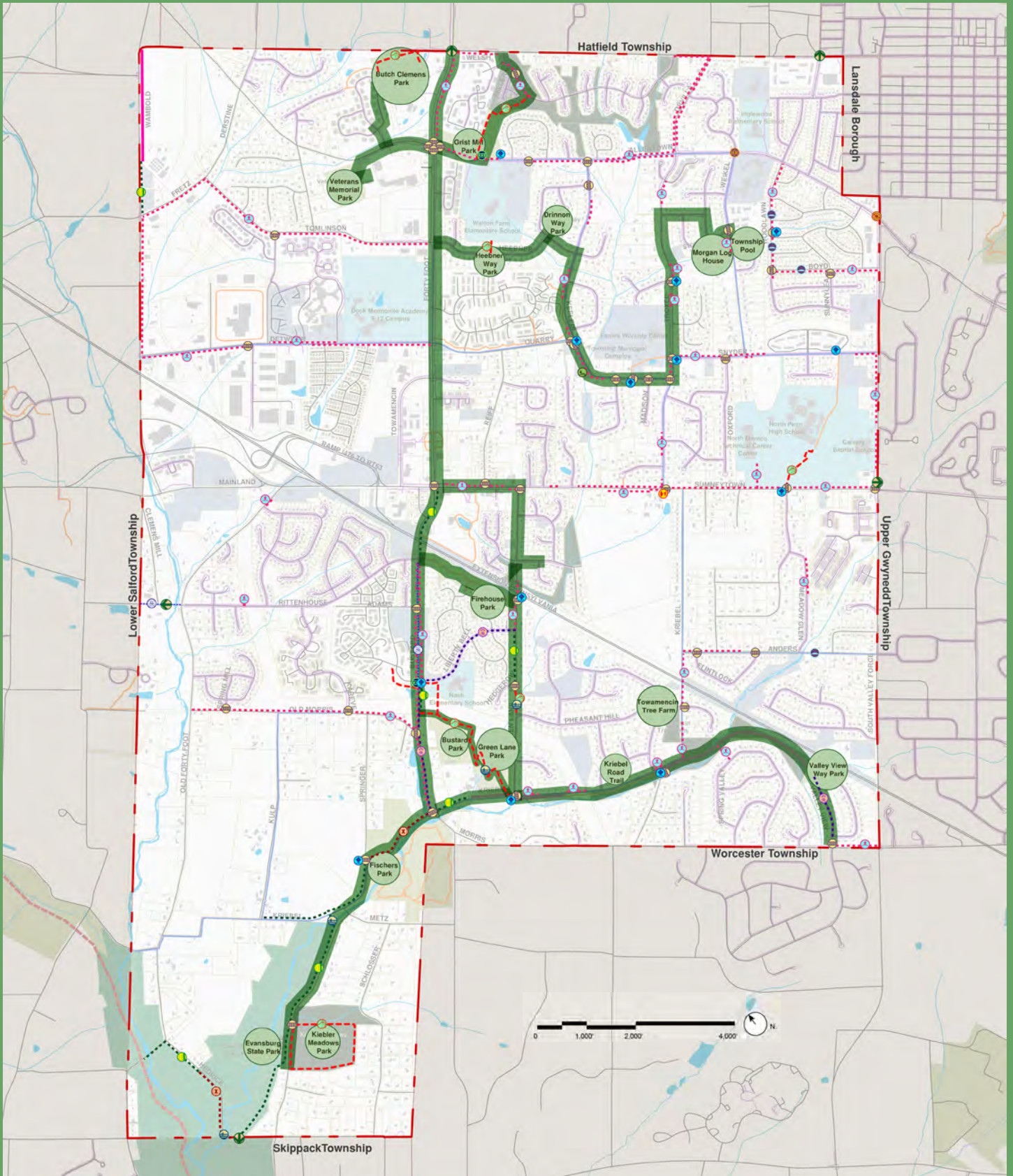
Park Connection Route

The purpose of this route is to easily connect residents to parks. The plan utilizes the existing pathways within the parks and stitches them together with proposed and existing infrastructure outside of the parks to form a greater network of trails. Ultimately, all improvements will connect all the parks within the Township.

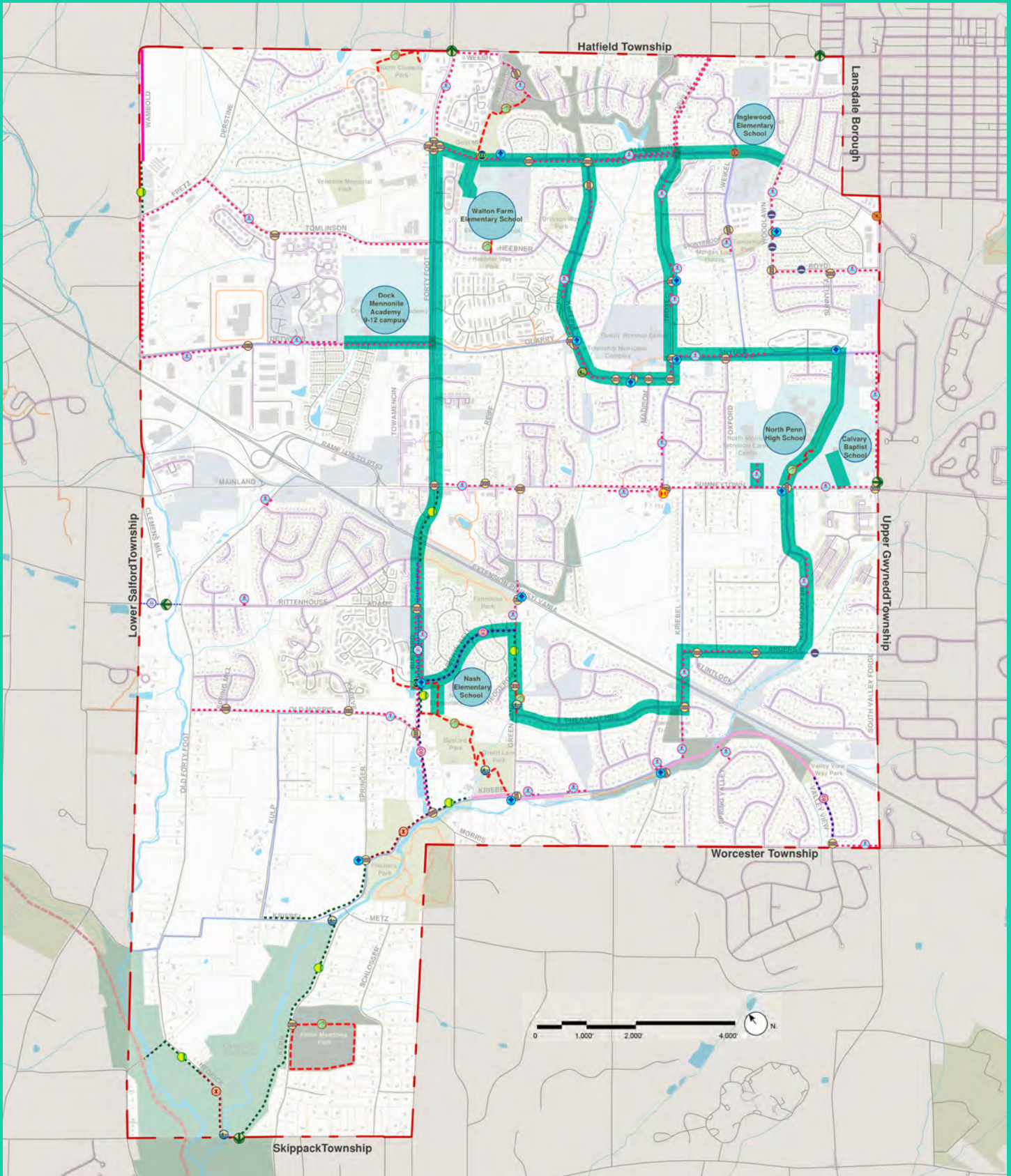
3.6.1 Collector Connection Route



3.6.2 Park Connection Route



3.6.3 School Connection Route







IMPLEMENTATION

4

4.1 Estimated Costs of Development

These figures provide an approximate estimate to implement all proposed improvements within this plan. Final and more detailed costs will be required as more refined details are developed for each project.

All projects would not be completed at the same time, and would be approached individually and strategically depending on available grants.

Costs for development were established based on unit costs from construction projects of similar scope and scale and reflect prevailing wage rates that are required for publicly bid construction projects. The probable cost of all proposed improvements is estimated at \$12,677,500. The Cost Summary below provides summarized costs of each Cost Improvement Map, which includes estimated mobilization, erosion and sediment control, and stormwater allowance costs (estimated at 7% of the total site improvements); design and engineering fees (estimated at 15% of the total site improvements); and a construction contingency (estimated at 10% of the total site improvements).

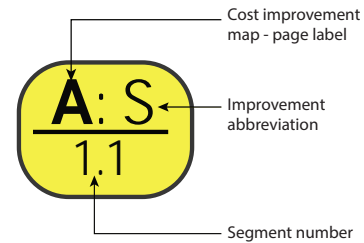
The Cost Improvement Maps provide a comprehensive graphic to review the costs associated with creating the Improvements Plans (as seen on page 51-53). Similar to the Improvements Plans, the Cost Improvements Map is divided into (3) three pages – labeled A, B, or C – with plans drawn at a scale of 1" = 1000'.

The yellow labels provide a unique identification number for each improvement that coordinates with the itemized cost estimate. The unique identification number is broken down into three parts: sheet letter, improvement

abbreviation, and road segment number.

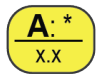
The sheet number can be found on each of the three maps labeled A, B, or C – with 'A' starting at the northern most part of the Township. The improvement identified on the plan has been assigned an abbreviation. The improvement abbreviations can be found in the blue box below. Lastly, the labels occur at the beginning/end of each road segment that intersects with another street. Each of these segments will be assigned a number. If the segment is continuous, the number will continue to the tenths.

See the diagram below that graphically describes how to reach each label.

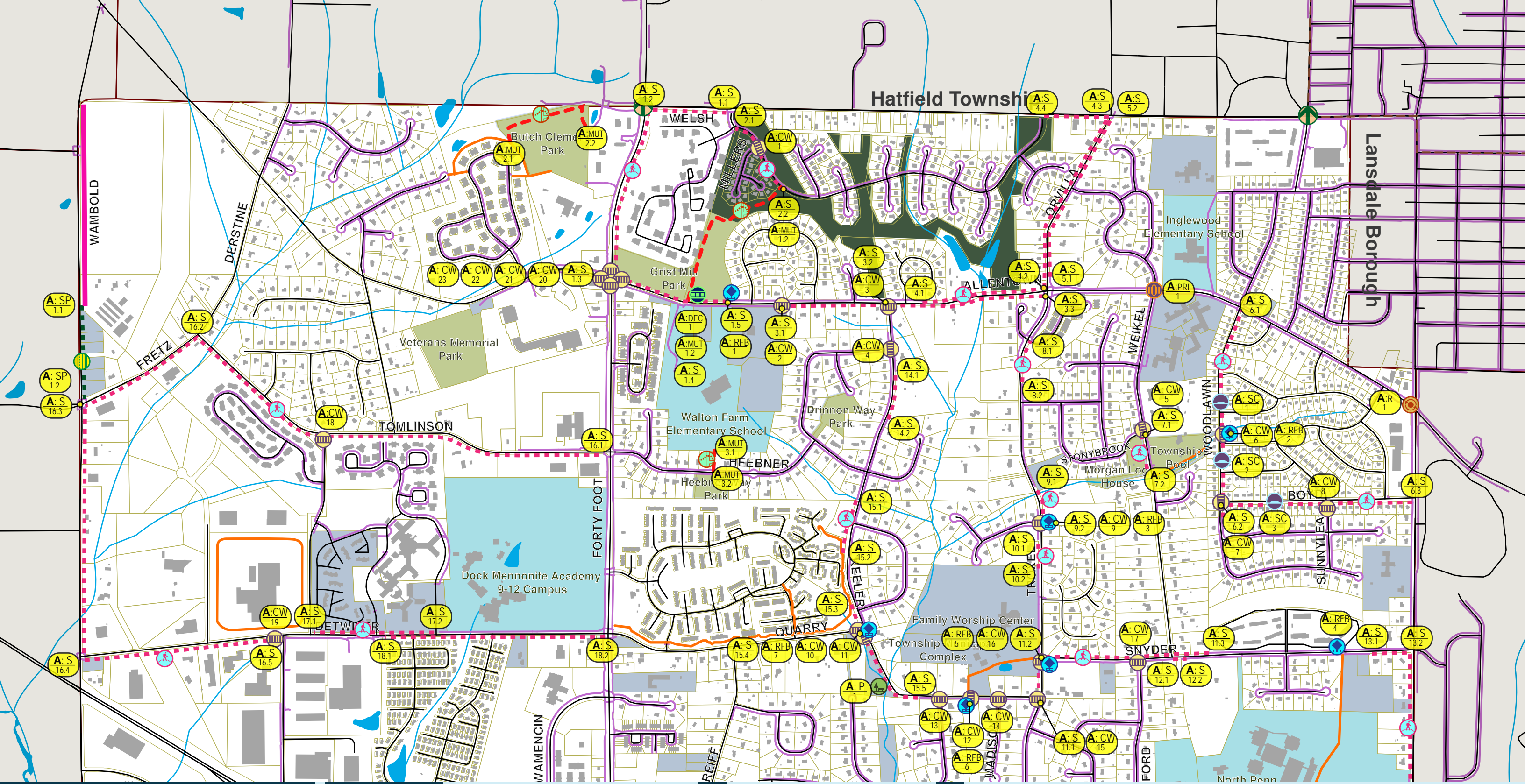


Improvement Abbreviations

- BL = Bike Lane
- CW = Crosswalk
- DEC = Decorative Crosswalk
- HM = Handman
- MUT = Multi-use Trail
- P = Pocket Park
- PRI = Pedestrian Refuge Island
- R = Roundabout
- RC = Road Closure
- RFB = Rapid Flashing Beacon
- S = Sidewalk
- SC = Speed Cushion
- SP = Side Path
- SR = Sharrows
- TB = Trail Bridge

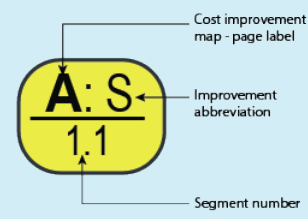


Towamencin Connectivity Study Cost Summary			
Cost Improvement Map - A			
	Total Proposed Site Improvements	\$	4,515,263
	Mobilization, E&S, Stormwater Allowances	\$	316,300
	Construction Contingency (10%)	\$	451,600
	Design & Engineering (1.5%)	\$	677,300
	Estimated Costs	\$	5,960,500
Cost Improvement Map - B			
	Total Proposed Site Improvements	\$	3,136,663
	Mobilization, E&S, Stormwater Allowances	\$	219,700
	Construction Contingency (10%)	\$	313,700
	Design & Engineering (1.5%)	\$	470,500
	Estimated Costs	\$	4,140,600
Cost Improvement Map - C			
	Total Proposed Site Improvements	\$	1,947,900
	Mobilization, E&S, Stormwater Allowances	\$	136,500
	Construction Contingency (10%)	\$	194,800
	Design & Engineering (1.5%)	\$	292,200
	Estimated Costs	\$	2,571,400
	Total Project Cost	\$	12,672,500



Towamencin
T O W A M E N C I N
Connectivity Study

Sheet A
Sheet B
Sheet C



Existing

- State Park
- Township Park
- Open Space
- Institutional
- School
- Existing Sidewalk
- Existing On Road Route
- Existing Trail

Proposed

- Township Trail
- County Trail
- Sidewalk
- Multi-Use Trail
- Side Path
- Sharrow
- Bicycle Lane
- Road/Lane Closure
- Crosswalk
- Decorative Crosswalk
- Speed Cushion
- Rapid Flashing Beacon
- Hand Man
- Pedestrian Refuge Island
- Trail Bridge
- Pocket Park
- Connection to Adjacent Twp
- Roundabout

Cost Improvement Map A

Improvement Map A								
Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Sidewalk (5' Wide)	A: S		(Pg XXX)	42365	LF		\$ 67.50	\$ 2,859,637.50
	A: S1.1 - S1.2	Welsh Road	South Side of Welsh Road from Grist Mill Drive to Forty Foot	900	LF			\$ 60,750.00
	A: S1.2 - S1.3	Forty Foot Road	East side of Forty Foot Road Between Welsh Road and Allentown Road	1900	LF			\$ 128,250.00
	A: S1.3 - S1.4	Allentown Road	North Side of Allentown Road Between Forty Foot Road and Walton Farm Elementary School	750	LF			\$ 50,625.00
	A: S1.4 - S1.5	Allentown Road	From Walton Farm Elementary School to End of sidewalk gap	600	LF			\$ 40,500.00
	A: S2.1 - S2.2	Grist Mill Drive	South side of road from Jacobs Hall Lane to proposed Grist Mill Park Trail	950	LF			\$ 64,125.00
	A: S3.1 - S3.2	Allentown Road	South side of Allentown Road from sidewalk gap to Keeler Road	1100	LF			\$ 74,250.00
	A: S3.2 - S3.3	Allentown Road	South side of Allentown Road from Keeler Road to Troxel Road	1700	LF			\$ 114,750.00
	A: S4.1 - S4.2	Allentown Road	North side of Allentown Road from sidewalk gap to Orvilla Road	1350	LF			\$ 91,125.00
	A: S4.2 - S4.3	Orvilla Road	West side of road from Allentown Road to Township Boundary on Welsh Road	2100	LF			\$ 141,750.00
	A: S4.3 - S4.4	Welsh Road	South side of road from Orvilla Road to Grist Mill Drive	660	LF			\$ 44,550.00
	A: S5.1 - S5.2	Orvilla Road	East side of road from Allentown Road to township boundary on Welsh Road	2100	LF			\$ 141,750.00
	A: S6.1 - S6.2	Woodlawn Drive	East side of road from Allentown Road to Boyd Avenue	2150	LF			\$ 145,125.00
	A: S6.2 - S6.3	Boyd Avenue	South Side of Road from Woodlawn Drive to Township Boundary on South Valley Forge	2100	LF			\$ 141,750.00
	A: S7.1 - S7.2	Weikel Road	West side of road in front of Morgan Log House	430	LF			\$ 29,025.00
	A: S8.1 - S8.2	Troxel Road	East side of road from West Hampton Way to Sidewalk Gap	430	LF			\$ 29,025.00
	A: S9.1 - S9.2	Troxel Road	East Side of road from sidewalk gap to Carriage Way	300	LF			\$ 20,250.00
	A: S10.1 - S10.2	Troxel Road	West side of road sidewalk gap	300	LF			\$ 20,250.00
	A: S11.1 - S11.2	Troxel Road	East side of road from Keeler Road to Snyder Road	250	LF			\$ 16,875.00

	A: S11.2 - S11.3	Snyder Road	North Side of road from Troxel Road to sidewalk gap	1840	LF			\$ 124,200.00
	A: S12.1 - S12.2	Snyder Road	South side of road sidewalk gap	100	LF			\$ 6,750.00
	A: S13.1 - S13.2	Snyder Road	South side of road from sidewalk gap to Township Boundary on Valley Forge Road	450	LF			\$ 30,375.00
	A: S13.2 - S13.3	South Valley Forge Road	West side of road from Snyder Road to Sidewalk Gap	2300	LF			\$ 155,250.00
	A: S14.1 - S14.2	Keeler Road	East side of road Sidewalk Gap near Drinnon Way Park	550	LF			\$ 37,125.00
	A: S15.1 - S15.2	Keeler Road	West side of road sidewalk gap to existing trail	680	LF			\$ 45,900.00
	A: S15.2 - S15.3	Keeler Road	use existing trail	650	LF		N/A	N/A
	A: S15.3 - S15.4	Keeler Road	West side of road from Existing Trail to Intersection of Quarry Road and Keeler Road	185	LF			\$ 12,487.50
	A: S15.4 - S15.5	Keeler Road	West side of road from Quarry Road to sidewalk gap	1000	LF			\$ 67,500.00
	A: S16.1 - S16.2	Tomlinson	South side of road from Forty Foot Road to Fretz Road	5000	LF			\$ 337,500.00
	A: S16.2 - S16.3	Fretz Road	South side of road from Tomlinson Road to Wambold Road	1440	LF			\$ 97,200.00
	A: S16.3 - S16.4	Wambold Road	West side of road from Fretz Road to Detwiler Road	2700	LF			\$ 182,250.00
	A: S16.4 - S16.5	Detwiler Road	South Side of Road from Wambold Road to Gehman Road	2200	LF			\$ 148,500.00
	A: S17.1 - S17.2	Detwiler Road	North side of road from Gehman Road to Woods Drive	1350	LF			\$ 91,125.00
	A: S18.1 - S18.2	Detwiler Road	South side of road from sidewalk gap to Forty Foot Road	2500	LF			\$ 168,750.00

Improvement Type	Segment Label	Intersection	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Crosswalk (Note: crosswalk costs will vary based on number of ADA curb ramps needed)	A: CW		(Pg XXX)	18	EA		\$ 1,125.00	\$ 241,875.00
	A: CW 1	Grist Mill Drive and Millers Way	South/West side of Grist Mill Drive	1	EA			\$ 1,125.00
	A: CW 2	Allentown Road and Private Drive at Presentation of Our Lord Ukrainian Catholic Church	South side of Allentown Road *Requires (2) curb ramps	1	EA			\$ 19,125.00
	A: CW 3	Allentown Road and Keeler Road	South side of Allentown road *Requires (1) curb ramps	1	EA			\$ 10,125.00
	A: CW 4	Keeler Road and Tennis Circle	West side of Keeler Road	1	EA			\$ 1,125.00
	A: CW 5	Weikel Road and Stonybrook Lane	West side of Weikel road, *requires (2) curb ramps	1	EA			\$ 19,125.00
	A: CW 6	Woodlawn Drive Crossing	West side of Woodlawn Drive, *requires (1) curb ramp	1	EA			\$ 10,125.00
	A: CW 7	Woodlawn Drive and Boyd Avenue	East side of Woodlawn Drive *Requires (2) curb	1	EA			\$ 19,125.00

	A: CW 8	Boyd Avenue and Sunnylea Road	South side of Boyd Avenue *Requires (2) curb ramps	1	EA			\$ 19,125.00
	A: CW 9	Troxel Road and Carriage Way	crossing Troxel, north side of Carriage Way	1	EA			\$ 1,125.00
	A: CW 10	Keeler Road and Quarry Road	West side of Keeler Road *Requires (2) curb	1	EA			\$ 19,125.00
	A: CW 11	Keeler Road	Crosses Keeler Road with flashing beacon	1	EA			\$ 19,125.00
	A: CW 12	Keeler Road	Crossing Keeler Road with Flashing Beacon *Requires (1) curb ramp	1	EA			\$ 10,125.00
	A: CW 13	Keeler Road and Michael Way	South side of Keeler Road *Requires (2) updated curb ramps	1	EA			\$ 19,125.00
	A: CW 14	Keeler Road and Madison Way	South side of Keeler Road	1	EA			\$ 1,125.00
	A: CW 15	Troxel Road and Keeler Way	East Side of Street *Requires (2) curb	1	EA			\$ 19,125.00
	A: CW 16	Troxel Road	Crossing Troxel from entrance of Township Building *Requires (1) curb ramp	1	EA			\$ 10,125.00
	A: CW 17	Snyder Road	South side of road * Curb ramps May require updates to meet	1	EA			\$ 1,125.00
	A: CW 18	Tomlinson Road and Gehman	South side of road *Requires (2) curb	1	EA			\$ 19,125.00
	A: CW 19	Detwiler Road and Gehman Road	South side of road *Requires (2) curb	1	EA			\$ 19,125.00
	A: CW 20	Forty Foot Road and Allentown Road	West Side of Forty Foot Road	1	EA			\$ 1,125.00
	A: CW 21	Forty Foot Road and Allentown Road	East Side of Forty Foot Road	1	EA			\$ 1,125.00
	A: CW 22	Forty Foot Road and Allentown Road	North side of Allentown Road	1	EA			\$ 1,125.00
	A: CW 23	Forty Foot Road and Allentown Road	South side of Allentown Road	1	EA			\$ 1,125.00
Improvement Type	Segment Label	Intersection Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Intersection Improvements	N/A			1	EA		\$ 50,000.00	\$ 50,000.00
	A: CW 20 - A: CW 23	Forty Foot Road and Allentown Road	All corners of intersection - Lighting, signage, lead pedestrian interval to crosswalk signal.	1	EA			\$ 50,000.00

Improvement Type	Segment Label	Intersection Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Decorative Crosswalk	A: DEC		(Pg XXX)	1	EA		\$ 2,250.00	\$ 20,250.00
	A: DEC 1	Allentown Road and Entrance of Grist Mill Park	North Side of Allentown at Entrance of Grist Mill Park	1	EA			\$ 20,250.00

Improvement Type	Segment Label	Location/Adjacent Street	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Multi-Use Trail (10' Wide)	A: MUT		(Pg XXX)	3550	LF		\$ 70.00	\$ 248,500.00
	A: MUT 1.1 - 1.2	N/A	Through Grist Mill Park to Grist Mill Drive	1800	LF			\$ 126,000.00

	A: MUT 2.1 - 2.2	N/A	From existing trail in residential development through Butch Clemens Park	1300	LF			\$ 91,000.00
	A: MUT 3.1 -3.2	N/A	From Walton Farm Elementary to Heebner Way	450	LF			\$ 31,500.00

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Roundabout	A: R		(Pg XXX)	1	EA		\$ 750,000.00	\$ 750,000.00
	A: R 1	South Valley Forge Road	Intersection of Allentown Road and South Valley Forge	1	EA			\$ 750,000.00

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Rapid Flashing Beacon	A: RFB		(Pg XXX)	7	EA		\$ 30,000.00	\$ 210,000.00
	A: RFB 1	Allentown Road	Near entrance to Grist Mill Park	1	EA			\$ 30,000.00
	A: RFB 2	Woodlawn Road	Near Township Pool	1	EA			\$ 30,000.00
	A: RFB 3	Troxel Road	North of Family Worship Center	1	EA			\$ 30,000.00
	A: RFB 4	Snyder Road	North of North Penn High School	1	EA			\$ 30,000.00
	A: RFB 5	Troxel Road	Eastern Entrance to Township Municipal Complex	1	EA			\$ 30,000.00
	A: RFB 6	Keeler Road	Southern Entrance to Township Municipal Complex	1	EA			\$ 30,000.00
	A: RFB 7	Keeler Road	Crossing Keeler Road from Quarry Road	1	EA			\$ 30,000.00

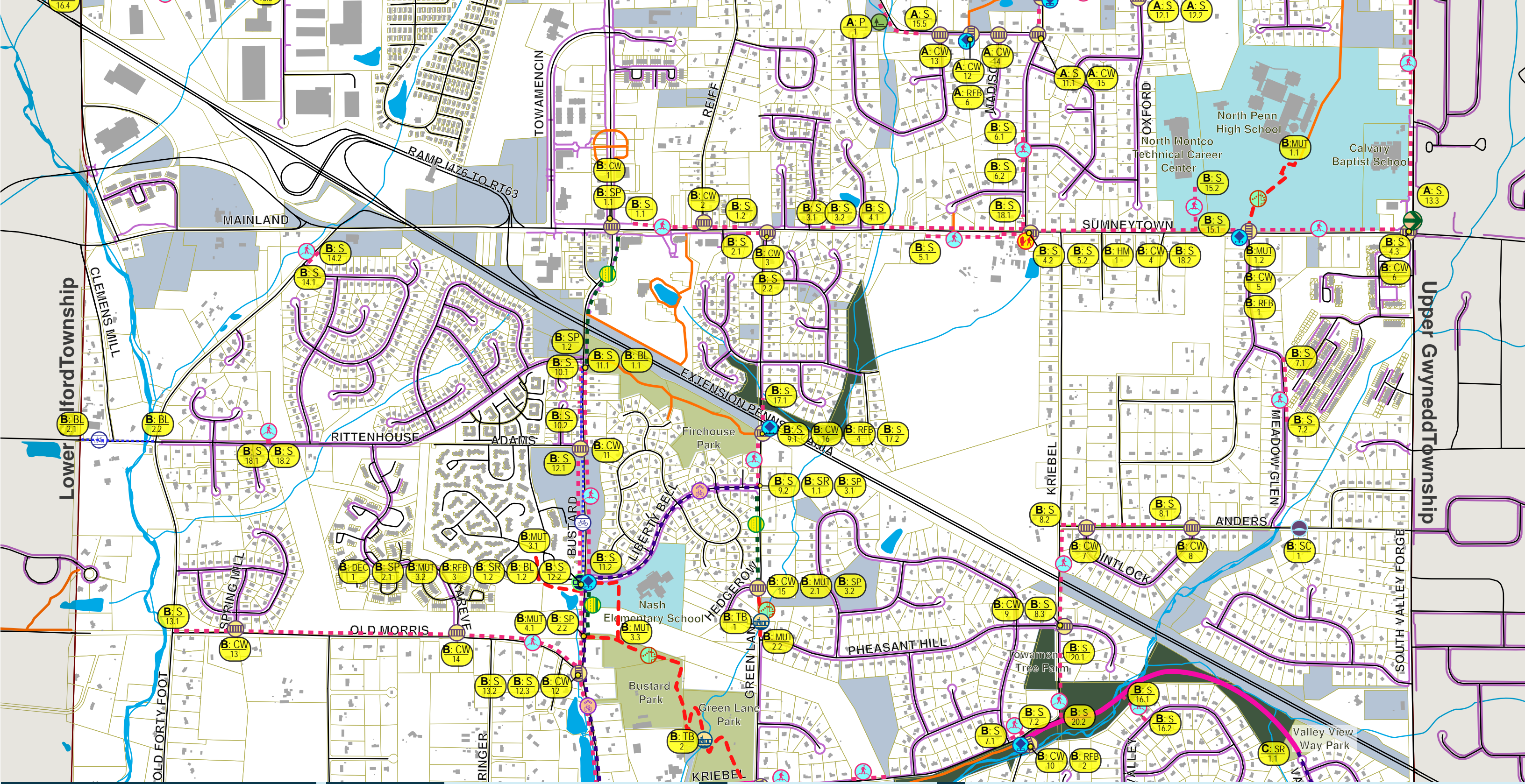
Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Pedestrian Refuge Island	A: PRI		(Pg XXX)		EA		\$ 20,000.00	\$ 20,000.00
	A: PRI 1	Allentown Road	Near Entrance to Inglewood Elementary	1	EA			\$ 20,000.00

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Speed Cushion	A: SC		(Pg XXX)	3	EA		\$ 4,000.00	\$ 12,000.00
	A: SC1	Woodlawn Road	North of Township Pool	1				\$ 4,000.00
	A: SC2	Woodlawn Road	South of Township Pool	1				\$ 4,000.00
	A: SC3	Boyd Avenue	Between Woodlawn Road and Sunnylea Road	1				\$ 4,000.00

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Pocket Park	A: P		(Pg XXX)	1	EA		\$ 26,000.00	\$ 26,000.00
	A: P 1	Keeler Road	Between Quarry Road and Michael Way	1	EA			\$ 26,000.00

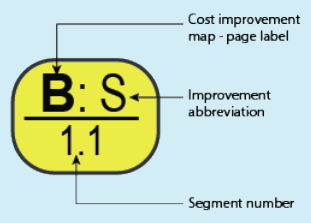
Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Side Path (10' Wide)	A: SP		(Pg XXX)	1100	LF		\$ 70.00	\$ 77,000.00
	A: SP 1.1 - SP 1.2	Wambold Road	East Side of road from Schoolhouse Road to Fretz Road.	1100				\$ 77,000.00

SubTotal: \$ 4,515,262.50



Towamencin
T O W A M E N C I N
Connectivity Study

Sheet A
Sheet B
Sheet C

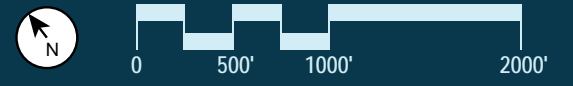


Existing

- State Park
- Township Park
- Open Space
- Institutional
- School
- Existing Sidewalk
- Existing On Road Route
- Existing Trail

Proposed

- Township Trail
- County Trail
- Sidewalk
- Multi-Use Trail
- Side Path
- Sharrow
- Bicycle Lane
- Road/Lane Closure
- Crosswalk
- Decorative Crosswalk
- Speed Cushion
- Rapid Flashing Beacon
- Hand Man
- Pedestrian Refuge Island
- Trail Bridge
- Pocket Park
- Connection to Adjacent Twp
- Roundabout



Cost Improvement Map B

Improvement Map B								
Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Sidewalk (5' Wide)	B: S			23965	LF		\$ 67.50	\$ 1,641,262.50
	B: S1.1 - S1.2	Sumenytown Pike	North side of road from sidewalk gap near Forty Foot Road to sidewalk gap	1,140	LF			\$ 76,950.00
	B: S2.1 - S2.2	Sumenytown Pike	South side of road, sidewalk gap east of Green Lane Road	150	LF			\$ 10,125.00
	B: S3.1 - S3.2	Sumenytown Pike	North side of road, sidewalk Gap between Green Lane Road and Troxel Road	100	LF			\$ 6,750.00
	B: S4.1 - S4.2	Sumenytown Pike	North side of road from sidewalk gap to Troxel Road	1700	LF			\$ 114,750.00
	B: S4.2 - S4.3	Sumenytown Pike	North side of Road from Troxel Road to Township Boundary on South Valley Forge	4100	LF			\$ 276,750.00
	B: S5.1 - S5.2	Sumenytown Pike	South side of road from Troxel Road to Freddy Hill Farms property Boundary	1100	LF			\$ 74,250.00
	B: S6.1 - S6.2	Troxel Road	West side of road, sidewalk gap	475	LF			\$ 32,062.50
	B: S7.1 - S7.2	Meadow Glen Drive	East side of road sidewalk gap	700	LF			\$ 47,250.00
	B: S8.1 - S8.2	Anders Road	North side of road from sidewalk gap at intersection with Kriebel Road	1200	LF			\$ 81,000.00
	B: S8.2 - S8.3	Kriebel Road	East side of road from Anders Road to entrance of Towamencin Tree farm	1100	LF			\$ 74,250.00
	B: S9.1 - S9.2	Green Lane Road	West side of road from Firehouse Park extension to Liberty Bell	500	LF			\$ 33,750.00

	B: S10.1 - S10.2	Bustard Road	West side of road from Rittenhouse Road to sidewalk gap (reaches to EX sidewalk)	500	LF			\$ 33,750.00
	B: S11.1 - S11.2	Bustard Road	East side of road from Rittenhouse Road to Liberty Bell Drive	2300	LF			\$ 155,250.00
	B: S12.1 - S12.2	Bustard Road	West side of road from Adams Road to Liberty Bell Drive	1400	LF			\$ 94,500.00
	B: S12.2 - S12.3	Bustard Road	West side of road from Liberty Bell Drive to Old Morris Road	900	LF			\$ 60,750.00
	B: S12.3 - S12.4	Bustard Road	West side of road from Old Morris Road to Kriebel Road	1700	LF			\$ 114,750.00
	B: S13.1 - S13.2	Old Morris Road	North Side of road from Old Forty Foot Road to Bustard Road	4600	LF			\$ 310,500.00
	B: S14.1 - S14.2	Old Forty Foot Road	Sidewalk gap North of Rittenhouse Road	300	LF			\$ 20,250.00
	B: S15.1 - S15.2	N/A	North Penn VoTech School	350	LF			\$ 23,625.00
	B: S16.1 - S16.2	N/A	Between Spring Valley Road and New Kriebel Road Trail	400	LF			\$ 27,000.00
	B: S17.1 - S17.2	N/A	East side of Green Lane Road under Turnpike underpass	400	LF			\$ 27,000.00
	B: S18.1 - S18.2	N/A	East side of Troxel Road sidewalk gap. *Requires Retaining wall section	150	LF			\$ 73,425.00
	B: S19.1 - S19.2	N/A	North Side of Rittenhouse Road sidewalk gap	50	LF			\$ 3,375.00
	B: S19.1 - S19.2	N/A	East side of Kriebel Road from sidewalk gap to Kriebel Road Trail	750	LF			\$ 50,625.00

Improvement Type	Segment Label	Intersection	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
	B: CW 1	Forty Food Road and Sumneytown Pike	All intersections (Currently have lines, need stripes)	4	EA			\$ 4,500.00
	B: CW 2	Sumneytown Pike and Reiff Road	North Side of Sumneytown Pike crossing Reiff Road	1	EA			\$ 1,125.00
	B: CW 3	Sumneytown Pike and Green Lane Road	South side of Sumneytown Pike crossing Green Lane Road	1	EA			\$ 1,125.00
	B: CW 4	Sumneytown Pike and Troxel Road	Crossing Sumneytown Pike (North to South) *requires (2) new Curb Ramps	1	EA			\$ 19,125.00
	B: CW 5	Sumneytown Pike and Trail crossing to North Penn	Crossing Sumneytown Pike (North to South) *requires (1) new Curb Ramp on School Side	1	EA			\$ 10,125.00
	B: CW 6	South Valley Forge Road and Sumneytown Pike	East side of South Valley Forge, crossing Sumneytown Pike Currently has lines, add stripes	1	EA			\$ 1,125.00
	B: CW 7	Anders Road and Flintlock Circle	South side of Anders Road crossing Flinlock Circle	1	EA			\$ 1,125.00
	B: CW 8	Anders Road and Flintlock Circle	South side of Anders Road crossing Flinlock Circle	1	EA			\$ 1,125.00
	B: CW 9	Kriebel Road and Pheasant Hill	East side of Kriebel Road, crossing Pheasant Hill Road	1	EA			\$ 19,125.00
	B: CW 10	Kriebel Road Midblock Crossing	Crosses Kriebel to trail with flashing beacon *Requies (2) curb ramps	1	EA			\$ 19,125.00
	B: CW 11	Bustard Road and Adams Road	West side of Bustard Road crossing Adams Road *Requires (2) curb ramps	1	EA			\$ 19,125.00
	B: CW 12	Old Morris Road and Bustard Road	West side of Bustard Road crossing Old Morris Road	1	EA			\$ 19,125.00

	B: CW 13	Old Morris Road and Spring Mill Way	North Side of Old Morris Road crossing Spring Mill	1	EA			\$ 19,125.00
	B: CW 14	Old Morris Road and Kareve Drive	North Side of Old Morris Road crossing Kareve Drive	1	EA			\$ 1,125.00
	B: CW 15	Green Lane Road and Hedgerow Way	West side of Green Lane Road crossing Hedgerow Way *Requires (2) curb ramps	1	EA			\$ 19,125.00
	B: CW 16	Crossing Green Lane Road from Firehouse Park	West side of Green Lane Road crossing Hedgerow Way *Requires (2) curb ramps	1	EA			\$ 19,125.00

Improvement Type	Segment Label	Location/Adjacent Street	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Multi-Use Trail (10' Wide)	B: MUT		(Pg XXX)	6000			\$ 70.00	\$ 420,000.00
	B: MUT 1.1 - B: MUT 1.2	Sumneytown Pike	North Penn High School Trail	1000	LF			\$ 70,000.00
	B: MUT 2.1 - B: MUT 2.2	Green Lane Road	From Hedgerow Way to Pheasant Hill Through Right Of Way easement	500	LF			\$ 35,000.00
	B: MUT 3.1 - B: MUT 3.2	Near Bustard Road	From Residential to Bustard Road	700	LF			\$ 49,000.00
	B: MUT 3.2 - B: MUT 3.3	Near Bustard Road	From Bustard Road through Nash Elementary into Bustard Park	800	LF			\$ 56,000.00
	B: MUT 4.1 - B: MUT 4.2	Near Bustard Road	Through Bustard Park and Green Lane Park	3000	LF			\$ 210,000.00

Improvement Type	Segment Label	Location/Adjacent Street	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Side Path (10' Wide)	B: SP		(Pg XXX)	1100	LF		\$ 70.00	\$ 77,000.00
	B: SP 1.1 - SP 1.2	Bustard Road		700	LF			\$ 49,000.00
	B: SP 2.1 - SP 2.2	Bustard Road		400	LF			\$ 28,000.00
	B: SP 3.1 - SP 3.2	Green Lane Road		1100	LF			\$ 77,000.00

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Sharrows	B: SR		(Pg XXX)	21	EA		\$ 275.00	\$ 5,775.00
	B: SR 1.1 - 1.2	Liberty Bell Drive	Between Green Lane Road and Bustard Road	10	EA			\$ 2,750.00
	B: SR 1.2 - 1.3	Bustard Road	Between Liberty Bell Drive and Kriebel Road	11	EA			\$ 3,025.00

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Bike Lanes	B: BL		(Pg XXX)	5000	LF		\$ 1.50	\$ 7,500.00
	B: BL 1.1 - BL 1.2	Forty Foot Road	West Side of Road	2500	LF			\$ 3,750.00
	B: BL 1.1 - BL 1.2	Forty Foot Road	East Side of road	2500	LF			\$ 3,750.00
	B: BL 2.1 - BL2.2	Rittenhouse Road	Across bridge	800	LF			\$ 1,200.00

Improvement Type	Segment Label	Area/Connecting Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Pedestrian Trail Bridge	B: TB		(Pg XXX)		EA		#####	\$ 650,000.00
	B: TB 1	Green Lane Rd.	Crosses creek north of Green Lane Park in Right of Way easement	1	EA			\$ 400,000.00
	B: TB 2	Green Lane Park	Crosses Creek within Green Lane Park	1	EA			\$ 250,000.00

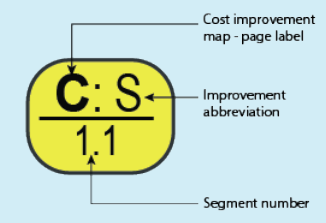
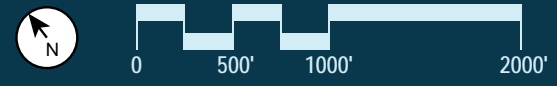
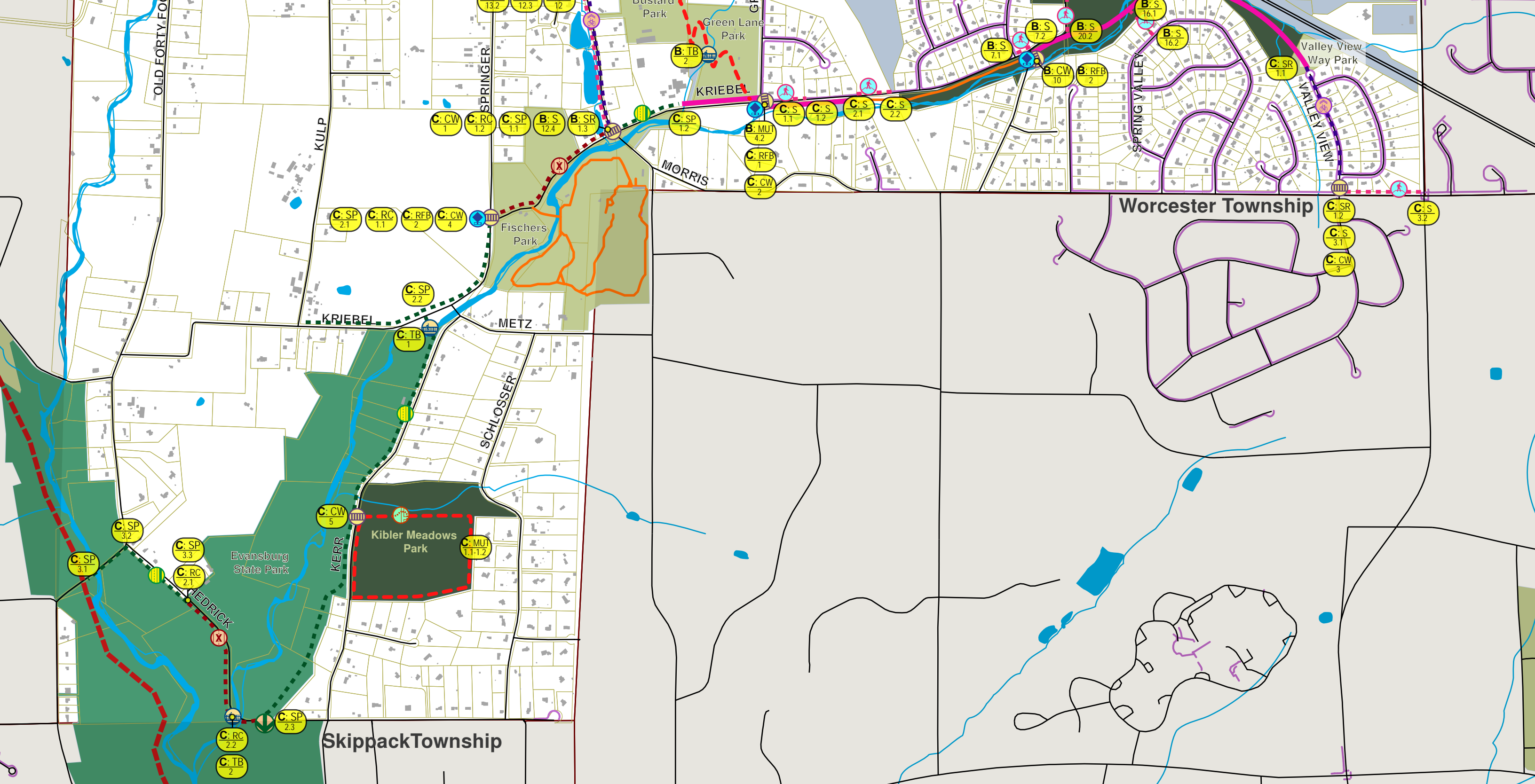
Improvement Type	Segment Label	Intersection	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Decorative Crosswalk	B: DEC		(Pg XXX)	1	EA		\$ 2,250.00	\$ 11,250.00
		Bustard Road and Liberty Bell Drive	Crosses Bustard Road - Entrance to Nash Elementary	1	EA			\$ 11,250.00

Improvement Type	Segment Label	Intersection Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Hand Man	B: HM		(Pg XXX)	1	EA		\$ 3,500.00	\$ 3,500.00
	B: HM1	Sumneytown Pike and Troxel Road	South side of Sumneytown Pike at proposed sidewalk location	1	EA			\$ 3,500.00

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Rapid Flashing Beacon	B: RFB		(Pg XXX)	7	EA		\$ 30,000.00	\$ 90,000.00
	B: RFB 1			1	EA			\$ 30,000.00
	B: RFB 2			1	EA			\$ 30,000.00
	B: RFB 3			1	EA			\$ 30,000.00
	B: RFB 4			1	EA			\$ 30,000.00

SubTotal: \$ 3,080,662.50





Existing

- State Park
- Township Park
- Open Space
- Institutional
- School
- Existing Sidewalk
- Existing On Road Route
- Existing Trail

Proposed

- Township Trail
- County Trail
- Sidewalk
- Multi-Use Trail
- Side Path
- Sharrow
- Bicycle Lane
- Road/Lane Closure
- Crosswalk
- Decorative Crosswalk
- Speed Cushion
- Rapid Flashing Beacon
- Hand Man
- Pedestrian Refuge Island
- Trail Bridge
- Pocket Park
- Connection to Adjacent Twp
- Roundabout

Cost Improvement Map C

Improvement Map C								
Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Sidewalk (5' Wide)	C: S		(Pg XXX)	1,550	LF		\$67.50	\$ 104,625.00
	C: S1.1 - S1.2	Kriebel Rd.	North side of road from Green Lane Road to sidewalk gap	270	LF			\$ 18,225.00
	C: S2.1 - S2.2	Kriebel Rd.	North side of road sidewalk gap	430	LF			\$ 29,025.00
	C: S3.1 - S3.2	Morris Rd.	from Valley View Way to South Valley Forge Road	850	LF			\$ 57,375.00

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Multi-Use Trail (10' Wide)	C: MUT		(Pg XXX)	4300	LF		\$70.00	\$301,000.00
	C:MUT1.1 - MUT 1.2	N/A	Kibler Meadows Loop	4300	LF			\$ 301,000.00

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Side Path (10' Wide)	C: SP		(Pg XXX)	3200	LF		\$ 70.00	\$ 609,000.00
	C: SP 1.1 - SP 1.2	Kriebel Road	From Bustard Road to Kriebel Road Trail	800	LF			\$ 56,000.00
	C: SP 2.1 - SP 2.2	Kriebel Road		1200	LF			\$ 84,000.00
	C: SP 2.2 - SP 2.3	Kerr Road		4750	LF			\$ 332,500.00
	C: SP 3.1 - 3.2	Old Forty Foot Road		950	LF			\$ 66,500.00
	C: SP 3.2 - 3.3	Hedrick Road		1000	LF			\$ 70,000.00

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Road Closure	C: RC		(Pg XXX)	3200	LF		N/A	\$ 6,000.00
	C: RC 1.1 - RC 1.2	Kriebel Road	Close road between Springer Road and Bustard Road. Barriers & Signage	1700	LF		3000	3000
	C: RC 2.1 - RC 2.2	Hedrick Road	Paint Trail on Hedrick Road	1500	LF		N/A	3000

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Pedestrian Trail Bridge	C: TB		(Pg XXX)	2	EA		\$ 400,000.00	\$ 800,000.00
	C: TB 1	Metz Road		1	EA			\$ 400,000.00
	C: TB 2	Hedrick Road		1	EA			\$ 400,000.00

Improvement Type	Segment Label	Intersection	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Crosswalk	C: CW		(Pg XXX)	5	EA		\$ 1,125.00	\$ 5,625.00
	C: CW 1			1	EA			\$ 1,125.00
	C: CW 2			1	EA			\$ 1,125.00
	C: CW 3			1	EA			\$ 1,125.00
	C: CW 4			1	EA			\$ 1,125.00
	C: CW 5			1	EA			\$ 1,125.00

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Rapid Flashing Beacon	C: RFB		(Pg XXX)	7	EA		\$ 30,000.00	\$ 120,000.00
	C: RFB 1			1	EA			\$ 30,000.00
	C: RFB 2			1	EA			\$ 30,000.00
	C: RFB 3			1	EA			\$ 30,000.00
	C: RFB 4			1	EA			\$ 30,000.00

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Sharrows	C: SR		(Pg XXX)		EA		\$ 275.00	\$ 1,650.00
	C: SR 1.1 - 1.2	Valley View Drive		6	EA			\$ 1,650.00

Sub Total: \$ 1,947,900.00

4.2 Implementation Priorities

The recommendation plan for Towamencin Township includes a large number of improvements. It is important to note that implementation priorities can change based on available opportunities. For instance, if a landowner donates a section of property, or an applicable grant becomes available, the sections of the plan affected should take priority.

The high priority items in this plan are labeled “1” in the cost estimate. These items focus on connecting populations where Interstate 476 creates barriers in the Township. These locations include:

- Bustard Road near Firehouse Park
- Green Lane Road Underpass
- Kriebel Road near the Towamencin Tree Farm Park

Other high priority items include low challenge recommendations that are less complex to achieve, such as:

- All crosswalk locations
- Sharrow routes along Liberty Bell Drive and Bustard Road
- Signage along routes

Improvements categorized as priority “2” in the cost estimate include those that focus on connecting school routes. Improvements on Allentown Road and Snyder Road are examples which allow for neighboring residents to readily access schools such as North Penn High School and Inglewood Elementary. Improvements on Forty Foot Road and Bustard Road accommodate schools such as Walton Farm Elementary, Dock Mennonite 9-12 Campus, and Walton Farm Elementary School.

The following items are labeled “3” in the priority column of the cost estimate. These recommendations focus on improvements along collector routes. These include:

- Bustard Road Corridor
- Evansburg State Park Corridor
- Sumneytown Pike Sidewalk corridor

Improvements categorized as priority “4” in the cost estimate focus on connecting parks within the Township. These improvements are primarily concentrated on the north-south connection of Forty Foot Road and Bustard Road. They also focus on connections to the new Kriebel Road Trail.

4.2.1 Towamencin Township Sidewalk Deferral Program

The Township has some data about sidewalk installation deferrals that have been granted through the land development process. However, escrow fees are not collected from applicants when these deferrals are made. As a result, these deferrals are not enforced, and the sidewalks never get constructed.

This study recommends that the Township pass an ordinance requiring payment of a fee in lieu of sidewalk construction if there are any sidewalk deferrals in order that these important pedestrian facilities are constructed.



4.2.2 Adopt an Official Map

An Official Map is both an ordinance and a map on which a municipality can express its interest in possibly acquiring land to construct public improvements. These improvements can include roads, trails, parks and open space, stormwater management facilities and other public improvements. This plan recommends that the Township adopt an Official Map for the purpose of including improvements recommended by this plan on that map. The Township's adoption of an Official Map creates a planning basis for the trail and sidewalk improvements proposed in the Connectivity Study, it does not, however commit the municipality to acquire the land to build these improvements. Additionally, private developers can play an important role in the implementation of these proposed improvements as they can build them, as shown on the Official Map, during the land development process.

For information about the Official Map please go to:
<https://conservationtools.org/guides/60-official-map> and
<https://www.dot.state.pa.us/public/PubsForms/Publications/PUB%20703.pdf>

4.2.3 Collaboration with Adjacent Municipalities and Evansburg State Park

Where planned connectivity improvements abut or connect to facilities in neighboring municipalities or Evansburg State Park, Towamencin Township should seek to work with these neighbors on grants and/or construction projects to advance these improvements. Many grant programs rank multi-municipal planning and construction funding applications higher than single community requests.



4.3 Potential Funding Sources

4.3.1 Pennsylvania Department of Transportation (PennDOT)

Transportation Alternatives Set-Aside (TASA)

The Transportation Alternatives Set-Aside Program (TASA) is a Federal highway and transit funds set-aside under the Surface Transportation Program (STP) for community-based “non-traditional” projects designed to strengthen the cultural, aesthetic, and environmental aspects of the nation’s intermodal transportation system. The program seeks to provide funding for projects such as construction, planning, and design 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 to achieve compliance with the Americans with Disabilities Act of 1990. There is a minimum award of \$500,000 for construction projects. There is a maximum award of \$1,500,000, although higher awards can be justified for “exceptional” projects. No applicant match is required. This program is available every other year, however current awardees must provide all design and engineering for the project through the PennDOT ECMS process.

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

PennDOT Multimodal Transportation Fund (MTF)

The Multimodal Transportation Fund (MTF) was created in 2013 when the Pennsylvania State Legislature passed and the Governor signed Act 89. This dedicated fund can be used for “projects that coordinate local land use with transportation assets to enhance existing communities” as well as “Projects related to streetscape, lighting, sidewalks and pedestrian safety.” Grants are available for projects with a total cost of \$100,000 or more. Grants will not normally exceed \$3,000,000. Consideration will be given to projects with costs over \$3,000,000 should they significantly impact PennDOT’s goal of creating jobs and leveraging private investment.

Additional information is available online at: <https://www.penndot.gov/ProjectAndPrograms/MultimodalProgram/Pages/default.aspx>

Safe Routes to School (SRTS)

Administered through TASA, SRTS is a national and international movement to create safe, convenient and healthy opportunities for children to walk and bicycle to school. The program encourages children to walk and bicycle to school, helping to reverse an alarming decrease in students’ physical activity and an associated increase in childhood obesity. 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.pa.gov/ProjectAndPrograms/Planning/Pages/Safe-Routes-to-School.aspx>

4.3.2 Office of the Budget

Redevelopment Assistance Capital Program (RACP)

The Redevelopment Assistance Capital Program (RACP) is a grant program administered by the Office of the Budget for the acquisition and construction of regional economic, cultural, civic, recreational, and historical improvement projects. RACP projects are state-funded projects that cannot obtain primary funding under other state programs. A RACP project must have a total cost of at least \$1,000,000. At least 50% of the project cost must be match (non-state) participation.

For more information, visit <https://www.budget.pa.gov/Programs/RACP/Pages/Main%20Page.aspx>

4.3.3 Pennsylvania Department of Conservation and Natural Resources (PA DCNR)

Community Conservation Partnership Program (C2P2)

The Community Recreation and Conservation Program through the PA DCNR Community Conservation Partnership Program (C2P2) provides funding to municipalities and authorized nonprofit organizations for recreation, park, trail and conservation projects. These include planning for feasibility studies, trail studies, conservation plans, master site development plans, and comprehensive recreation park and open space and greenway plans. In addition to planning efforts, the program provides funding for land acquisition for active or passive parks, trails and conservation purposes, and construction and rehabilitation of parks, trails, and recreation facilities. Most of these projects require a 50% match, which can include a combination of cash and/or non-cash values.

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

Recreational Trails Program

The Pennsylvania Recreational Trails Program, also through the C2P2 Program, awards grants to federal and state agencies, local governments, non-profit and for-profit organizations to assist with the construction, renovation and maintenance of trails and related facilities for both motorized and non-motorized recreational trail use, the purchase or lease of equipment for trail maintenance and construction and the development of educational materials and programs. These grants require a minimum 20% match, which can include a combination of cash and/or non-cash values. Grants are typically due in Spring.

More information on this program can be found at the DCNR website: <https://www.dcnr.pa.gov/Communities/Grants/TrailGrants/Pages/default.aspx>

4.3.4 Commonwealth Financing Agency (CFA)

Greenways, Trails and Recreation Program (GTRP)

Administered through the Department of Economic Development (DCED), the Greenways, Trails and Recreation Program (GTRP) 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. Funding from DCED for "sidewalk" connections will need to be categorized as multi-use trails. Some of the recommended sidewalk gap improvements may fit within a "trail" designation. Applications are typically due at the end of May

For more information, visit <https://dced.pa.gov/programs/greenways-trails-and-recreation-program-gtrp/>

4.3.5 Department of Community and Economic Development (DCED)

DCED Multimodal Transportation Fund (MTF)

The DCED Multimodal Transportation Fund provides grants to encourage economic development and ensure that a safe and reliable system of transportation is available to the residents of the commonwealth.

Applications for the Multimodal Transportation Fund are accepted annually between March 1 and July 31. All applications and all required supplemental information must be electronically submitted by close of business on July 31st for hopeful consideration at the November CFA board meeting. Please note that technical assistance will not be available after 5pm on July 29th.

Funds may be used for the development, rehabilitation, and enhancement of transportation assets to existing communities, streetscape, lighting, sidewalk enhancement, pedestrian safety, connectivity of transportation assets and transit-oriented development. Grants are available for projects with a total cost of \$100,000 or more. Grants shall not exceed \$3,000,000 for any project.

Additional information is available online at: <https://dced.pa.gov/programs/multimodal-transportation-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/>

Montco 2040 Implementation Grant

As part of the implementation of the Montgomery County Comprehensive Plan, Montco 2040: A Shared Vision, a grant program has been established to allow municipalities to make targeted physical improvements that work to achieve goals of the Plan. The maximum amount awarded is \$200,000 (although typical maximum awards are closer \$100,000.00) and the program requires a 20% local match. Projects must address a stated goal within one of the three themes of the Plan: Connected Communities, Sustainable Places, and Vibrant Economies. Awarded funds may only be applied to physical improvements. Funding themes change slightly each year. Applications are due each year in March. Funds must be expended within 2 years of the award.

More information can be found at: <https://www.montcopa.org/2453/Montco-2040-Implementation-Grant-Program>





APPENDIX

5





MEETING NOTES

Project:	Towamencin Connectivity Study	Project No.:	22041.10
Location:	Towamencin Township Office Building 1090 Troxel Rd Lansdale, PA 19446	Meeting Date/Time:	10.10.2022 7:00 – 8:30 pm
Re:	Committee Meeting #1	Issue Date:	10.20.2022

ATTENDENCE:

See attached attendance list.

DELIVERABLES:

- Committee #1 Meeting Presentation
- Committee #1 Meeting Notes
- Revised Public Opinion Survey

GENERAL NOTES:

Presentation:

Peter Simone (PS) provided an overview of the project scope, schedule, existing conditions, and data. PS then presented who we are designing for, the basis for connectivity design, and is the tools that can be used for connectivity improvements. PS continued to explain how the public meetings will be conducted and our next steps for the project and public outreach.

Discussion/ Comments/ Questions:

1. Matt Chartrand (MC) said a Dock Mennonite resident was killed last year at the intersection of Allentown Road and Forty Foot Road. The School has come to Planning Commission asking for a study like this.
 - PS thanked for sharing, asked what other schools and destinations we need to hear from further. Also stated purpose of Wikimapping tool and explained “Vision Zero” and “Complete Streets” initiatives.
2. Patricia K. Younce (PY) expressed a concern about not retrofitting every neighborhood without sidewalks - with sidewalks - after PS mentioned that the SC would not be proposing sidewalks

everywhere where they are not present. PS noted that our goal will be to make important connections, but not to add sidewalks in every location, since this would be cost prohibitive.

3. PS noted that PECO is no longer allowing trails on PECO ROWs. MC asked why PECO isn't allowing trails on high voltage right of ways? PS stated PECO has not disclosed that information. PS thinks it may be to reserve these ROWs for future utilities.
4. PY asked how the survey questions are going to be presented.
 - PS answered with Survey Monkey. There will be a URL and QR Code provided to the Township to distribute to the residents.
5. PY asked to add a question that asks, "which areas of the township do you feel the least comfortable walking or biking in?"
 - Joseph Vara (JV) continued with asking to provide a follow up question to number 8 as well: "if you don't use trails, why not?" As well as follow up to questions 9 and 10.
6. PY mentioned that there was discussion with SEPTA about potentially providing a route to the Culinary Institute when it was built.
 - PS speculated if the village develops further, there is a possibility of a bus route from village to the Lansdale train station.
7. MC asked if we should reduce the number of questions and/or prioritize the "hotter topics" to hold people's attention. Mentioned their goal is to get as many people to answer as possible.
 - PS said it is a good concern and varies based on the Township and the dynamic of the community. Said that we cannot predict responses, but we could make a version that boils it down and send it out to committee. Emma Haley (EH) noted that we can change survey monkey settings to skip certain questions based on responses and demographics.
8. MC mentioned it would be nice if responses had some contact info. PS responded that people can voluntarily add their contact info.
 - Dennis McGeehan (DM) asked if there can be a question where you ask which street the respondent lives on. PS agreed to incorporate that question.
9. PY asked how we can reach out to as many Towamencin residents as possible.
 - PS answered that we try to reach out to schools to publish our project info into their newsletters and website; however, sometimes schools do not allow it, but we can make attempts. We can try to get it out to Towamencin Youth Association (TYA).
10. Dr. Ed Buonocore asked to just print physical copies and put at the polling place – Incentive to keep it short and simple. PS said the information we are looking for takes a commitment of 10 minutes and that it cannot be any briefer. Then stated that we could send out postcards that has the QR code to the survey.
 - PY added that we could put them out at restaurants and other public locations.

11. PY mentioned she sees a group of bicyclists that ride on their lunch around the Township – not sure if it is a group through a certain employer.
 - PS said we will investigate that and look into the ‘Bike Coalition’ branch groups; like Lansdale – Cycling Club could be a Key Person Interview.
12. Nancy Becker asked PS to send out the presentation to the Planning Commission. PS agreed to.
13. MC mentioned there is a “box” between Sumneytown Pike, Forty Foot Road, Allentown Road, and South Valley Forge then asked how state or county roads could affect the process of getting sidewalks/trails to be implemented.
 - PS answered it is circumstantial but could be a good thing. District 6 is progressive. They can be helpful in getting funding.
14. PY mentioned that Lower Salford received a grant for sidewalks to connect retail areas and some residents were upset about it.
 - PS responded that in every community there is some pushback by some groups, and it is not unusual – it is important to listen to those disagreements earnestly.
15. NB added people seem to be more receptive to trails.
16. Richard Marino (RM) said Weikel Road residents recently had a debate over putting in a sidewalk as asphalt vs concrete, because if it is concrete, the resident must maintain the path.
 - PS said that he has not seen anything in the ordinance about that. Sidewalks can be asphalt or concrete. Generally, trails and sidewalks have more differences than material. Potentially something to investigate. Trails not addressed in SALDO.
17. RM mentioned the missing sidewalk on Snyder is going to be connected; however, they are not putting sidewalks in front of Morgan Log House.
18. PY mentioned we could add sidewalks on Troxel to connect kids from developments to Freddy Hill and other destinations.
19. RM added that priorities will be important, particularly due to how long these types of projects take.
20. PS mentioned Clemens Park is a good example of connectivity to destinations that could utilize safety improvements (connections into commercial area / Wawa).

Next Steps

Finalize survey questions

Public meeting #1 on 11/10/2022

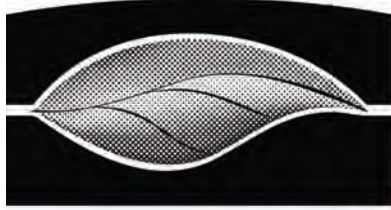
This report represents the Professional's summation of the proceedings and is not a transcript. Unless written notice of any correction or clarification is received by the Professional within ten days of issue, the report shall be considered factually correct and shall become part of the official project record.

Sincerely,

SIMONE COLLINS, INC.
LANDSCAPE ARCHITECTURE

A handwritten signature in black ink, appearing to read "Bryce Brucker". The signature is written in a cursive, flowing style.

Bryce Brucker



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WWW.SIMONECOLLINS.COM

MEETING AGENDA

Project: **Towamencin Township Sidewalk Connectivity Study** Project No.: **22041.10**

Location: **Towamencin Township Office Building 1090 Troxel Road Lansdale, PA 19446** Meeting Date: **10.10.2022** Time: **7:00pm – 8:30pm**

Re: **Committee Meeting #1: Kick off, Protocols, Goals**

ITEMS:

1. Team Introductions
2. Project Scope
3. Project Schedule
4. Data & Inventory
5. Trails 101 – Users and Design Guidelines
6. Public Opinion Survey
7. Next Steps

COMMITTEE MEMBERS:

MEMBER	ORGANIZATION
Brett H. MacKay	Planning Commission, Chairman
Patricia Younce	Planning Commission, Vice Chairman
Douglas Leach	Planning Commission
Joseph Vavra	Planning Commission
Matt Chartrand	Planning Commission
Dr. Edward Buonocore	Planning Commission
Nancy Becker	Planning Commission
Dennis McGeehan	Planning Commission
Richard Marino	Planning Commission, Board Liaison

TOWNSHIP REPRESENTATIVES:

MEMBER	ORGANIZATION
Dennis Carney	Interim Township Manager
Colleen Ehrle	Executive Assistant
Brett MacKay	Planning Commission, Chairman
Mary Stover	Township Engineer
George DiPersio	Interim Zoning Officer
Carolyn Shisler	Zoning and Code Enforcement Department

PROJECT SCHEDULE:

MEETING	PURPOSE	DATE	TIME
Committee Meeting #1	Project overview, initial site analysis, brainstorming	Monday, October 10, 2022	7:00 - 8:30 PM
Public Opinion Survey/ Wikimapping Period	Public Opinion Survey/ Wikimapping	Thursday, November 10, 2022 – Thursday, April 13, 2023	
Public Meeting #1	Project Overview / Public Brainstorming	Thursday, November 10, 2022	7:00 - 8:30 PM
Committee Meeting #2	Review Public Meeting/survey, analysis process, initial concepts	Monday, December 5, 2022	7:00 - 8:30 PM
Public Meeting #2	Analysis / Concepts	Thursday, February 9, 2023	7:00 - 8:30 PM
Committee Meeting #3	Concept refinement, draft plan overview	Monday, March 6, 2023	7:00 - 8:30 PM
Public Meeting #3	Draft Plan Presentation	Thursday, April 13, 2023	7:00 - 8:30 PM
Public Review Period	45-Day Draft Plan Review	Thursday, April 13, 2023 – Monday, May 29, 2023	
Board of Supervisors Meeting	Review Draft Plan	Wednesday, May 10, 2023	7:00 - 8:30 PM
Committee Meeting #4	Review comments and make revisions	Monday, June 5th, 2023	7:00 - 8:30 PM
Public Meeting #4	Present final plan	Thursday, June 22, 2023	7:00 - 8:30 PM

PROJECT TEAM

FIRM / TEAM MEMBER	EMAIL
Simone Collins Landscape Architecture	
Peter Simone, Principal in Charge	psimone@simonecollins.com
Emma Haley, Project Manager	ehaley@simonecollins.com
Geoff Creary, Project Landscape Architect	gcreary@simonecollins.com
Bryce Brucker, Project Landscape Architect	bbrucker@simonecollins.com



May 18, 2022

Mr. Don Delamater
Township Manager
Towamencin Township
1090 Troxel Road
Lansdale, PA 19446
610 368 7602
ddelamater@towamencin.org

**Re: Proposal - Sidewalk Connectivity Study
SC project # 22041.00**

Simone Collins Landscape Architecture (SC) is pleased to submit this proposal for a sidewalk and trail connectivity study update for Towamencin Township. The proposed project context and scope of work is proposed as follows:

Project Context

As the Township continues to grow non-motorized transportation – specifically, walking and biking – have become increasingly important to the high quality of life that Township residents desire and have come to expect. A recent inventory by the Delaware Regional Planning Commission (DVRPC) of existing Township sidewalks and handicapped ramps shows that a sizable portion of the Township lacks accessible sidewalk connections.

In 2020, the Township completed an evaluation of its many parks and developed recommendations for improvements to those facilities. This study also updated the current status of the Township Trails Master Plan, making some suggestions for new trails and updating the status of the trails plan.

As the Township continues to plan and building new sidewalks and trails, it needs to make strategic decisions of what sidewalks and trails are priorities to construct. It is a reasonable assumption that not every Township Road can or should have a sidewalk or trail. Cumulative costs for these facilities would be far too great.

The purpose of this Connectivity Study is to decide where new sidewalks and trails are most needed and which of those facilities are the highest priority. Once these decisions are made, the Township should consider embarking on a systematic implementation of this connectivity system with funding from a variety of state and federal sources. Implementation of this

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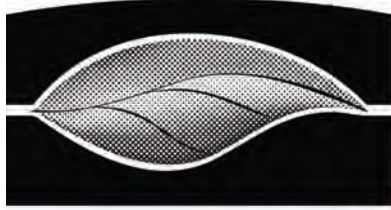
connectivity system will require years and this plan is the first step to a more connected Township.

Scope of Services

1. Inventory of existing and proposed sidewalks and trails in the Township including connecting sidewalks and trails in surrounding municipalities.
2. Field reconnaissance to verify data where needed including observing existing conditions as necessary at specific locations.
3. Collect police report / accident data involving motor vehicles and motor vehicles and pedestrians or cyclists.
4. Confer with the Township Traffic Engineer as needed.
5. Meet and coordinate the work with Township Staff as needed.
6. Meet with County Planning Commission Staff to review preliminary connectivity recommendations.
7. Confer with PennDOT District 6-0 for any connectivity issues regarding State roads.
8. If the Township appoints a Connectivity Study Committee of interested citizens, work with the committee over four meetings to assist SC in identifying problem areas, connectivity destinations, and suggested solutions in creating better non-motorized connections in the Township.
9. Prepare and conduct four public meetings to gather input and to present study recommendations.
10. Attend Board of Supervisor meetings to present report findings and recommendations.
11. Write and administer a web-based public opinion poll to determine resident attitudes and needs regarding non-motorized connectivity in the Township. Based on our work in other municipalities we believe that there will be great interest in this Township initiative.
12. Create a web-based, interactive wiki-mapping tool where residents can draw on an interactive map and make suggestions for specific sidewalks and trails to enhance connectivity to destinations in the community.
13. Prepare project mapping to illustrate locations of proposed connectivity facilities.
14. Prepare cost estimates for proposed improvements
15. Prepare recommended project priorities with a proposed phasing plan for implementation.
16. List various funding sources for grants to pay for connectivity improvements. Create a five-year plan for funding.
17. Create a narrative report summarizing all information including the inventory of existing conditions, proposed needs, recommended improvements, cost estimates and all other information.

Project Schedule

This project will take approximately ten (10) months to complete. SC will prepare a formal project schedule at the initiation of work.



MEETING NOTES

Project:	Towamencin Connectivity Study	Project No.:	22041.10
Location:	Towamencin Township Office Building 1090 Troxel Rd Lansdale, PA 19446	Meeting Date/Time:	11.10.2022 7:00 – 8:30 pm
Re:	Public Meeting #1	Issue Date:	11.15.2022

ATTENDENCE:

See attached attendance list.

DELIVERABLES:

- Public Meeting #1 Presentation
- Public Meeting #1 Meeting Notes
- Public Meeting #1 Sign-in Sheets
- Public Meeting #1 Agenda
- Public Meeting #1 Recording

GENERAL NOTES:

Presentation:

Peter Simone (PS) provided an introduction and overview of the project scope, and schedule. Emma Haley (EH) presented existing conditions, existing data, and inventory. Bryce Brucker (BB) then presented who we are designing for, the basis for connectivity design, and what is used for connectivity improvements. PS then facilitated the public input process and explained our next steps for the project and public outreach.

Discussion/ Comments/ Questions:

- One attendee asked if we would look at surrounding municipal trails and was curious if trails would make more people pass through their communities.
 - PS responded that the focus of the study is not to create a regional trail like the Schuylkill River Trail, however we will certainly be looking at connections to regional trails. He continued to say that we will be in contact with members of the community who can provide information on these topics, such as local bike shops.

- In response, A attendee stated that there is a plan for a county trail that has been proposed to which PS responded stating that it doesn't go through Towamencin. He suggested its possible connection with Evansburg State Park.
- One attendee was wondering if sidewalk connections to gyms were being considered in the study. The resident frequents to Planet Fitness gym at Sumneytown Pike and Allentown Road and would like sidewalks provided to it.
 - PS emphasized that they should utilize the Wikimap tool or put a locator dot on the physical map after the presentation.
- One attendee was curious if there was a place to access trail plans the Township is currently planning on implementing.
 - PS responded that they could visit the Towamencin website and access this presentation to see existing township planned trails map. He emphasized that these plans may need to change due to PECO high voltage R.O.W's now being off limits for trail proposals.
- One attendee stated that trails should connect all parks in the Township and the parks should become trailheads to this system.
 - PS agreed and used Fischer Park as an example of a destination that could be connected to the Kriebel Road trail.
- One attendee asked how we prioritize the improvements recommended.
- PS responded and explained that the survey results aren't a polling system, and that prioritization is based on funding opportunities and what becomes the most feasible to implement based on those opportunities. One attendee asked if there was a way to assign weight to safety issues in the report.
 - PS explained that we will consider data that is existing, however, traffic studies are not part of the scope. PS emphasized that we would refer to safety issues with careful language.
- One attendee was concerned that the only way to get to the new Veterans Memorial Park is by car.
 - PS explained that we will consider this in the study.
- One attendee emphasized the importance of working Kriebel Road Trail into plan.
 - PS reiterated this idea and explained that the Kriebel Trail would be a good jumping off point for funding strategies.
- One attendee was curious if we could access data from trackers such as Garmin and Apple.
 - PS explained that we have Strava data, but we will look for more information on other sources.
- One attendee was curious how we can deemphasize the automobile in general. How far do people feel comfortable walking?
 - PS stated that this is an ongoing process that requires dynamic social change. EH referenced the DCNR mapping tool that shows pedestrian access to open space and trails which states that pedestrians are generally comfortable with walking 10 minutes.
- One attendee asked if there were any unused trolley or rail lines that could be used in the township.
 - PS stated that there are not unused lines within the Township boundary, however there are some in Lansdale and Hatfield. He also emphasized the Perkiomen Trail as a case study for this method.

- One attendee suggested linking historical sites with a trail.
 - PS agreed this was an interesting concept. Added that smart phone technology could be used to create themed walks / trails. He also stated the themes in general are effective.
- One attendee asked if funding would be from grants.
 - PS stated that grants are effective for many parts of trail projects. Some improvements such as sidewalks may have to be funded in part by the township.
- One attendee noted that there are sidewalks that have been deferred when the developments were approved. Money has been escrowed by the Township to pay for these sidewalks. These should be inventoried to determine where they exist. The township could go ahead and build these.
 - PS explained that we will ask the township to try and develop an inventory of these deferred walkways.
- One attendee was asked if lighting would be considered where new sidewalks are being proposed for the project.
 - PS responded that many non-commuter trails are often not lighted, however, challenging intersections will certainly be considered for lighting improvements.
- One attendee suggested going after environmental and health grants, potentially through Jefferson or Penn College.
 - PS agreed with this idea and used Pottstown as a case study where Pottstown Hospital awarded a grant to the Borough to help build the current bike trail system.
- One attendee asked if there were any known “desire paths” where pedestrians have created their own route that we could look at.
 - PS explained that the audience are the experts and to let us know where these locations might be. In response, another attendee explained that their son uses the North Penn High School sports fields, and cuts through Forge Gates Apartments to get to Weikel Rd. leading to the community pool.

Next Steps – Public Meeting #2 on 2/9/2023

The next steps include making the survey and Wikimap “live”. PS mentioned that we are hoping to get at least 300 responses. SC will begin to compile and analyze data to develop preliminary routes.

This report represents the Professional’s summation of the proceedings and is not a transcript. Unless written notice of any correction or clarification is received by the Professional within ten days of issue, the report shall be considered factually correct and shall become part of the official project record.

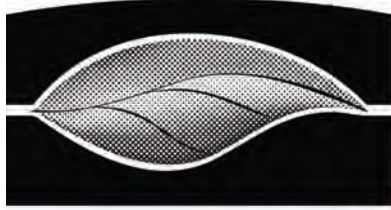
Sincerely,



Bryce Brucker

SIMONE COLLINS, INC.

LANDSCAPE ARCHITECTURE



SIMONE COLLINS
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119 EAST LAFAYETTE STREET NORRISTOWN, PA 19401
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WWW.SIMONECOLLINS.COM

MEETING AGENDA

Project: **Sidewalk Connectivity Study** Project No.: **22041.10**

Location: **Towamencin Township Office Building**
1090 Troxel Rd, Lansdale, PA 19446 Meeting Date Time: **11.10.2022**
7:00pm – 8:30pm

Re: **Public Meeting #1:**
Plan Overview & Brainstorming

ITEMS:

1. Team Introduction
2. Project Scope
3. Project Schedule
4. Existing Data & Inventory
5. Trails 101 – users, design guidelines
6. Public input
7. Next Steps
8. Discussion

Next Steps:

Take the Public Opinion Survey:



<https://qrco.de/Towamencin-Survey>

Draw on the WikiMap:



<https://qrco.de/Towamencin-Wikimap>

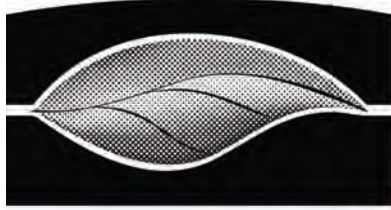
Next Public Meeting:

Public Meeting #2:

Initial Concepts / Recommendations

Thursday, February 9, 2023

7:00 PM – 8:30 PM



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PROJECT TEAM

FIRM / TEAM MEMBER	PHONE / EMAIL
Simone Collins Landscape Architecture	610-239-7601
Pete Simone, Principal in Charge	wcollins@simonecollins.com
Emma Haley, Staff Landscape Architect	ehaley@simonecollins.com
Geoff Creary, Project Landscape Architect	gcreary@simonecollins.com
Bryce Brucker, Project Landscape Architect	bbrucker@simonecollins.com

PROJECT SCHEDULE:

MEETING	PURPOSE	DATE	TIME
Committee Meeting #1	Project overview, initial site analysis, brainstorming	Monday, October 10, 2022	7:00 - 8:30 PM
Public Opinion Survey/ Wikimapping Period	Public Opinion Survey/ Wikimapping	Thursday, November 10, 2022 – Thursday, April 13, 2023	
Public Meeting #1	Project Overview / Public Brainstorming	Thursday, November 10, 2022	7:00 - 8:30 PM
Committee Meeting #2	Review Public Meeting/survey, analysis process, initial concepts	Monday, December 5, 2022	7:00 - 8:30 PM
Public Meeting #2	Analysis / Concepts	Thursday, February 9, 2023	7:00 - 8:30 PM
Committee Meeting #3	Concept refinement, draft plan overview	Monday, March 6, 2023	7:00 - 8:30 PM
Public Meeting #3	Draft Plan Presentation	Thursday, April 13, 2023	7:00 - 8:30 PM
Public Review Period	45-Day Draft Plan Review	Thursday, April 13, 2023 – Monday, May 29, 2023	
Board of Supervisors Meeting	Review Draft Plan	Wednesday, May 10, 2023	7:00 - 8:30 PM

COMMITTEE MEMBERS:

MEMBER	
Dennis Carney	Interim Township Manager
Colleen Ehrle	Executive Assistant
Brett MacKay	Planning Commission, Chairman
Mary Stover	Township Engineer
George DiPersio	Interim Zoning Officer
Carolyn Shisler	Zoning and Code Enforcement Department

MEETING SIGN-IN SHEET

Project: Towamencin Sidewalk Connectivity Study

Project No.: 22041.10

Location: Towamencin Township Building

Date: 11.10.2022

Topic: Public Meeting 1 – Project Background & Brainstorming

Time: 7:00-8:30 PM

	NAME	STREET ADDRESS	EMAIL
1.	Walt & Bonne Weber		
2.	Joe Meenan		
3.	Demi McLeary		
4.	Patrick McKeever		
5.	Krista Warner		
6.	Navey Becker		
7.	Jennifer MacNair		
8.	Sage G. Snyder		
9.	Carter LeBrace		
10.	Brett Mackay		
11.	PICH MARINO		
12.	Benjamin E Hatchison		

com

NAME	STREET ADDRESS	EMAIL
13. JOE VAVRA	[REDACTED]	[REDACTED]
14.		<input type="checkbox"/>
15.		<input type="checkbox"/>
16.		<input type="checkbox"/>
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MEETING NOTES

Project:	Towamencin Connectivity Study	Project No.:	22041.10
Location:	Towamencin Township Office Building 1090 Troxel Rd Lansdale, PA 19446	Meeting Date/Time:	12.05.2022 7:00 – 8:30 pm
Re:	Committee Meeting #2	Issue Date:	12.07.2022

ATTENDENCE:

See attached attendance list.

DELIVERABLES:

- Committee Meeting #2 Presentation
- Committee Meeting #2 Notes
- Send Draft Public Meeting #2 Presentation (first week of February)
- Send Committee link to Township Parks Evaluation and Recommendations Report
- Send the survey URL

GENERAL NOTES:

Presentation:

Peter Simone (PS) provided an overview of the first public meeting presentation and conversation with the attendees. Emma Haley (EH) presented the survey monkey and Wikimap results to date and stated the results trends will likely not change much but will continue to be monitored for the next several months. PS then walked through several site observation photos and described areas where improvements could be located and went through completed base mapping. EH presented the layers of analysis that is being evaluated for connectivity improvement based on service areas. PS continued with explaining the different 'tools' within the "improvement toolbox" that will be considered for the plan recommendations and how they work. PS concluded the presentation with the preliminary concepts of improvements throughout the Township.

Discussion:

- Request meeting minutes from Carolyn Shissler

- Pete suggested to send the parks evaluation plan to Planning Commission for review as it relates to the connectivity plan.
- Patricia stated that she would like to see a trail all the way down Bustard Road to connect the parks. Pete responded that we are moving forward with that concept and think it will be possible to do.
- Pete offered to send the link to an article of traffic accidents going down in Europe but remaining the same in the United States. The Exceptionally American Problem of Rising Roadway Deaths <https://www.nytimes.com/2022/11/27/upshot/road-deaths-pedestrians-cyclists.html?smid=nytcore-ios-share&referringSource=articleShare>
- Nancy pointed out on slide 71 that the title should read “Kibler Meadows.”
- SC needs to add Nash School to analysis mapping.
- Matt suggested to change the color of the “barrier roads” so that the Strava data would be more readable.
- At the beginning of the improvement slides, Pete stated these are just preliminary and will be worked through before the public meeting #2. He then followed up with offering to send the improvement plans to Mary Stover’s and McMann’s office for an opinion before the public meeting in February.
- Ed suggested to look at improvements along Morris Road. Then mentioned that proposing sidewalks on the Worchester Township side of the road would be physically easier.
- Pete mentioned that we need to notify adjoining municipalities of the Towamencin plan for coordination and (possibly) collaboration purposes.
- Pete described proposing a trail through North Penn High School to connect between Snyder Road and Sumneytown Pike. Matt mentioned that the High School might be planning to build a 9th grade building center behind the building where bus pick up is held, and that the plan for the trail should get in front of the school district before they move forward with the plan. SC needs to contact the School District to make them aware of this plan and possible improvements around the high school.
- After Pete suggested converting the intersection of Valley Forge and Allentown to a roundabout, Pat had mentioned how many successful roundabouts there are in Pennsylvania.
 - Pete followed up with stating roundabout require minimal maintenance efforts (no traffic lights to take care of) and create safety improvements.
 - Joe said route 73 and 29 is a good example of a roundabout.
 - SC to follow up with McMahan Associations (Chad Dixon)
- Pat is concerned about getting more responses from the survey. Pete reassured her that the amount we have so far (124) is really good; however, it would be great to get more. Some suggestions for sending (by township) the postcard/flyer include:
 - Township newsletter
 - E-News letter
 - Wawa
 - Emails
 - Condominium associations/ HOAs (example: Jacob woods)
 - **Bike stores (SC will reach out)**
 - Running company
 - **SEPTA (SC will reach out)**

- Matt asked if there a cut off for comments. Pete said beginning of April, when the draft plan is presented.
 - Pat was curious if there could be sidewalks on both sides of Troxel Road that connects to the intersection of Sumneytown Pike and asked how much it would be. PS said it might be \$50K to do build because of the retaining walls needed but is ultimately worth it to make that connection to Freddy Hill Farms.
- Pete asked about the list of deferred sidewalks and suggested that SC will need to look at LD plan. Carolyn responded that they are working on it, and that they don't have past 5yrs, but have a list greater than 10yrs.
- Matt said it would be good to have a mid-block crossing where the fire easement comes out onto Sumneytown Pike from the cul-de-sac of Cheswold Drive to cross over into Freddy Hill Farms. SC to examine.
- Ed asked how does the Township decide when and how much money to spend on the project? PS used a recent project, Chadds Ford, as an example, and explained SC was able to grants totaling \$3.1M for the project. Funding opportunities are through PennDot, DCNR, DCED and other sources.
 - Ed followed up with the question if it reasonable to think construction will start by 2023. Pete said, no, the grant process will take more than a year and you will want to leverage the Township's money through the grant process.
- Matt asked if we would identify the easier vs. harder lifts of the improvements and funding. Pete said yes, SC will prioritize recommended improvements

Next Steps:

- Send Public Meeting presentation to the PC the first week of February to review improvements.
- Send the survey URL to the PC.

Public meeting #2 will be held on 02/09/2023

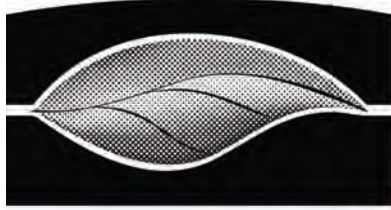
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Sincerely,

SIMONE COLLINS, INC.
LANDSCAPE ARCHITECTURE



Emma Haley



SIMONE COLLINS
LANDSCAPE ARCHITECTURE
119 EAST LAFAYETTE STREET NORRISTOWN, PA 19401
PHONE: 610.239.7601 FAX: 610.239.7606
WWW.SIMONECOLLINS.COM

MEETING AGENDA

Project: **Towamencin Township Sidewalk Connectivity Study** Project No.: **22041.10**

Location: **Towamencin Township Office Building 1090 Troxel Road Lansdale, PA 19446** Meeting Date: **12.05.2022** Time: **7:00pm – 8:30pm**

Re: **Committee Meeting #2: Review Public Meeting/survey, analysis process, initial concepts**

ITEMS:

1. Team Introduction
2. Project Meeting Update
3. Survey Monkey & WikiMap Results to Date
4. Site Visit Observations
5. Base Mapping
6. Analysis Mapping
7. Preliminary Concepts: Application of Improvement 'Toolbox'
8. Discussion
9. Next Steps

COMMITTEE MEMBERS:

MEMBER	ORGANIZATION
Brett H. MacKay	Planning Commission, Chairman
Patricia Younce	Planning Commission, Vice Chairman
Douglas Leach	Planning Commission
Joseph Vavra	Planning Commission
Matt Chartrand	Planning Commission
Dr. Edward Buonocore	Planning Commission
Nancy Becker	Planning Commission
Dennis McGeehan	Planning Commission
Richard Marino	Planning Commission, Board Liaison

TOWNSHIP REPRESENTATIVES:

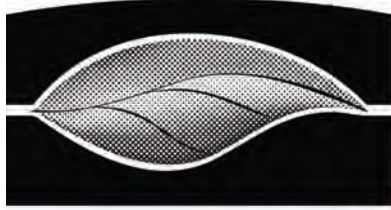
MEMBER	ORGANIZATION
Dennis Carney	Interim Township Manager
Colleen Ehrle	Executive Assistant
Brett MacKay	Planning Commission, Chairman
Mary Stover	Township Engineer
George DiPersio	Interim Zoning Officer
Carolyn Shisler	Zoning and Code Enforcement Department

PROJECT SCHEDULE:

MEETING	PURPOSE	DATE	TIME
Committee Meeting #1	Project overview, initial site analysis, brainstorming	Monday, October 10, 2022	7:00 - 8:30 PM
Public Opinion Survey/ Wikimapping Period	Public Opinion Survey/ Wikimapping	Thursday, November 10, 2022 – Thursday, April 13, 2023	
Public Meeting #1	Project Overview / Public Brainstorming	Thursday, November 10, 2022	7:00 - 8:30 PM
Committee Meeting #2	Review Public Meeting/survey, analysis process, initial concepts	Monday, December 5, 2022	7:00 - 8:30 PM
Public Meeting #2	Analysis / Concepts	Thursday, February 9, 2023	7:00 - 8:30 PM
Committee Meeting #3	Concept refinement, draft plan overview	Monday, March 6, 2023	7:00 - 8:30 PM
Public Meeting #3	Draft Plan Presentation	Thursday, April 13, 2023	7:00 - 8:30 PM
Public Review Period	45-Day Draft Plan Review	Thursday, April 13, 2023 – Monday, May 29, 2023	
Board of Supervisors Meeting	Review Draft Plan	Wednesday, May 10, 2023	7:00 - 8:30 PM
Committee Meeting #4	Review comments and make revisions	Monday, June 5th, 2023	7:00 - 8:30 PM
Public Meeting #4	Present final plan	Thursday, June 22, 2023	7:00 - 8:30 PM

PROJECT TEAM

FIRM / TEAM MEMBER	EMAIL
Simone Collins Landscape Architecture	
Peter Simone, Principal in Charge	psimone@simonecollins.com
Emma Haley, Project Manager	ehaley@simonecollins.com
Geoff Creary, Project Landscape Architect	gcreary@simonecollins.com
Bryce Brucker, Project Landscape Architect	bbrucker@simonecollins.com



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MEETING AGENDA

Project:	Towamencin Township Sidewalk Connectivity Study	Project No.:	22041.10
Location:	Towamencin Township Office Building 1090 Troxel Road Lansdale, PA 19446	Meeting Date Time:	3.6.2023 7:00pm – 8:30pm
Re:	Committee Meeting #3: Concept Refinement, Draft Plan Overview		

ITEMS:

1. Team Introduction
2. Update: Public Input
3. 'Toolbox' & Application Review
4. Draft Routes Concepts
5. Preliminary Cost Estimate
6. Discussion
7. Next Steps

COMMITTEE MEMBERS:

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Brett H. MacKay	Planning Commission, Chairman
Patricia Younce	Planning Commission, Vice Chairman
Douglas Leach	Planning Commission
Joseph Vavra	Planning Commission
Matt Chartrand	Planning Commission
Dr. Edward Buonocore	Planning Commission
Nancy Becker	Planning Commission
Dennis McGeehan	Planning Commission
Richard Marino	Planning Commission, Board Liaison

TOWNSHIP REPRESENTATIVES:

MEMBER	ORGANIZATION
David Kraynik	Township Manager
Colleen Ehrle	Executive Assistant
Brett MacKay	Planning Commission, Chairman
Mary Stover	Township Engineer
George DiPersio	Interim Zoning Officer
Carolyn Shisler	Zoning and Code Enforcement Department

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PROJECT TEAM

FIRM / TEAM MEMBER	EMAIL
Simone Collins Landscape Architecture	
Peter Simone, Principal in Charge	psimone@simonecollins.com
Emma Haley, Project Manager	ehaley@simonecollins.com
Geoff Creary, Project Landscape Architect	gcreary@simonecollins.com
Bryce Brucker, Project Landscape Architect	bbrucker@simonecollins.com

KPI MEETING NOTES

Project:	Towamencin Connectivity Study	Project No.:	22041.10
Location:	Online	Meeting Date/Time:	1.27.2023 10:30 AM – 11:30 AM
Re:	North Penn KPI	Issue Date:	1.30.2023

ATTENDANCE:

North Penn School District – Thomas Schneider (TS)

Simone Collins – Peter Simone (PS), Emma Haley (EH), Bryce Brucker (BB)

DELIVERABLES:

- Draft plan to Thomas Schneider

GENERAL NOTES:

Presentation:

Simone Collins gave a brief overview of the current improvements proposed around North Penn School District properties including North Penn High School, Walton Farms Elementary, Nash Elementary, and Inglewood Elementary.

North Penn High School

- TS informed SC team that the fill pile in the southeast of the site will remain for the foreseeable future.
- Potential of a new building on North Penn Campus for 9th grade.
 - Architect – Shrader Group
 - Making decision around April
- TS said that there is minimal pedestrian and bicycle use on Snyder.
- North Penn owns the radio station property to the northwest of the high school, as well as the property to the northeast with the sports fields.
 - They may also take the transportation facilities west of the high school, off site.
- There are currently no biking initiatives/clubs at the school district.
 - Parents insist on having their kids drive to school.
- TS agrees that Snyder Rd may become more important in the future.
- A traffic study by Heinrich and Klein is being performed.
 - Potential traffic signal at Snyder and Valley Forge.

- TS to send copy of the plan. (TS sent 1/30/23)
- There has been some desire to turn Sumneytown pike to 5 lanes.
- Potential roundabout at Troxel and Snyder.
- Depending on the master plan decision, any of the play fields can be altered to accommodate a walking path off of Sumneytown Pike, except Crawford Stadium.
 - In 5-6 months the School Board will have a better idea as to what they are doing.
- There is an environmental club at the school who would have interest in this type of project.
- Bus ridership is down significantly since COVID.

Walton Farms Elementary

- North Penn owns lot south of the school property that has a connection to Heebner Way.

Nash Elementary

- Field along Bustard Road has been discussed as a new sports/play field location.
 - Talked about 2 months ago with Joe and Township Engineer.
 - Planning on providing a draft agreement for shared use (between the school district and township).
- School code allows 1.5-mile walking for elementary students and 2 miles for upper classmen.

Inglewood Elementary

- People use the neighboring sidewalks in the area, North and East of the school.
- Look at intersections of;
 - Weikel and Allen
 - Woodlawn and Allen

Next Steps

- Acquire traffic study draft from Thomas
- Talk to Chad Dixon about PennDOT information

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Sincerely,



Bryce Brucker
SIMONE COLLINS, INC.
LANDSCAPE ARCHITECTURE

KPI MEETING NOTES

Project:	Towamencin Connectivity Study	Project No.:	22041.10
Location:	Online	Meeting Date/Time:	2.7.2023 1:00 PM – 1:30 PM
Re:	Evansburg State Park KPI	Issue Date:	2.7.2023

ATTENDANCE:

Evansburg State Park – Bethany Hare (BH)

Simone Collins – Peter Simone (PS), Emma Haley (EH), Geoff Creary (GC)

DELIVERABLES:

- Send Draft plan and MontCo Trail Network to Bethany Hare

GENERAL NOTES:

Presentation:

Simone Collins gave a brief overview of the improvements proposed around Keibler Meadows Park and on Kerr Road that connects to Fischer's Park. Then also talked about potentially making Keibler Meadows Park a potential trail head for accessing Evansburg State Park.

- BH asked where the path would go after it travels down Kerr to Hedrick and stops at Forty Foot.
 - PS noted that we would hope to connect it to any existing or proposed trails the park has in that location.
- PS asked if there are any existing master plans of the park.
 - BH said there is always a 'plan' for the park; however they do not consider it a master plan. The park resource/planning department review the plan every 3-4 years and evaluate what the park needs.
- BH is open to discussing more about new trails in the park. She explain the trails would have to go through an R-3 Resource review to make sure critical resources are protected.
 - Pete said he was familiar with the process.
- BH explained that Evansburg State Park is currently working with Worcester Township on Green Lane Road to develop more trails there; however, the township has been the

one to spear head the addition of trails and came up with all the money/funding and team to support the project.

- BH added that PennDot is planning to replace the bridge going over W. Skippack Pike with in the park. They are working with them to get a possible multiuse trail alongside the bridge.
- GC asked if there were any remaining residents on the Park property?
 - BH said there is one left within the Towamencin Township area, and they are currently on a lease with the Park.
- BH asked when this plan would be implemented?
 - PS mentioned that it could take years for this to come to fruition.

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Sincerely,

A handwritten signature in black ink that reads "E. Haley". The signature is written in a cursive, flowing style.

Emma Haley
SIMONE COLLINS, INC.
LANDSCAPE ARCHITECTURE



MEETING NOTES

Project:	Towamencin Connectivity Study	Project No.:	22041.10
Location:	Towamencin Township Office Building 1090 Troxel Rd Lansdale, PA 19446	Meeting Date/Time:	3.6.2023 8:30 – 9:00 pm
Re:	Committee Meeting #3	Issue Date:	3.10.2022

ATTENDENCE:

Committee Members: Brett Mackay, Douglas Leach, Joseph Vavra, Matt Chartrand, Dr. Edward Buonocore, Nancy Becker, Dennis McGeehan, Michael Main, Richard Marino, Mary Stover

Simone Collins: Peter Simone, Geoff Creary, Emma Haley

DELIVERABLES:

- Committee Meeting #3 Presentation
- Committee Meeting #3 Notes
- Updated Draft Plan

GENERAL NOTES:

Presentation:

Peter Simone provided an update of the public input which included information on the survey results, Wikimap results, interviews, and comments on the Draft Plan. Geoff Creary went on to explain how the ‘Toolbox’ of Improvements works and how it has been applied to the Draft Plan. Geoff presented the first draft route concept – the Township Collector Route – and showed how the route can connect most, if not all, the neighborhoods within the Township together. Emma Haley (EH) continued to present the remaining two route connects – the School Connection Route and the Park Connection Route. She also presented the layout of the cost estimate and draft priorities for the Plan.

Discussion:

- Brett M., Nancy B., and Matt C. commended SC for their great work on the Connectivity Study so far.

- Matt C. would like the ‘School Route’ concept to be prioritized higher on the list so that residents can access schools safely.
- Nancy B. agrees with the crosswalk being proposed at Bridle Path Drive and Sumneytown Pike. She explained that the improvement is much needed for those residents to cross the road safely.
- Brett M. said he would like to prioritize finding partners that will assist the Township in funding and pursuing the school connectivity improvements.
- Dennis M. asked what improvement the Township could expect to see implemented first.
 - Pete explained how implementation could work. Sidewalk improvements would include crosswalks and perhaps rapid flashing beacons. However, depending on the funding available at the time, the improvements and priorities at particular locations could shift in timing.
- Nancy B. mentioned that the Fire Company is concerned about closing Kriebel Road to vehicular access.
 - Pete explained that emergency access always considered in any designed trail, and the closure would not prevent them from reaching the one residence located on the west end of the street.
- Edward B asked if there has ever been a cross walk that you installed that was unsafe?
 - Geoff said no and explained that we work with engineers to make sure they are designed safely.
- Pete added during the conversation that no acquisition costs for ROW will be included in the cost estimate.
- Michael M. asked about how the rapid flashing beacon would fit in these residential areas, and if they would become a nuisance?
 - Pete explained that the rapid flashing beacon has evolved from constantly flashing lights to a user actuated system that only flashes when a button is pressed, or a sensor is activated. Then, it will only flash for the amount of time it typically takes a person to cross the street.

Next Steps:

- Refine the Plan
- Complete a draft cost estimate
- Revise Priorities List
- Updated Draft Plan will be posted on the Township’s website on April 13th for a 45-day Draft Plan Public Review

Public meeting #3 will be held on 04.13.2023.

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Sincerely,



Emma Haley
SIMONE COLLINS, INC.
LANDSCAPE ARCHITECTURE

Towamencin Connectivity Study - Costs and Priorities

Improvement Map A								
Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Sidewalk (5' Wide)	A: S		(Pg XXX)	42365	LF		\$ 67.50	\$ 2,859,637.50
	A: S1.1 - S1.2	Welsh Road	South Side of Welsh Road from Grist Mill Drive to Forty Foot Road	900	LF			\$ 60,750.00
	A: S1.2 - S1.3	Forty Foot Road	East side of Forty Foot Road Between Welsh Road and Allentown Road	1900	LF			\$ 128,250.00
	A: S1.3 - S1.4	Allentown Road	North Side of Allentown Road Between Forty Foot Road and Walton Farm Elementary School	750	LF			\$ 50,625.00
	A: S1.4 - S1.5	Allentown Road	From Walton Farm Elementary School to End of sidewalk gap	600	LF			\$ 40,500.00
	A: S2.1 - S2.2	Grist Mill Drive	South side of road from Jacobs Hall Lane to proposed Grist Mill Park Trail	950	LF			\$ 64,125.00
	A: S3.1 - S3.2	Allentown Road	South side of Allentown Road from sidewalk gap to Keeler Road	1100	LF			\$ 74,250.00
	A: S3.2 - S3.3	Allentown Road	South side of Allentown Road from Keeler Road to Troxel Road	1700	LF			\$ 114,750.00
	A: S4.1 - S4.2	Allentown Road	North side of Allentown Road from sidewalk gap to Orvilla Road	1350	LF			\$ 91,125.00
	A: S4.2 - S4.3	Orvilla Road	West side of road from Allentown Road to Township Boundary on Welsh Road	2100	LF			\$ 141,750.00
	A: S4.3 - S4.4	Welsh Road	South side of road from Orvilla Road to Grist Mill Drive	660	LF			\$ 44,550.00
	A: S5.1 - S5.2	Orvilla Road	East side of road from Allentown Road to township boundary on Welsh Road	2100	LF			\$ 141,750.00
	A: S6.1 - S6.2	Woodlawn Drive	East side of road from Allentown Road to Boyd Avenue	2150	LF			\$ 145,125.00
	A: S6.2 - S6.3	Boyd Avenue	South Side of Road from Woodlawn Drive to Township Boundary on South Valley Forge Road	2100	LF			\$ 141,750.00
	A: S7.1 - S7.2	Weikel Road	West side of road in front of Morgan Log House	430	LF			\$ 29,025.00
	A: S8.1 - S8.2	Troxel Road	East side of road from West Hampton Way to Sidewalk Gap	430	LF			\$ 29,025.00
	A: S9.1 - S9.2	Troxel Road	East Side of road from sidewalk gap to Carriage Way	300	LF			\$ 20,250.00
	A: S10.1 - S10.2	Troxel Road	West side of road sidewalk gap	300	LF			\$ 20,250.00
	A: S11.1 - S11.2	Troxel Road	East side of road from Keeler Road to Snyder Road	250	LF			\$ 16,875.00
	A: S11.2 - S11.3	Snyder Road	North Side of road from Troxel Road to sidewalk gap	1840	LF			\$ 124,200.00
	A: S12.1 - S12.2	Snyder Road	South side of road sidewalk gap	100	LF			\$ 6,750.00

Towamencin Connectivity Study - Costs and Priorities

	A: S13.1 - S13.2	Snyder Road	South side of road from sidewalk gap to Township Boundary on Valley Forge Road	450	LF			\$ 30,375.00
	A: S13.2 - S13.3	South Valley Forge Road	West side of road from Snyder Road to Sidewalk Gap	2300	LF			\$ 155,250.00
	A: S14.1 - S14.2	Keeler Road	East side of road Sidewalk Gap near Drinnon Way Park	550	LF			\$ 37,125.00
	A: S15.1 - S15.2	Keeler Road	West side of road sidewalk gap to existing trail	680	LF			\$ 45,900.00
	A: S15.2 - S15.3	Keeler Road	use existing trail	650	LF		N/A	N/A
	A: S15.3 - S15.4	Keeler Road	West side of road from Existing Trail to Intersection of Quarry Road and keeler Road	185	LF			\$ 12,487.50
	A: S15.4 - S15.5	Keeler Road	West side of road from Quarry Road to sidewalk gap	1000	LF			\$ 67,500.00
	A: S16.1 - S16.2	Tomlinson	South side of road from Forty Foot Road to Fretz Road	5000	LF			\$ 337,500.00
	A: S16.2 - S16.3	Fretz Road	South side of road from Tomlinson Road to Wambold Road	1440	LF			\$ 97,200.00
	A: S16.3 - S16.4	Wambold Road	West side of road from Fretz Road to Detwiler Road	2700	LF			\$ 182,250.00
	A: S16.4 - S16.5	Detwiler Road	South Side of Road from Wambold Road to Gehman Road	2200	LF			\$ 148,500.00
	A: S17.1 - S17.2	Detwiler Road	North side of road from Gehman Road to Woods Drive	1350	LF			\$ 91,125.00
	A: S18.1 - S18.2	Detwiler Road	South side of road from sidewalk gap to Forty Foot Road	2500	LF			\$ 168,750.00

Improvement Type	Segment Label	Intersection	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Crosswalk (Note: crosswalk costs will vary based on number of ADA curb ramps needed)	A: CW		(Pg XXX)	18	EA		\$ 1,125.00	\$ 241,875.00
	A: CW 1	Grist Mill Drive and Millers Way	South/West side of Grist Mill Drive	1	EA			\$ 1,125.00
	A: CW 2	Allentown Road and Private Drive at Presentation of Our Lord Ukrainian Catholic Church	South side of Allentown Road *Requires (2) curb ramps	1	EA			\$ 19,125.00
	A: CW 3	Allentown Road and Keeler Road	South side of Allentown road *Requires (1) curb ramps	1	EA			\$ 10,125.00
	A: CW 4	Keeler Road and Tennis Circle	West side of Keeler Road	1	EA			\$ 1,125.00
	A: CW 5	Weikel Road and Stonybrook Lane	West side of Weikel road, *requires (2) curb ramps	1	EA			\$ 19,125.00
	A: CW 6	Woodlawn Drive Crossing	West side of Woodlawn Drive, *requires (1) curb ramp	1	EA			\$ 10,125.00
	A: CW 7	Woodlawn Drive and Boyd Avenue	East side of Woodlawn Drive *Requires (2) curb	1	EA			\$ 19,125.00

Towamencin Connectivity Study - Costs and Priorities

	A: CW 8	Boyd Avenue and Sunnylea Road	South side of Boyd Avenue *Requires (2) curb ramps	1	EA			\$ 19,125.00
	A: CW 9	Troxel Road and Carriage Way	crossing Troxel, north side of Carriage Way	1	EA			\$ 1,125.00
	A: CW 10	Keeler Road and Quarry Road	West side of Keeler Road *Requires (2) curb	1	EA			\$ 19,125.00
	A: CW 11	Keeler Road	Crosses Keeler Road with flashing beacon	1	EA			\$ 19,125.00
	A: CW 12	Keeler Road	Crossing Keeler Road with Flashing Beacon *Requires (1) curb ramp	1	EA			\$ 10,125.00
	A: CW 13	Keeler Road and Michael Way	South side of Keeler Road *Requires (2) updated curb ramps	1	EA			\$ 19,125.00
	A: CW 14	Keeler Road and Madison Way	South side of Keeler Road	1	EA			\$ 1,125.00
	A: CW 15	Troxel Road and Keeler Way	East Side of Street *Requires (2) curb	1	EA			\$ 19,125.00
	A: CW 16	Troxel Road	Crossing Troxel from entrance of Township Building *Requires (1) curb ramp	1	EA			\$ 10,125.00
	A: CW 17	Snyder Road	South side of road * Curb ramps May require updates to meet code	1	EA			\$ 1,125.00
	A: CW 18	Tomlinson Road and Gehman Road	South side of road *Requires (2) curb	1	EA			\$ 19,125.00
	A: CW 19	Detwiler Road and Gehman Road	South side of road *Requires (2) curb	1	EA			\$ 19,125.00
	A: CW 20	Forty Foot Road and Allentown Road	West Side of Forty Foot Road	1	EA			\$ 1,125.00
	A: CW 21	Forty Foot Road and Allentown Road	East Side of Forty Foot Road	1	EA			\$ 1,125.00
	A: CW 22	Forty Foot Road and Allentown Road	North side of Allentown Road	1	EA			\$ 1,125.00
	A: CW 23	Forty Foot Road and Allentown Road	South side of Allentown Road	1	EA			\$ 1,125.00
Improvement Type	Segment Label	Intersection Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Intersection Improvements	N/A			1	EA		\$ 50,000.00	\$ 50,000.00
	A: CW 20 - A: CW 23	Forty Foot Road and Allentown Road	All corners of intersection - Lighting, signage, lead pedestrian interval to crosswalk signal.	1	EA			\$ 50,000.00

Improvement Type	Segment Label	Intersection Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Decorative Crosswalk	A: DEC		(Pg XXX)	1	EA		\$ 2,250.00	\$ 20,250.00
	A: DEC 1	Allentown Road and Entrance of Grist Mill Park	North Side of Allentown at Entrance of Grist Mill Park	1	EA			\$ 20,250.00

Improvement Type	Segment Label	Location/Adjacent Street	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Multi-Use Trail (10' Wide)	A: MUT		(Pg XXX)	3550	LF		\$ 70.00	\$ 248,500.00
	A: MUT 1.1 - 1.2	N/A	Through Grist Mill Park to Grist Mill Drive	1800	LF			\$ 126,000.00

Towamencin Connectivity Study - Costs and Priorities

	A: MUT 2.1 - 2.2	N/A	From existing trail in residential development through Butch Clemens Park	1300	LF			\$ 91,000.00
	A: MUT 3.1 -3.2	N/A	From Walton Farm Elementary to Heebner Way	450	LF			\$ 31,500.00

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Roundabout	A: R		(Pg XXX)	1	EA		\$ 750,000.00	\$ 750,000.00
	A: R 1	South Valley Forge Road	Intersection of Allentown Road and South Valley Forge Road	1	EA			\$ 750,000.00

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Rapid Flashing Beacon	A: RFB		(Pg XXX)	7	EA		\$ 30,000.00	\$ 210,000.00
	A: RFB 1	Allentown Road	Near entrance to Grist Mill Park	1	EA			\$ 30,000.00
	A: RFB 2	Woodlawn Road	Near Township Pool	1	EA			\$ 30,000.00
	A: RFB 3	Troxel Road	North of Family Worship Center	1	EA			\$ 30,000.00
	A: RFB 4	Snyder Road	North of North Penn High School	1	EA			\$ 30,000.00
	A: RFB 5	Troxel Road	Eastern Entrance to Township Municipal Complex	1	EA			\$ 30,000.00
	A: RFB 6	Keeler Road	Southern Entrance to Township Municipal Complex	1	EA			\$ 30,000.00
	A: RFB 7	Keeler Road	Crossing Keeler Road from Quarry Road	1	EA			\$ 30,000.00

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Pedestrian Refuge Island	A: PRI		(Pg XXX)		EA		\$ 20,000.00	\$ 20,000.00
	A: PRI 1	Allentown Road	Near Entrance to Inglewood Elementary	1	EA			\$ 20,000.00

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Speed Cushion	A: SC		(Pg XXX)	3	EA		\$ 4,000.00	\$ 12,000.00
	A: SC1	Woodlawn Road	North of Township Pool	1				\$ 4,000.00
	A: SC2	Woodlawn Road	South of Township Pool	1				\$ 4,000.00
	A: SC3	Boyd Avenue	Between Woodlawn Road and Sunnylea Road	1				\$ 4,000.00

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Pocket Park	A: P		(Pg XXX)	1	EA		\$ 26,000.00	\$ 26,000.00
	A: P 1	Keeler Road	Between Quarry Road and Michael Way	1	EA			\$ 26,000.00

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Side Path (10' Wide)	A: SP		(Pg XXX)	1100	LF		\$ 70.00	\$ 77,000.00
	A: SP 1.1 - SP 1.2	Wambold Road	East Side of road from Schoolhouse Road to Fretz Road.	1100				\$ 77,000.00

SubTotal: \$ 4,515,262.50

Towamencin Connectivity Study - Costs and Priorities

Improvement Map B								
Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Sidewalk (5' Wide)	B: S			23965	LF		\$ 67.50	\$ 1,641,262.50
	B: S1.1 - S1.2	Sumenytown Pike	North side of road from sidewalk gap near Forty Foot Road to sidewalk gap	1,140	LF			\$ 76,950.00
	B: S2.1 - S2.2	Sumenytown Pike	South side of road, sidewalk gap east of Green Lane Road	150	LF			\$ 10,125.00
	B: S3.1 - S3.2	Sumenytown Pike	North side of road , idewalk Gap between Green Lane Road and Troxel Road	100	LF			\$ 6,750.00
	B: S4.1 - S4.2	Sumenytown Pike	North side of road from sidewalk gap to Troxel Road	1700	LF			\$ 114,750.00
	B: S4.2 - S4.3	Sumenytown Pike	North side of Road from Troxel Road to Township Boundary on South Valley Forge	4100	LF			\$ 276,750.00
	B: S5.1 - S5.2	Sumenytown Pike	South side of road from Troxel Road to Freddy Hill Farms property Boundary	1100	LF			\$ 74,250.00
	B: S6.1 - S6.2	Troxel Road	West side of road, sidewalk gap	475	LF			\$ 32,062.50
	B: S7.1 - S7.2	Meadow Glen Drive	East side of road sidewalk gap	700	LF			\$ 47,250.00
	B: S8.1 - S8.2	Anders Road	North side of road from sidewalk gap † intersection with Kriebel Road	1200	LF			\$ 81,000.00
	B: S8.2 - S8.3	Kriebel Road	East side of road from Anders Road to entrance of Towamencin Tree farm	1100	LF			\$ 74,250.00
	B: S9.1 - S9.2	Green Lane Road	West side of road from Firehouse Park extension to Liberty Bell Drive	500	LF			\$ 33,750.00

Towamencin Connectivity Study - Costs and Priorities

	B: S10.1 - S10.2	Bustard Road	West side of road from Rittenhouse Road to sidewalk gap (reaches to EX sidewalk)	500	LF			\$ 33,750.00
	B: S11.1 - S11.2	Bustard Road	East side of road from Rittenhouse Road to Liberty Bell Drive	2300	LF			\$ 155,250.00
	B: S12.1 - S12.2	Bustard Road	West side of road from Adams Road to Liberty Bell Drive	1400	LF			\$ 94,500.00
	B: S12.2 - S12.3	Bustard Road	West side of road from Liberty Bell Drive to Old Morris Road	900	LF			\$ 60,750.00
	B: S12.3 - S12.4	Bustard Road	West side of road from Old Morris Road to Kriebel Road	1700	LF			\$ 114,750.00
	B: S13.1 - S13.2	Old Morris Road	North Side of road from Old Forty Foot Road to Bustard Road	4600	LF			\$ 310,500.00
	B: S14.1 - S14.2	Old Forty Foot Road	Sidewalk gap North of Rittenhouse Road	300	LF			\$ 20,250.00
	B: S15.1 - S15.2	N/A	North Penn VoTech School	350	LF			\$ 23,625.00
	B: S16.1 - S16.2	N/A	Between Spring Valley Road and New Kriebel Road Trail	400	LF			\$ 27,000.00
	B: S17.1 - S17.2	N/A	East side of Green Lane Road under Turnpike underpass	400	LF			\$ 27,000.00
	B: S18.1 - S18.2	N/A	East side of Troxel Road sidewalk gap. *Requires Retaining wall section	150	LF			\$ 73,425.00
	B: S19.1 - S19.2	N/A	North Side of Rittenhouse Road sidewalk gap	50	LF			\$ 3,375.00
	B: S19.1 - S19.2	N/A	East side of Kriebel Road from sidewalk gap to Kriebel Road Trail	750	LF			\$ 50,625.00

Improvement Type	Segment Label	Intersection	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Crosswalk	B: CW			18	EA		\$ 1,125.00	\$ 174,375.00

Towamencin Connectivity Study - Costs and Priorities

	B: CW 1	Forty Food Road and Sumneytown Pike	All intersections (Currently have lines, need	4	EA			\$	4,500.00
	B: CW 2	Sumneytown Pike and Reiff Road	North Side of Sumneytown Pike corssing Reiff Road	1	EA			\$	1,125.00
	B: CW 3	Sumneytown Pike and Green Lane Road	South side of Sumneytown Pike crossing Green Lane Road	1	EA			\$	1,125.00
	B: CW 4	Sumneytown Pike and Troxel Road	Crossing Sumneytown Pike (North to South) *requires (2) new Curb Ramps	1	EA			\$	19,125.00
	B: CW 5	Sumneytown Pike and Trail crossing to North Penn	Crossing Sumneytown Pike (North to South) *requires (1) new Curb Ramp on School Side	1	EA			\$	10,125.00
	B: CW 6	South Valley Forge Road and Sumneytown Pike	East side of South Valley Forge, crossing Sumneytown Pike Currently has lines, add stripes	1	EA			\$	1,125.00
	B: CW 7	Anders Road and Flintlock Circle	South side of Anders Road crossing Flinlock Circle	1	EA			\$	1,125.00
	B: CW 8	Anders Road and Flintlock Circle	South side of Anders Road crossing Flinlock Circle	1	EA			\$	1,125.00
	B: CW 9	Kriebel Road and Pheasant Hill	East side of Kriebel Road, crossing Pheasant Hill Road	1	EA			\$	19,125.00
	B: CW 10	Kriebel Road Midblock Crossing	Crosses Kriebel to trail with flashing beacon *Requies (2) curb ramps	1	EA			\$	19,125.00
	B: CW 11	Bustard Road and Adams Road	West side of Bustard Road crossing Adams Road *Requires (2) curb ramps	1	EA			\$	19,125.00
	B: CW 12	Old Morris Road and Bustard Road	West side of Bustard Road crossing Old Morris Road	1	EA			\$	19,125.00

Towamencin Connectivity Study - Costs and Priorities

	B: CW 13	Old Morris Road and Spring Mill Way	North Side of Old Morris Road crossing Spring Mill Way	1	EA			\$ 19,125.00
	B: CW 14	Old Morris Road and Kareve Drive	North Side of Old Morris Road crossing Kareve Drive	1	EA			\$ 1,125.00
	B: CW 15	Green Lane Road and Hedgerow Way	West side of Green Lane Road crossing Hedgerow Way *Requires (2) curb ramps	1	EA			\$ 19,125.00
	B: CW 16	Crossing Green Lane Road from Firehouse Park	West side of Green Lane Road crossing Hedgerow Way *Requires (2) curb ramps	1	EA			\$ 19,125.00

Improvement Type	Segment Label	Location/Adjacent Street	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Multi-Use Trail (10' Wide)	B: MUT		(Pg XXX)	6800			\$ 70.00	\$ 476,000.00
	B:MUT 1.1 - B: MUT 1.2	Sumneytown Pike	North Penn High School Trail	1000	LF			\$ 70,000.00
	B:MUT 2.1 - B: MUT 2.2	Sumneytown Pike	North Penn High School Trail	800	LF			\$ 56,000.00
	B:MUT 3.1 - B: MUT 3.2	Green Lane Road	From Liberty Bell Drive to Pheasant Hill through Right Of Way easement	500	LF			\$ 35,000.00
	B: MUT 4.1 - B: MUT 4.2	Near Bustard Road	From Residential to Bustard Road	700	LF			\$ 49,000.00
	B: MUT 4.2 - B: MUT 4.3	Near Bustard Road	From Bustard Road through Nash Elementary into Bustard Park	800	LF			\$ 56,000.00
	B: MUT 5.1 - B: MUT 5.2	Near Bustard Road	Through Bustard Park and Green Lane Park	3000	LF			\$ 210,000.00

Improvement Type	Segment Label	Location/Adjacent Street	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Side Path (10' Wide)	B: SP		(Pg XXX)	1100	LF		\$ 70.00	\$ 77,000.00
	B: SP 1.1 - SP 1.2	Bustard Road		700	LF			\$ 49,000.00
	B: SP 2.1 - SP 2.2	Bustard Road		400	LF			\$ 28,000.00
	B: SP 3.1 - SP 3.2	Green Lane Road		1100	LF			\$ 77,000.00

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Sharrows	B: SR		(Pg XXX)	21	EA		\$ 275.00	\$ 5,775.00
	B: SR 1.1 - 1.2	Liberty Bell Drive	Between Green Lane Road and Bustard Road	10	EA			\$ 2,750.00
	B: SR 1.2 - 1.3	Bustard Road	Between Liberty Bell Drive and Kriebel Road	11	EA			\$ 3,025.00

Towamencin Connectivity Study - Costs and Priorities

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Bike Lanes	B: BL		(Pg XXX)	5000	LF		\$ 1.50	\$ 7,500.00
	B: BL 1.1 - BL 1.2	Forty Foot Road	West Side of Road	2500	LF			\$ 3,750.00
	B: BL 1.1 - BL 1.2	Forty Foot Road	East Side of road	2500	LF			\$ 3,750.00
	B: BL 2.1 - BL2.2	Rittenhouse Road	Across bridge					

Improvement Type	Segment Label	Area/Connecting Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Pedestrian Trail Bridge	B: TB		(Pg XXX)		EA		#####	\$ 650,000.00
	B: TB 1	Green Lane Rd.	Crosses creek north of Green Lane Park in Right of Way easement	1	EA			\$ 400,000.00
	B: TB 2	Green Lane Park	Crosses Creek within Green Lane Park	1	EA			\$ 250,000.00

Improvement Type	Segment Label	Intersection	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Decorative Crosswalk	B: DEC		(Pg XXX)	1	EA		\$ 2,250.00	\$ 11,250.00
		Bustard Road and Liberty Bell Drive	Crosses Bustard Road - Entrance to Nash Elementary	1	EA			\$ 11,250.00

Improvement Type	Segment Label	Intersection Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Hand Man	B: HM		(Pg XXX)	1	EA		\$ 3,500.00	\$ 3,500.00
	B: HM1	Sumneytown Pike and Troxel Road	South side of Sumneytown Pike at proposed sidewalk location	1	EA			\$ 3,500.00

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Rapid Flashing Beacon	B: RFB		(Pg XXX)	7	EA		\$ 30,000.00	\$ 90,000.00
	B: RFB 1			1	EA			\$ 30,000.00
	B: RFB 2			1	EA			\$ 30,000.00
	B: RFB 3			1	EA			\$ 30,000.00
	B: RFB 4			1	EA			\$ 30,000.00

SubTotal: \$ 3,136,662.50

Towamencin Connectivity Study - Costs and Priorities

Improvement Map C								
Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Sidewalk (5' Wide)	C: S		(Pg XXX)	1,550	LF		\$67.50	\$ 104,625.00
	C: S1.1 - S1.2	Kriebel Rd.	North side of road from Green Lane Road to sidewalk gap	270	LF			\$ 18,225.00
	C: S2.1 - S2.2	Kriebel Rd.	North side of road sidewalk gap	430	LF			\$ 29,025.00
	C: S3.1 - S3.2	Morris Rd.	from Valley View Way to South Valley Forge Road	850	LF			\$ 57,375.00

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Multi-Use Trail (10' Wide)	C: MUT		(Pg XXX)	4300	LF		\$70.00	\$301,000.00
	C:MUT1.1 - MUT 1.2	N/A	Kibler Meadows Loop	4300	LF			\$ 301,000.00

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Side Path (10' Wide)	C: SP		(Pg XXX)	3200	LF		\$ 70.00	\$ 609,000.00
	C: SP 1.1 - SP 1.2	Kriebel Road	From Bustard Road to Kriebel Road Trail	800	LF			\$ 56,000.00
	C: SP 2.1 - SP 2.2	Kriebel Road		1200	LF			\$ 84,000.00
	C: SP 2.2 - SP 2.3	Kerr Road		4750	LF			\$ 332,500.00
	C: SP 3.1 - 3.2	Old Forty Foot Road		950	LF			\$ 66,500.00
	C: SP 3.2 - 3.3	Hedrick Road		1000	LF			\$ 70,000.00

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Road Closure	C: RC		(Pg XXX)	3200	LF		N/A	\$ 6,000.00
	C: RC 1.1 - RC 1.2	Kriebel Road	Close road between Springer Road and Bustard Road. Barriers & Signage	1700	LF		3000	3000
	C: RC 2.1 - RC 2.2	Hedrick Road	Paint Trail on Hedrick Road	1500	LF		N/A	3000

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Pedestrian Trail Bridge	C: TB		(Pg XXX)	2	EA		\$ 400,000.00	\$ 800,000.00
	C: TB 1	Metz Road		1	EA			\$ 400,000.00
	C: TB 2	Hedrick Road		1	EA			\$ 400,000.00

Improvement Type	Segment Label	Intersection	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Crosswalk	C: CW		(Pg XXX)	5	EA		\$ 1,125.00	\$ 5,625.00
	C: CW 1			1	EA			\$ 1,125.00
	C: CW 2			1	EA			\$ 1,125.00
	C: CW 3			1	EA			\$ 1,125.00
	C: CW 4			1	EA			\$ 1,125.00
	C: CW 5			1	EA			\$ 1,125.00

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Rapid Flashing Beacon	C: RFB		(Pg XXX)	7	EA		\$ 30,000.00	\$ 120,000.00
	C: RFB 1			1	EA			\$ 30,000.00
	C: RFB 2			1	EA			\$ 30,000.00
	C: RFB 3			1	EA			\$ 30,000.00
	C: RFB 4			1	EA			\$ 30,000.00

Towamencin Connectivity Study - Costs and Priorities

Improvement Type	Segment Label	Street Name	Description	Estimated Quantity	Unit	Priority	Unit Cost	Total Cost
Sharrows	C: SR		(Pg XXX)		EA		\$ 275.00	\$ 1,650.00
	C: SR 1.1 - 1.2	Valley View Drive		6	EA			\$ 1,650.00

Sub Total: \$ 1,947,900.00

Towamencin Connectivity Study Cost Summary		
Cost Improvement Map - A		
Total Proposed Site Improvements	\$	4,515,263
Mobilization, E&S, Stormwater Allowances	\$	316,300
Construction Contingency (10%)	\$	451,600
Design & Engineering (15%)	\$	677,300
Estimated Costs	\$	5,960,500
Cost Improvement Map - B		
Total Proposed Site Improvements	\$	3,136,663
Mobilization, E&S, Stormwater Allowances	\$	219,700
Construction Contingency (10%)	\$	313,700
Design & Engineering (15%)	\$	470,500
Estimated Costs	\$	4,140,600
Cost Improvement Map - C		
Total Proposed Site Improvements	\$	1,947,900
Mobilization, E&S, Stormwater Allowances	\$	136,500
Construction Contingency (10%)	\$	194,800
Design & Engineering (15%)	\$	292,200
Estimated Costs	\$	2,571,400
Total Project Cost	\$	12,672,500

Unit Cost Breakdown

Demolition and Site Preparation		Qty	Unit	Unit Cost	Sub Total
Demolition					
1	Tree Removal	1.00	EA	\$ 2,000.00	\$ 2,000.00
2	Clear/ Grub/Brush Removal	1.00	SY	\$ 2.50	\$ 2.50
2	Concrete Sidewalk/ Curb Removal	1.00	SY	\$ 10.00	\$ 10.00
3	Asphalt Pavement Removal	1.000	SY	\$ 7.00	\$ 7.00
4	Concrete Wall Removal (up to 6'H)	1.000	LF	\$ 20.00	\$ 20.00

Excav		LF			
1	Gross Trail/Linear Park Excavation-Grading - 0'-3' (Class 1)	1.40	CY	\$ 12.00	\$ 16.80
2	Gross Trail/ Linear Park Excavation-Grading - 3'-6' (Class 1)	3.00	CY	\$ 18.00	\$ 54.00

Utility Relocation					
1	Electric Utility Pole	1.00	EA	\$ 15,000.00	\$ 15,000.00
2	Catch Basin Relocation	1.00	EA	\$ 2,500.00	\$ 2,500.00
3	Storm Pipe Relocation	1.00	LF	\$ 150.00	\$ 150.00

Existing Wall Relocation		1 EA			
1	Concrete Wall		EA		\$ -
2	Stone Wall		EA		\$ -

Roundabout		1 EA			
1		1.00	SF		\$ -
2		1.00	LF		\$ -
				Total	\$ 750,000.00
				Cost / SF	\$ 750,000.00
				Cost / EA	\$ 750,000.00

Crosswalk		1 EA			
1	Continental Striping Paint Markings	25	LF (AVG)	\$ 45.00	\$ 1,125.00
2					

Cost / EA	\$ 1,125.00
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Decorative Crosswalk		1 EA		
1	Paint Markings	25 LF (AVG)	\$ 45.00	\$ 1,125.00
2	Stamped Concrete	25.00 LF (AVG)	\$ 45.00	\$ 1,125.00
			Cost / EA	\$ 2,250.00

Rapid Flashing Beacon		1 EA		
			total	\$ 30,000.00
			Cost / EA	\$ 30,000.00

Hand Man		1 EA		
			Total	\$ 3,500.00
			Cost / EA	\$ 3,500.00
			total	\$ 3,500.00

Pedestrian Refuge Island		1 EA		
			Total	\$ 20,000.00

Speed Cushion		1 EA		
			Total	\$ 4,000.00

Trail Pavements and Walls		Qty	Unit	Unit Cost	Sub Total
Asphalt Walkway - 10' Wide		1 SF			
1	Class 1 Excavation/ Fill	0.03	CY	\$ 20.00	\$ 0.62
2	Subbase 6"Depth (No. 2a)	0.11	SY	\$ 24.00	\$ 2.67
3	Superpave Asphalt Mixture Design, Base Course 2"	0.11	SY	\$ 18.50	\$ 2.06
4	Superpave Asphalt Mixture Design, Wearing Course 2"	0.11	SY	\$ 14.50	\$ 1.61
			total		\$ 6.95
			Cost / LF		\$ 70.00
			Cost / SF		\$ 7.00
			Cost / SY		\$ 63.00

Concrete Pavement Sidewalk		1 SF		
1	Excavation	0.03 CY	\$ 25.00	\$ 0.77
2	Grade Subgrade	0.11 SY	\$ 1.18	\$ 0.13
3	2A Aggregate Subbase - 6"	0.11 SY	\$ 19.31	\$ 2.15
4	Reinforced Concrete - 6"	1.00 SF	\$ 10.38	\$ 10.38
total				\$ 13.43
Cost / 1 Lf				\$ 67.50
Cost /1 SF				\$ 13.50
Cost / SY				\$ 120.85

ADA Curb Ramps		1 SF		
1	Detectable Warning Strip (DWS) 8' wide	1.00 EA	\$ 400.00	\$ 400.00
2	ADA Curb Ramp + Landing	1.00 EA	\$ 8,600.00	\$ 8,600.00
Total				\$ 9,000.00
Cost / EA				\$ 9,000.00

		Qty	Unit	Unit Cost	Sub Total
Retaining Wall 0' - 3' Height		1 LF			
1	Class 1 Excavation	0.70	CY	\$ 30.00	\$ 21.00
2	10" Wide Wall	1.00	LF	\$ 240.00	\$ 240.00
total				\$ 261.00	
Cost / LF				\$ 261.00	

Retaining Wall 3' - 6' Height		1 LF			
1	Class 1 Excavation	1.40	CY	\$ 30.00	\$ 42.00
2	1'-0" Wide Wall	1.00	LF	\$ 300.00	\$ 300.00
3	42" Galvanized Steel Hand Rail (posts 5' off center)	1.00	LF	\$ 80.00	\$ 80.00
total				\$ 422.00	
Cost / LF				\$ 422.00	
Cost / SY				\$ 3,798.00	

> 6' Height		1 LF			
1	Class 1 Excavation	2.50	CY	\$ 45.00	\$ 112.50
2	1'-6" Wide Wall	1.00	LF	\$ 425.00	\$ 425.00
3	42" Galvanized Steel Hand Rail (posts 5' off center)	1.00	LF	\$ 80.00	\$ 80.00
total				\$ 617.50	
Cost / LF				\$ 617.50	
Cost / SY				\$ 5,557.50	

Trail/ Linear Park Amenities		Qty	Unit	Unit Cost	Sub Total
Receptacles on 4" Concrete Pavement					
1	Excavation	0.25	CY	\$ 20.00	\$ 5.00
2	Grade Subgrade	1.00	SY	\$ 12.00	\$ 12.00
3	2A Aggregate Subbase - 4"	1.00	SY	\$ 12.00	\$ 12.00
4	Reinforced Concrete	10.00	SF	\$ 67.50	\$ 675.00
5	Trach & Recycling Receptacles	2.00	EA	\$ 1,300.00	\$ 2,600.00
total				\$ 3,304.00	

Cost / LS	\$ 3,310.00
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Bench/ Trash Receptacle on 4" Concrete Pavement					
1	Excavation	3.50 CY	\$ 20.00	\$ 70.00	
2	Grade Subgrade	12.00 SY	\$ 12.00	\$ 144.00	
3	2A Aggregate Subbase - 4"	12.00 SY	\$ 12.00	\$ 144.00	
4	Reinforced Concrete	110.00 SF	\$ 67.50	\$ 7,425.00	
5	Bench - 6' length	2.00 EA	\$ 1,800.00	\$ 3,600.00	
6	Trash & Recycling Receptacle	1.00 EA	\$ 1,300.00	\$ 1,300.00	
7	Bed Plantings	100.00 SF	\$ 17.90	\$ 1,790.00	
				total	\$ 14,473.00
				Cost / EA	\$ 14,480.00

District Signage					
1	Custom Outdoor Graphic Panel	8.00 SF	\$ 450.00	\$ 3,600.00	
2	Post with Aluminum Mounting Hardware	1.00 EA	\$ 900.00	\$ 900.00	
				total	\$ 4,500.00
				Cost / EA	\$ 4,500.00

Signage					
1	Trail Signage	1.00 EA	\$ 385.00	\$ 385.00	
2	Traffic Signage	1.00 EA	\$ 385.00	\$ 385.00	
				Total	\$ 770.00
				Cost / EA	\$ 770.00

Bus Stops					
1	Bus Shelter	1.00 EA	\$ 17,300.00	\$ 17,300.00	
2	Concrete Pad	1.00 SY	\$ 25.00	\$ 25.00	
3	Electric Service / Solar Service	1.00 EA	\$ 400.00	\$ 400.00	
4	Bed Planting	50.00 SF	\$ 17.90	\$ 895.00	
				total	\$ 18,620.00
				Cost / LS	\$ 18,620.00

Trail Lighting					
1	Poles / Foundation	1.00 EA	\$ 1,000.00	\$ 1,000.00	
2	Fixtures	1.00 EA	\$ 2,000.00	\$ 2,000.00	
3	Electric Service (alternate to solar)	1.00 EA	\$ 500.00	\$ 500.00	
				total	\$ 3,500.00
				Cost / EA	\$ 3,500.00

Park-let (Typical)					
		1 EA			
1	Adirondack Chairs	6.00 EA	\$ 200.00	\$ 1,200.00	
2	Tables	4 EA	\$ 150.00	\$ 600.00	
3	Concrete Pavers	90 SY	\$ 175.00	\$ 15,750.00	
4	Tree Plantings	2 EA	\$ 430.00	\$ 860.00	
5	Bed Plantings	425 SF	\$ 17.90	\$ 7,607.50	
				total	\$ 26,017.50
				Cost /EA	\$ 26,000.00

Plantings		Qty	Unit	Unit Cost	Sub Total
Tree Plantings					
1	Tree - 2" to 2.5" Caliper (Estimate: 2 per 100 LF of Trail)	1.00	EA	\$ 300.00	\$ 300.00
2	Soil Amendments	1.00	CY	\$ 84.00	\$ 84.00
3	Mulch - 3" depth	1.00	CY	\$ 45.00	\$ 45.00
				total	\$ 429.00
				Cost / EA	\$ 430.00

Lawn Establishment		1 SF			
1	Soil Amendments - 3 Inch Depth	0.11	SY	\$ 7.00	\$ 0.77
2	Seed and Stabilize	0.005	LB	\$ 37.33	\$ 0.19
				total	\$ 0.96
				Cost / SF	\$ 1.00
				Cost / AC	\$ 43,560.00

Bed Plantings/ Rain Garden SWM		10 SF			
1	Soil Amendments	0.12	CY	\$ 84.00	\$ 10.08
2	Herbaceous Plug Planting	3	EA	\$ 4.50	\$ 13.50
3	Shurb	1.00	EA	\$ 45.00	\$ 45.00
4	Mulch - 3" depth	0.09	CY	\$ 45.00	\$ 4.05
				total	\$ 72.63
				Cost /SF	\$ 7.30

MISCELLANEOUS					
1	Storm Water Management Design Retrofit	1.00	LS	\$ 25,000.00	\$ 25,000.00
2	Relocated Piping/ Swale	1.00	LF	\$ 150.00	\$ 150.00
3					
				total	\$ 25,150.00
				Cost / EA	\$ 25,150.00

Trail Bridge General					
1	Bridge	1.00	EA	\$ 250,000.00	\$ 250,000.00
				total	\$ 250,000.00
				Cost / LS	\$ 250,000.00

Trail Bridge Green Lane					
1	Bridge	1.00	EA	\$ 400,000.00	\$ 400,000.00
				total	\$ 400,000.00
				Cost / LS	\$ 400,000.00

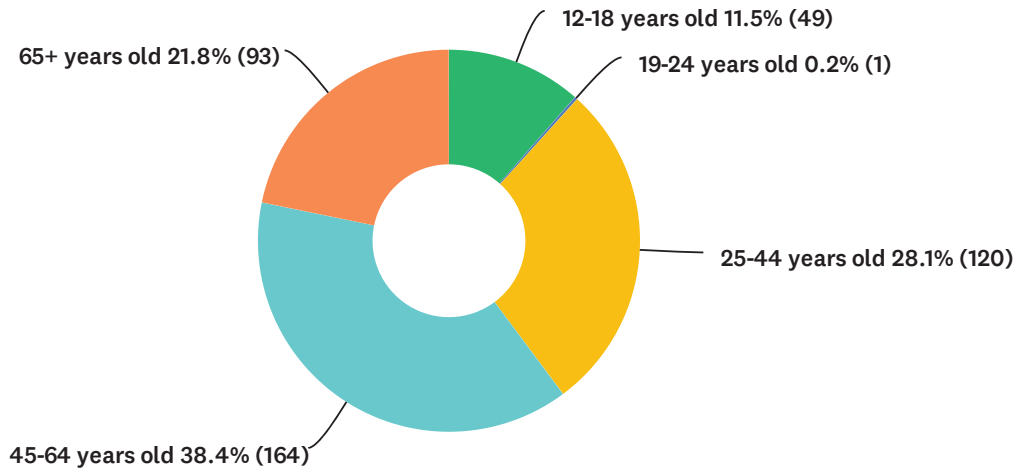
Bike Lanes					
	4" Lane Markings	1	LF	\$ 1.50	
				total	
				Cost / LS	\$ 1.50

Sharrow					
1	Sharrow Marking (Roughly 1 per 250 feet)	1	EA	\$ 275.00	
				total	
				Cost / LS	\$ 275.00

Hand Man					
1	Hand Man	1	EA		
				total	\$ 1,500.00
				Cost /EA	\$ 1,500.00

Q1 What is your age?

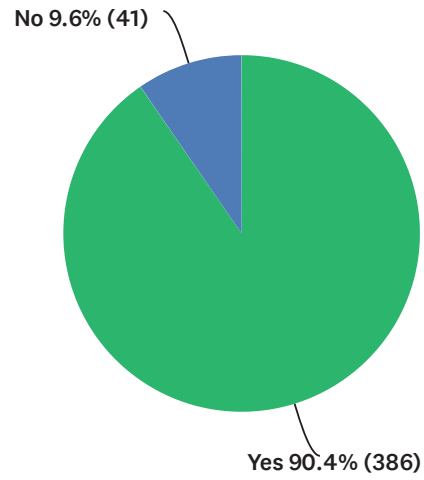
Answered: 427 Skipped: 4



ANSWER CHOICES	RESPONSES
12-18 years old	11.5% 49
19-24 years old	0.2% 1
25-44 years old	28.1% 120
45-64 years old	38.4% 164
65+ years old	21.8% 93
TOTAL	427

Q2 Are you a resident of Towamencin Township?

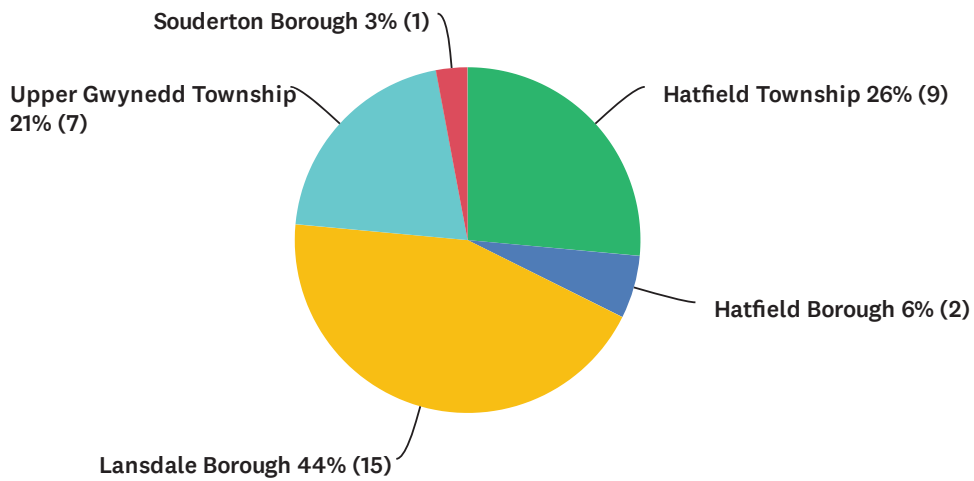
Answered: 427 Skipped: 4



ANSWER CHOICES	RESPONSES	
Yes	90.4%	386
No	9.6%	41
TOTAL		427

Q3 What municipality do you live in?

Answered: 34 Skipped: 397

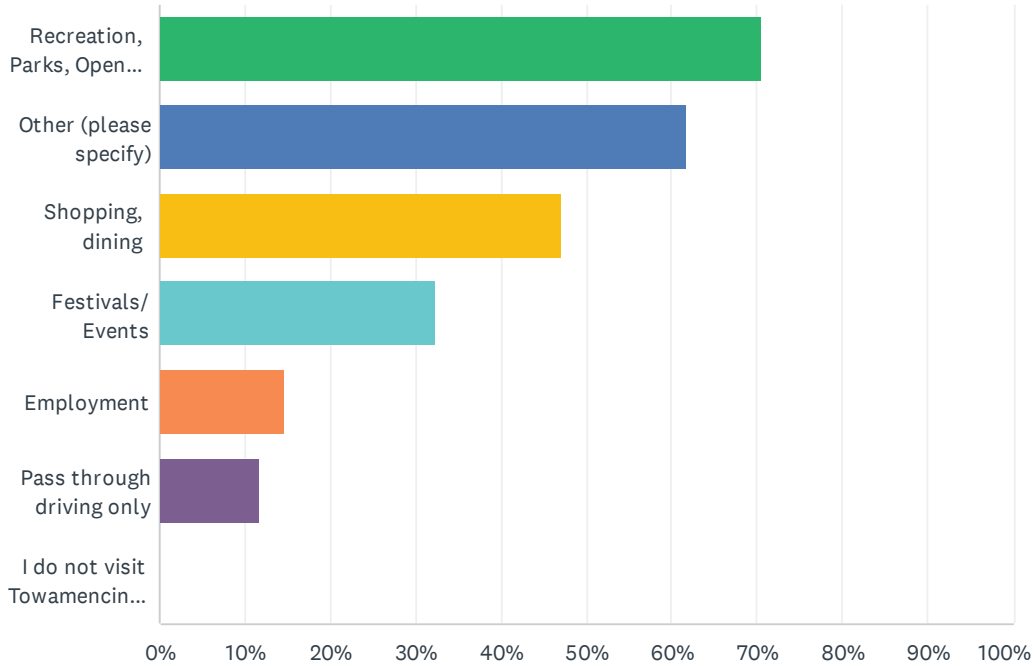


ANSWER CHOICES	RESPONSES
Hatfield Township	26% 9
Hatfield Borough	6% 2
Lansdale Borough	44% 15
Upper Gwynedd Township	21% 7
Worcester Township	0% 0
Skippack Township	0% 0
Lower Salford Township	0% 0
Franconia Township	0% 0
Souderton Borough	3% 1
TOTAL	34

#	OTHER (PLEASE SPECIFY)	DATE
1	Clarksville, TN	12/30/2022 7:46 PM
2	montgomery township	12/15/2022 1:42 PM
3	Montgomery township	12/15/2022 7:06 AM

Q4 If you are not a resident of Towamencin, what is the primary reason you visit? Please choose all that apply.

Answered: 34 Skipped: 397



ANSWER CHOICES	RESPONSES
Recreation, Parks, Open Space	70.59% 24
Other (please specify)	61.76% 21
Shopping, dining	47.06% 16
Festivals/ Events	32.35% 11
Employment	14.71% 5
Pass through driving only	11.76% 4
I do not visit Towamencin Township	0.00% 0
Total Respondents: 34	

#	OTHER (PLEASE SPECIFY)	DATE
1	former towamencin resident, visit friends	4/11/2023 8:40 PM
2	Pass through while biking	2/9/2023 8:54 PM
3	Pass through, biking and driving	2/9/2023 7:54 PM
4	Visit family friends	12/30/2022 7:46 PM
5	Visit friends who live in the township.	12/30/2022 11:22 AM
6	school nphs	12/22/2022 12:07 PM

Towamencin Township Sidewalk Connectivity Study

7	School	12/16/2022 7:40 PM
8	School	12/16/2022 7:35 AM
9	School	12/15/2022 9:41 PM
10	school	12/15/2022 3:46 PM
11	school	12/15/2022 3:12 PM
12	school	12/15/2022 1:42 PM
13	school	12/15/2022 11:54 AM
14	School	12/15/2022 10:52 AM
15	Friends	12/15/2022 8:50 AM
16	school	12/15/2022 8:26 AM
17	School	12/15/2022 8:18 AM
18	School	12/15/2022 7:21 AM
19	School	12/15/2022 7:20 AM
20	I attend North Penn High School	12/15/2022 7:06 AM
21	School	12/15/2022 7:05 AM

Q5 What street do you live on within the Township? (No address is needed.)

Answered: 365 Skipped: 66

#	RESPONSES	DATE
1	Pheasant hill road	4/13/2023 7:24 PM
2	Troxel Rd	4/13/2023 3:30 PM
3	Heebner Way	4/13/2023 2:44 PM
4	Springer Road	4/13/2023 10:02 AM
5	Saratoga Lane	4/13/2023 9:38 AM
6	Spring Valley Rd	4/13/2023 9:30 AM
7	Sumneytown Pike	4/13/2023 8:58 AM
8	Saratoga lane	4/12/2023 9:11 PM
9	Spring valley road	4/12/2023 9:03 PM
10	Liberty Bell Drive	4/12/2023 8:46 PM
11	Kriebel	4/12/2023 6:45 PM
12	Michael Way	4/12/2023 6:40 PM
13	Orchard Lane	4/12/2023 6:02 PM
14	Spring Valley Rd	4/12/2023 3:35 PM
15	Spring Valley Rd	4/12/2023 3:30 PM
16	Spring Valley Road	4/12/2023 3:27 PM
17	Derstine rd	4/12/2023 3:13 PM
18	Bremen rd	4/12/2023 2:59 PM
19	Abbey Ln	4/12/2023 2:33 PM
20	Springer Rd.	4/12/2023 2:05 PM
21	coventry way	4/12/2023 1:33 PM
22	Woodlawn Dr	4/12/2023 1:24 PM
23	Saratoga Way	4/12/2023 12:59 PM
24	Boyd Ave	4/12/2023 12:42 PM
25	Heritage Dr	4/12/2023 12:30 PM
26	Sterling Way	4/12/2023 12:09 PM
27	Stratton Drive	4/12/2023 11:53 AM
28	Rampart Ln	4/12/2023 11:47 AM
29	Sunny Ayr way	4/12/2023 9:47 AM
30	Hedrick Road	4/12/2023 9:08 AM
31	Madison Way	4/12/2023 5:17 AM

Towamencin Township Sidewalk Connectivity Study

32	Snyder Rd	4/12/2023 12:04 AM
33	Troxel Road	4/11/2023 10:24 PM
34	Saratoga way	4/11/2023 9:51 PM
35	Ardwick Ter	4/11/2023 8:08 PM
36	Knollbrook Dr	4/11/2023 7:34 PM
37	Greenwood Ct	4/11/2023 7:22 PM
38	Spring Valley Rd	4/11/2023 6:58 PM
39	Knollbrook Drive	4/11/2023 6:35 PM
40	Pheasant Hill	4/11/2023 5:51 PM
41	Kerr	4/11/2023 5:36 PM
42	Militia Dr.	4/11/2023 5:34 PM
43	2000 Kriebel Rd	4/11/2023 4:30 PM
44	Green Bank Way	4/11/2023 4:26 PM
45	Conestoga lane	4/11/2023 4:10 PM
46	Robin	4/11/2023 3:37 PM
47	Spring Valley	4/11/2023 3:33 PM
48	Spring valley rd	4/11/2023 3:17 PM
49	Printer Way	4/11/2023 3:16 PM
50	Spring Valley Road	4/11/2023 3:09 PM
51	Spring valley rd	4/11/2023 2:56 PM
52	Norwood court	4/11/2023 2:49 PM
53	Lisa Lane	4/11/2023 2:08 PM
54	Rampart Lane	4/11/2023 1:57 PM
55	Devonshire CT	4/11/2023 1:38 PM
56	Finch Run	4/11/2023 1:37 PM
57	Lisa Lane	4/11/2023 1:12 PM
58	Pleasant Valley Drive	4/11/2023 1:01 PM
59	Jefferson Ct Lansdale	4/11/2023 12:57 PM
60	Anders Rd	4/11/2023 12:55 PM
61	Old Forty Foot	4/7/2023 8:19 AM
62	Jamestown Ct	4/7/2023 5:28 AM
63	Clarella Court	4/7/2023 5:12 AM
64	Pross Road	4/6/2023 10:15 PM
65	Forty Foot Road	4/6/2023 3:56 PM
66	Hillock Court	4/6/2023 3:40 PM
67	Mark Drive	4/6/2023 12:21 PM
68	Heebner Way	4/5/2023 12:29 PM
69	Printer Way	4/5/2023 10:51 AM

Towamencin Township Sidewalk Connectivity Study

70	Churchill Ct	4/4/2023 4:58 PM
71	Saratoga way	4/4/2023 4:02 PM
72	Sherwood Way	4/4/2023 3:54 PM
73	Conestoga Lane	4/4/2023 3:18 PM
74	Ivywood Way	4/4/2023 2:48 PM
75	Pioneer Rd	4/4/2023 2:36 PM
76	Stonybrook Lane	4/4/2023 2:33 PM
77	Wagon Wheel	4/4/2023 1:41 PM
78	Fretz Rd	4/4/2023 1:30 PM
79	131 Oxford Road	4/3/2023 3:43 PM
80	Pheasant Hill Road	4/2/2023 12:34 PM
81	Henning Way	4/2/2023 8:58 AM
82	Conestoga Lane	4/1/2023 9:29 AM
83	Dutchmans circle	4/1/2023 8:09 AM
84	1798 Meadow Glen Drive	3/31/2023 9:12 PM
85	Printer Way	3/31/2023 7:39 PM
86	Dutchmans cir	3/31/2023 6:27 PM
87	Parkview dr	3/31/2023 6:23 PM
88	Erie Drive	3/31/2023 5:35 PM
89	MORRIS RD	3/31/2023 4:58 PM
90	Continental dr	3/31/2023 4:55 PM
91	Michael Way	3/31/2023 4:48 PM
92	Rampart Ln	3/31/2023 4:42 PM
93	Rampart lane	3/31/2023 4:36 PM
94	Staley circle	3/31/2023 3:26 PM
95	Mark Drive	3/27/2023 12:10 PM
96	Oxford Rd	3/27/2023 11:34 AM
97	131 Oxford Road	3/26/2023 8:00 PM
98	Fairbourne	3/26/2023 11:30 AM
99	Flintlock Circle	3/25/2023 10:19 AM
100	Dock Drive	3/24/2023 9:33 PM
101	Oxford	3/24/2023 8:00 PM
102	Morgandale Drive	3/24/2023 5:25 PM
103	Dock drive	3/24/2023 5:23 PM
104	Westhampton Way	3/24/2023 4:39 PM
105	Troxel Rd.	2/27/2023 12:02 PM
106	green lane rd	2/20/2023 8:09 PM
107	Green Lane Rd	2/20/2023 8:08 PM

Towamencin Township Sidewalk Connectivity Study

108	Village Way	2/19/2023 5:20 PM
109	Saratoga Way	2/19/2023 2:58 AM
110	Robin Drive	2/18/2023 9:03 PM
111	Kriebel	2/18/2023 8:56 AM
112	Militia	2/17/2023 8:48 PM
113	Madison Way	2/17/2023 6:15 PM
114	Ide Drive	2/17/2023 6:10 PM
115	Green Bank Way	2/17/2023 5:47 PM
116	Bremen	2/17/2023 4:27 PM
117	wambold road	2/17/2023 4:16 PM
118	Buckboard	2/17/2023 2:33 PM
119	Saw mill way	2/17/2023 2:21 PM
120	Sailmaker Way	2/16/2023 11:03 AM
121	robin drive	2/15/2023 8:00 PM
122	Tennis circle	2/13/2023 2:13 PM
123	Spring valley rd	2/11/2023 9:36 AM
124	Carriage Way	2/10/2023 3:02 PM
125	Old Forty Foot Road	2/10/2023 12:51 PM
126	Christopher Court	2/10/2023 9:49 AM
127	Old forty foot road	2/9/2023 8:44 PM
128	Springer	2/9/2023 7:23 PM
129	Rampart lane	2/9/2023 6:01 PM
130	Saratoga Lane	2/9/2023 6:00 PM
131	Staley Circle	2/9/2023 5:12 PM
132	Old Forty Foot Road	2/9/2023 5:00 PM
133	Ide dr	2/9/2023 4:20 PM
134	Weikel Road	2/9/2023 4:15 PM
135	Sunny Ayr Way	2/9/2023 6:28 AM
136	Militia Drive	2/8/2023 2:16 PM
137	Susan Drive	2/7/2023 1:08 PM
138	Pheasant hill rd	2/7/2023 8:28 AM
139	Tennis Circle	2/7/2023 7:39 AM
140	Trumbauer Road	2/7/2023 6:21 AM
141	Hickory Way	2/6/2023 11:37 PM
142	Hickory Way	2/6/2023 11:30 PM
143	Old morris rd	2/6/2023 10:17 PM
144	Frye	2/6/2023 9:48 PM
145	Rampart	2/6/2023 7:29 PM

Towamencin Township Sidewalk Connectivity Study

146	Rampart lane	2/6/2023 7:27 PM
147	Archer Lane	2/6/2023 3:57 PM
148	Sailmaker Way	2/6/2023 3:23 PM
149	Hillside	2/6/2023 12:48 PM
150	Dorchester Way	2/6/2023 9:48 AM
151	Knollbrook drive	2/6/2023 9:27 AM
152	Bremen Road	2/6/2023 9:11 AM
153	Creek Way	2/6/2023 9:03 AM
154	Keeler Rd.	2/5/2023 6:11 PM
155	Maxwell Court	2/3/2023 5:17 PM
156	Sumneytown Pike	2/3/2023 3:40 PM
157	Maxwell court	2/3/2023 1:37 PM
158	Spring Valley RD	2/2/2023 11:21 AM
159	Pheasant Hill Way	2/2/2023 8:19 AM
160	Boyd	2/1/2023 7:36 PM
161	Springer Road	2/1/2023 6:10 PM
162	Woodlawn Drive	2/1/2023 5:28 PM
163	Hickory Court in Timber Creek Condominium	2/1/2023 4:50 PM
164	Cardinal way	2/1/2023 2:35 PM
165	Bustard Rd	2/1/2023 2:34 PM
166	Linden Way	2/1/2023 1:04 PM
167	Forty Foot Road	2/1/2023 12:15 PM
168	Tapestry way	2/1/2023 12:09 PM
169	Valley View way	2/1/2023 12:00 PM
170	Troxel Rd.	2/1/2023 11:25 AM
171	Kerr Rd	2/1/2023 11:21 AM
172	abbey ln	2/1/2023 11:06 AM
173	Old Dutch Way	1/28/2023 11:25 AM
174	Susan Drive	1/27/2023 2:48 AM
175	Reinert Road	1/25/2023 12:18 PM
176	Bishopwood Blvd	1/24/2023 8:21 AM
177	Wellington	1/23/2023 8:03 PM
178	Green bank way	1/23/2023 6:20 PM
179	Pleasant Valley Drive	1/23/2023 6:09 PM
180	Winding Road	1/23/2023 5:44 PM
181	Troxel Rd	1/23/2023 5:02 PM
182	Stonebridge circle	1/23/2023 4:14 PM
183	Troxel Road	1/23/2023 4:11 PM

Towamencin Township Sidewalk Connectivity Study

184	Boyd Avenue	1/23/2023 4:05 PM
185	Mulberry Court	1/23/2023 4:01 PM
186	Liberty Bell	1/23/2023 3:58 PM
187	Old Morris Rd	1/23/2023 3:52 PM
188	Robin Drive	1/23/2023 3:52 PM
189	Providence Ct	1/15/2023 3:26 PM
190	Boyd	1/12/2023 1:52 PM
191	liberty bell	1/9/2023 8:43 AM
192	Pioneer road	1/8/2023 2:30 PM
193	Morris Road	1/7/2023 6:31 AM
194	Tailor Way	1/6/2023 11:15 AM
195	Buttonwood	1/5/2023 8:34 PM
196	Painter Way	1/5/2023 2:57 PM
197	bremen road	1/5/2023 9:30 AM
198	Tinsmith Way	1/5/2023 8:58 AM
199	Steven Lane	1/4/2023 9:17 PM
200	Sumneytown Pike	1/4/2023 8:09 PM
201	Bainbridge Dr	1/4/2023 7:41 PM
202	Tanglewood Way	1/4/2023 7:14 PM
203	Jamestown Ct	1/4/2023 6:32 PM
204	Michael Way	1/4/2023 6:10 PM
205	Old Dutch Way	1/4/2023 5:29 PM
206	Sherwood Way	1/4/2023 5:00 PM
207	Woodlawn Drive	1/4/2023 4:50 PM
208	Victoria Court	1/4/2023 4:42 PM
209	Deerfield Dr	1/4/2023 4:41 PM
210	Krieble Rd	1/4/2023 4:40 PM
211	Spring Mill Way	1/4/2023 4:23 PM
212	Saint Andrews	1/4/2023 4:17 PM
213	Tennis way	1/4/2023 4:10 PM
214	Orchard Ln	1/4/2023 4:08 PM
215	Ide Drive	1/4/2023 3:58 PM
216	Rampart	1/4/2023 3:46 PM
217	Trumbauer Road	1/4/2023 3:40 PM
218	Oakplace CT E	1/4/2023 3:33 PM
219	Wagon Wheel	1/4/2023 3:31 PM
220	Old Morris Road	1/4/2023 3:21 PM
221	Cheswold Dr.	1/4/2023 3:19 PM

Towamencin Township Sidewalk Connectivity Study

222	Pioneer Rd	1/4/2023 3:19 PM
223	Pheasant Hill Rd	1/2/2023 1:50 AM
224	Washington Ave	12/30/2022 4:56 PM
225	Clearbrook rd	12/30/2022 11:56 AM
226	Bremen rd	12/30/2022 9:43 AM
227	Pioneer Rd	12/28/2022 6:16 PM
228	Sumneytown Pike	12/21/2022 9:29 AM
229	Saw Mill Way	12/18/2022 6:43 PM
230	Kriebel Rd	12/17/2022 3:55 PM
231	Powderhorn Dr.	12/16/2022 12:11 PM
232	Michael Way	12/15/2022 8:48 PM
233	Ryans Run / Morris Rd	12/15/2022 4:48 PM
234	Steven Lane	12/15/2022 12:06 PM
235	S Towamencin Ave	12/15/2022 11:37 AM
236	Tweed Way	12/15/2022 11:13 AM
237	Monroe Drive	12/15/2022 8:21 AM
238	erie dr	12/15/2022 7:06 AM
239	Pheasant hill way	12/10/2022 5:51 AM
240	Bustard Road	12/6/2022 10:45 AM
241	Old Forde Way	12/4/2022 11:36 AM
242	Concord Place	12/4/2022 8:48 AM
243	Spring Meadow Ln	12/3/2022 11:17 AM
244	Kriebel Road	12/1/2022 9:52 PM
245	Pross road	12/1/2022 7:48 PM
246	Misty Meadow	12/1/2022 5:39 PM
247	CARRIAGE WAY	12/1/2022 11:13 AM
248	Pheasant hill way	11/30/2022 7:03 PM
249	516 LAMPLIGHTER WAY	11/30/2022 6:25 PM
250	Pheasant Hill Way	11/30/2022 9:34 AM
251	Pheasant Hill Way	11/30/2022 9:03 AM
252	Pheasant hill way	11/29/2022 8:39 PM
253	Pheasant Hill Way	11/29/2022 7:20 PM
254	Pheasant Hill Way	11/29/2022 4:48 PM
255	pheasant hill way, lansdale pa	11/29/2022 4:36 PM
256	Pheasant Hill Way	11/29/2022 3:08 PM
257	Metz road	11/29/2022 10:48 AM
258	Mainland Square Drive	11/28/2022 7:55 PM
259	Lisa Lane	11/28/2022 6:29 PM

Towamencin Township Sidewalk Connectivity Study

260	Kriebel	11/28/2022 1:05 PM
261	Towamencin Ave	11/27/2022 9:19 PM
262	Metz rd	11/27/2022 11:11 AM
263	Valley View Way	11/26/2022 9:39 PM
264	Mark Drive	11/25/2022 9:54 PM
265	Hedrick Road	11/25/2022 5:29 PM
266	Rampart Ln	11/25/2022 4:18 PM
267	2000 Kriebel Rd	11/24/2022 10:29 AM
268	Weikel Road	11/24/2022 8:29 AM
269	Meadow Glen Drive	11/23/2022 10:58 PM
270	Finch Run	11/23/2022 7:16 PM
271	Finch Run	11/23/2022 7:10 PM
272	Walnut Lane	11/23/2022 6:58 PM
273	Freedom Circle	11/23/2022 6:12 PM
274	Bromley Drive	11/23/2022 3:10 PM
275	Spring Valley Road	11/23/2022 11:27 AM
276	OLD DUTCH Rd	11/23/2022 11:17 AM
277	Painter Way	11/23/2022 10:35 AM
278	Trumbauer Rd	11/23/2022 7:21 AM
279	Green Bank Way	11/22/2022 8:11 PM
280	Quarry	11/22/2022 5:55 PM
281	Oxford Road	11/22/2022 5:34 PM
282	Ivywood way	11/22/2022 4:30 PM
283	Coventry Way	11/22/2022 2:51 PM
284	Clemens Road	11/22/2022 1:04 PM
285	Spring Valley Rd	11/22/2022 7:22 AM
286	Sunnylea Road	11/22/2022 7:19 AM
287	Knollbrook Drive	11/21/2022 8:36 PM
288	Anders Road	11/21/2022 7:32 PM
289	Hillside	11/21/2022 7:30 PM
290	Jack's Circle	11/21/2022 6:16 PM
291	Anders Rd	11/21/2022 5:59 PM
292	Anders Rd	11/21/2022 5:22 PM
293	Hedgerow Way	11/21/2022 5:07 PM
294	Woodlawn Drive	11/21/2022 4:51 PM
295	Weikel Road	11/21/2022 2:55 PM
296	Avalon Way	11/20/2022 1:16 PM
297	Pheasant Hill Way	11/18/2022 11:17 AM

Towamencin Township Sidewalk Connectivity Study

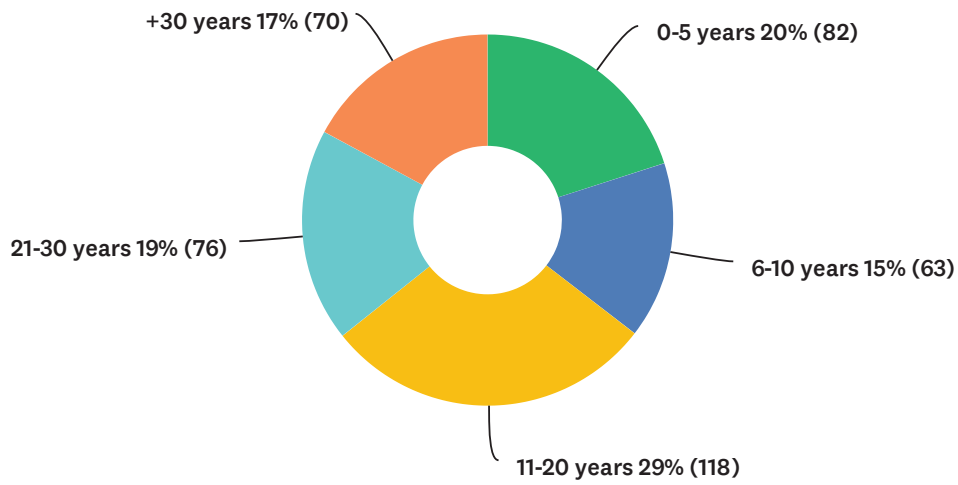
298	RAMPART LANE	11/16/2022 6:11 PM
299	Pheasant Hill Way	11/16/2022 12:52 PM
300	Rampart Lane	11/14/2022 8:39 PM
301	Schlosser rd	11/14/2022 8:35 AM
302	Kriebel Road	11/13/2022 9:03 PM
303	Old Dutch Way	11/13/2022 4:46 PM
304	Conestoga Lane	11/13/2022 10:54 AM
305	Kriebel	11/13/2022 6:52 AM
306	Trumbauer	11/12/2022 4:31 PM
307	Ridgewood Wat	11/12/2022 8:29 AM
308	Candlewood way	11/11/2022 11:07 PM
309	Federal Ct	11/11/2022 11:05 PM
310	Federal Ct	11/11/2022 10:23 PM
311	Rampart Lane	11/11/2022 8:41 PM
312	Parkview	11/11/2022 7:44 PM
313	Steven Lane	11/11/2022 7:41 PM
314	Pheasant Hill Rd.	11/11/2022 6:21 PM
315	Revere Drive	11/11/2022 5:56 PM
316	Federal Court	11/11/2022 5:29 PM
317	Federal ct	11/11/2022 4:36 PM
318	Trumbauer Road	11/11/2022 2:55 PM
319	Trumbauer Road	11/11/2022 2:42 PM
320	Michael Way	11/11/2022 2:42 PM
321	Trumbauer Rd	11/11/2022 2:41 PM
322	Woodlawn	11/11/2022 2:14 PM
323	Hamilton Drive	11/11/2022 1:30 PM
324	Militia Dr	11/11/2022 1:09 PM
325	Thorndale dr	11/11/2022 12:57 PM
326	Old morris rd	11/11/2022 12:09 PM
327	Militia drive	11/11/2022 11:27 AM
328	Independence Drive	11/11/2022 9:54 AM
329	Constitution Rd	11/11/2022 9:44 AM
330	Snyder Rd	11/11/2022 8:35 AM
331	Specht place	11/11/2022 8:16 AM
332	Towamencin Condos	11/11/2022 6:34 AM
333	Old Forty Foot Road	11/11/2022 12:48 AM
334	Anders	11/10/2022 10:51 PM
335	Sumneytown pike	11/10/2022 10:41 PM

Towamencin Township Sidewalk Connectivity Study

336	Central Dr	11/10/2022 10:38 PM
337	Morgan Way	11/10/2022 10:31 PM
338	Dock Dr	11/10/2022 10:19 PM
339	Yeakel Way	11/10/2022 10:06 PM
340	Painter Way	11/10/2022 10:04 PM
341	Dager Cir	11/10/2022 9:25 PM
342	Shipwrighter way	11/10/2022 9:25 PM
343	Deerfield drive	11/10/2022 9:24 PM
344	Rampart Lane	11/10/2022 9:13 PM
345	Red oak way	11/10/2022 9:04 PM
346	Green bank way	11/10/2022 9:00 PM
347	Anders	11/10/2022 8:59 PM
348	Snyder rd	11/10/2022 8:40 PM
349	Candlewood	11/10/2022 8:27 PM
350	Allentown road	11/10/2022 8:20 PM
351	Jacks circle	11/10/2022 8:20 PM
352	Cardinal Way	11/10/2022 7:45 PM
353	Kriebel	11/10/2022 7:38 PM
354	Cardinal Way	11/10/2022 7:25 PM
355	Cambridge Way	11/10/2022 6:52 PM
356	Weikel Rd	11/10/2022 4:08 PM
357	Saw mill way	11/10/2022 3:28 PM
358	Pickwick	11/10/2022 3:22 PM
359	Valley View Way	11/10/2022 2:56 PM
360	Finch Run	11/10/2022 2:54 PM
361	Woodlawn	11/10/2022 2:36 PM
362	Sunny Ayr Way	11/10/2022 2:02 PM
363	Springside way	11/10/2022 1:20 PM
364	Kulp	11/10/2022 12:45 PM
365	Concord Place	11/10/2022 12:31 PM

Q6 How many years have you lived at your current address?

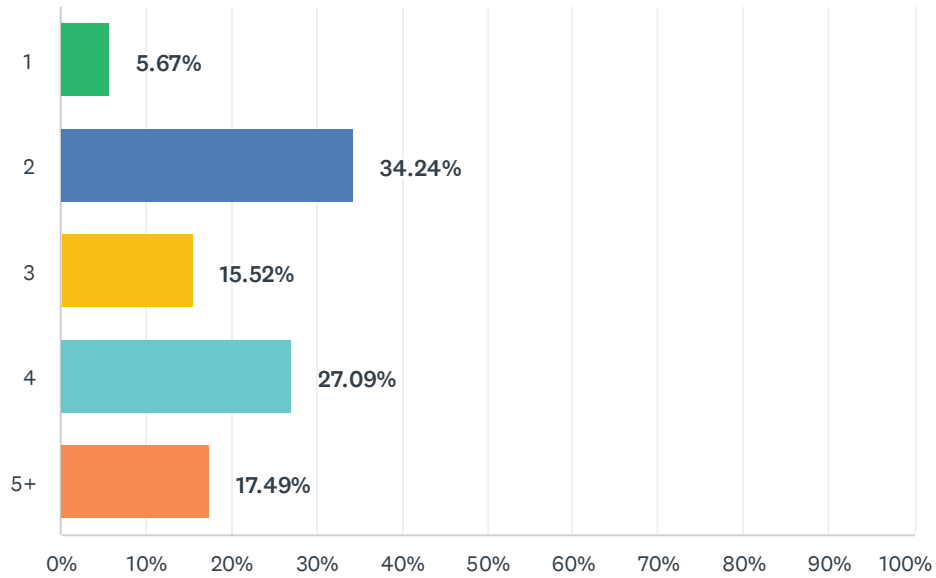
Answered: 409 Skipped: 22



ANSWER CHOICES	RESPONSES	
0-5 years	20%	82
6-10 years	15%	63
11-20 years	29%	118
21-30 years	19%	76
+30 years	17%	70
TOTAL		409

Q7 How many people currently live in your household?

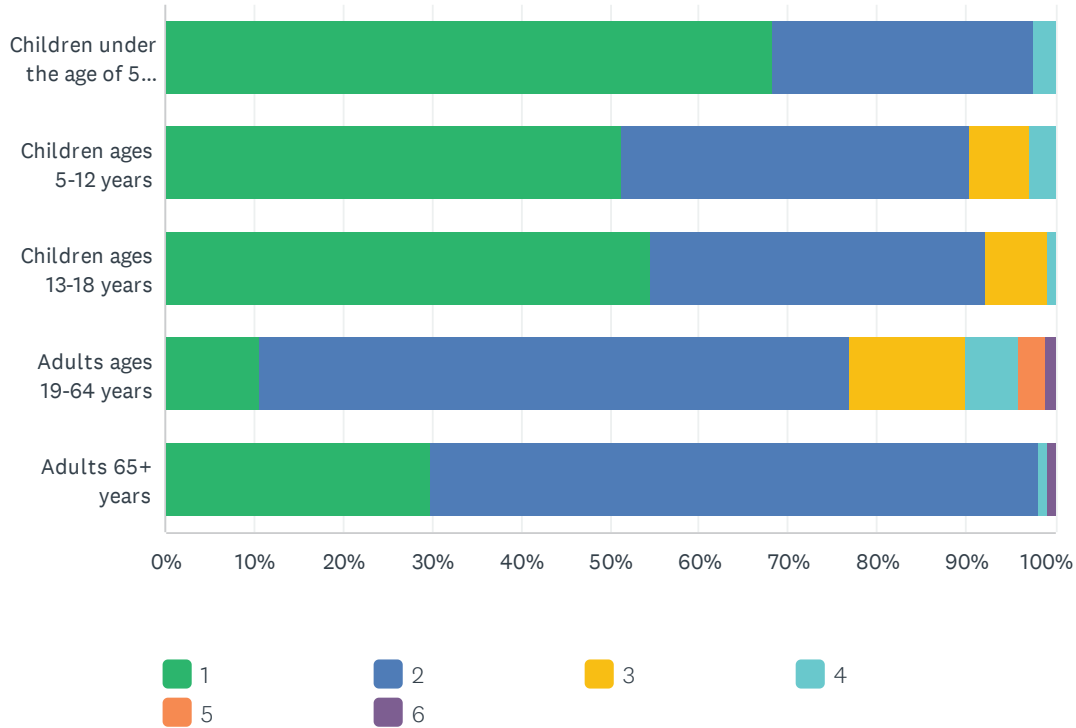
Answered: 406 Skipped: 25



ANSWER CHOICES	RESPONSES	
1	5.67%	23
2	34.24%	139
3	15.52%	63
4	27.09%	110
5+	17.49%	71
TOTAL		406

Q8 What age groups currently live in your household? Please indicate number in each category.

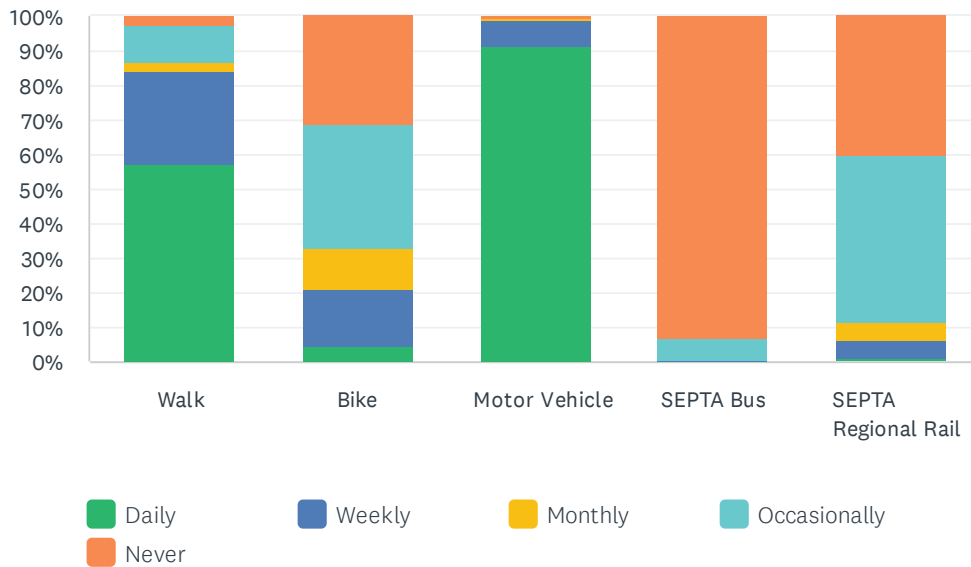
Answered: 404 Skipped: 27



	1	2	3	4	5	6	TOTAL
Children under the age of 5 years	68.29% 28	29.27% 12	0.00% 0	2.44% 1	0.00% 0	0.00% 0	41
Children ages 5-12 years	51.43% 54	39.05% 41	6.67% 7	2.86% 3	0.00% 0	0.00% 0	105
Children ages 13-18 years	54.70% 64	37.61% 44	6.84% 8	0.85% 1	0.00% 0	0.00% 0	117
Adults ages 19-64 years	10.73% 34	66.25% 210	12.93% 41	5.99% 19	3.15% 10	0.95% 3	317
Adults 65+ years	29.82% 34	68.42% 78	0.00% 0	0.88% 1	0.00% 0	0.88% 1	114

Q9 How often do you use the following modes of transportation?

Answered: 381 Skipped: 50

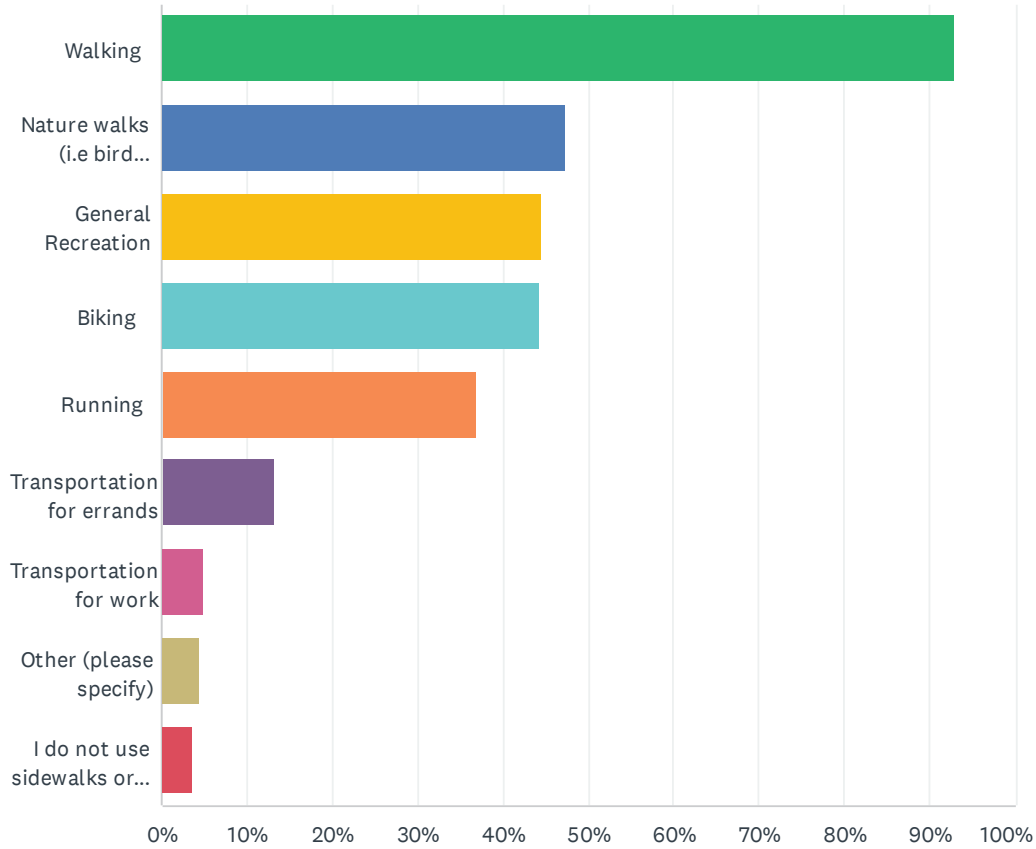


	DAILY	WEEKLY	MONTHLY	OCCASIONALLY	NEVER	TOTAL
Walk	57.41% 213	26.68% 99	2.70% 10	10.78% 40	2.43% 9	371
Bike	4.56% 16	16.24% 57	12.25% 43	35.90% 126	31.05% 109	351
Motor Vehicle	91.40% 340	7.80% 29	0.54% 2	0.00% 0	0.27% 1	372
SEPTA Bus	0.00% 0	0.32% 1	0.32% 1	5.99% 19	93.38% 296	317
SEPTA Regional Rail	1.19% 4	5.36% 18	5.06% 17	48.51% 163	39.88% 134	336

#	OTHER (PLEASE SPECIFY)	DATE
1	e-bike	4/11/2023 8:42 PM
2	🚶 to the mailbox 📬	4/11/2023 7:26 PM
3	Mobility scooter used weekly like a bicycle for trails when necessary.	2/16/2023 11:08 AM
4	Onewheel	12/30/2022 7:48 PM
5	School Bus	12/15/2022 10:53 AM
6	Pre-pandemic it was several times weekly	11/21/2022 8:38 PM

Q10 For which activities do you use the sidewalks and trails? Select all that apply.

Answered: 383 Skipped: 48



ANSWER CHOICES	RESPONSES	
Walking	92.95%	356
Nature walks (i.e. bird watching)	47.26%	181
General Recreation	44.65%	171
Biking	44.39%	170
Running	36.81%	141
Transportation for errands	13.32%	51
Transportation for work	4.96%	19
Other (please specify)	4.44%	17
I do not use sidewalks or trails	3.66%	14
Total Respondents: 383		

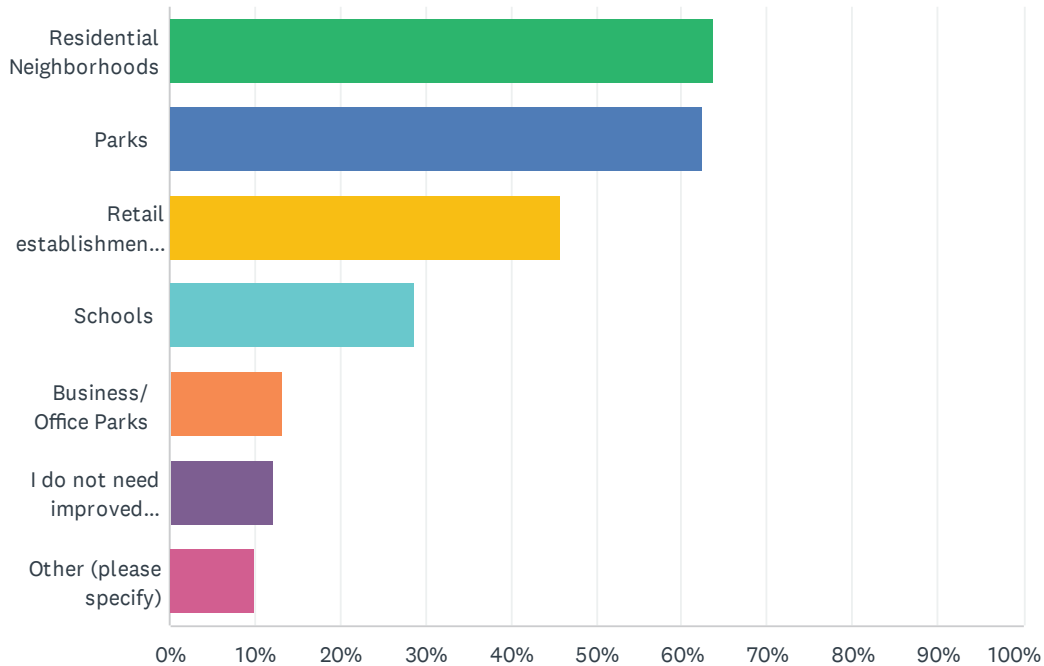
#	OTHER (PLEASE SPECIFY)	DATE
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Towamencin Township Sidewalk Connectivity Study

1	Dog walks	4/12/2023 6:48 PM
2	Use of mobility scooter like a bike when necessary.	2/16/2023 11:08 AM
3	only use trails	2/15/2023 8:01 PM
4	Dog walking	1/4/2023 9:19 PM
5	Walking our dogs	1/4/2023 3:42 PM
6	Onewheel	12/30/2022 7:48 PM
7	transportation for dining and drinking	12/6/2022 10:59 AM
8	Hi	11/22/2022 4:31 PM
9	We walk in township park trails daily	11/21/2022 7:32 PM
10	Walking kids to school	11/21/2022 5:08 PM
11	Trails only, not sidewalks	11/13/2022 6:54 AM
12	I don't think any of the township trails are suitable for biking--too narrow.	11/11/2022 7:46 PM
13	Taking my dog on a walk	11/11/2022 5:58 PM
14	Dog walking	11/11/2022 9:56 AM
15	Trail to Fischer's park	11/10/2022 9:28 PM
16	Bike to gym	11/10/2022 9:05 PM
17	Bike/foot access to state park	11/10/2022 12:48 PM

Q11 To what areas would you like improved pedestrian and/or bicycle access? Select all that apply.

Answered: 378 Skipped: 53



ANSWER CHOICES	RESPONSES	
Residential Neighborhoods	63.76%	241
Parks	62.43%	236
Retail establishments by location (i.e. Towamencin Village Shopping Center)	45.77%	173
Schools	28.84%	109
Business/ Office Parks	13.23%	50
I do not need improved pedestrian access	12.17%	46
Other (please specify)	10.05%	38
Total Respondents: 378		

#	OTHER (PLEASE SPECIFY)	DATE
1	Places where the shoulder is very small or nonexistent	4/13/2023 3:31 PM
2	I would like Main Street towamencin to have more places to go to like shops and restaurants and not just the business center and urgent care and Walgreens....we need more fun things for the people to actually walk to/or want to walk to...	4/12/2023 9:14 PM
3	Towamencin pool	4/12/2023 6:42 PM
4	The intersection of Kriebel and Springer is in need of a sidewalk, leading to a crosswalk to Fishers Park, leading to area near the new bridge. Currently the turn and walk on Kriebel road	4/12/2023 2:10 PM

Towamencin Township Sidewalk Connectivity Study

to the park is very dangerous as oncoming traffic comes around a curve and is blinded to any pedestrians or bikers that might be on the road. This entry point to the park is used by many runners and bikers, and I fear it's a matter of time until an accident happens unless the area is updated with a safer corridor for walking or biking to the park.

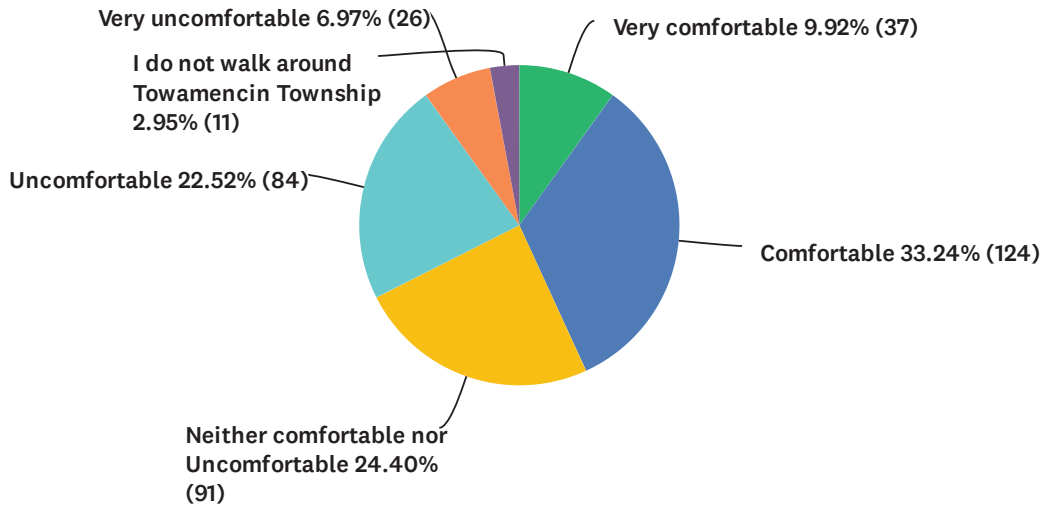
5	kerr road	4/12/2023 1:34 PM
6	no sidewalks on stretches of Kriebel Rd along creek (PECO, and "farm")	4/12/2023 11:50 AM
7	Freddy Hill Farms	4/11/2023 8:42 PM
8	I would love to travel from 40 ft road to Valley Forge on Sumnytown	4/11/2023 7:26 PM
9	All roads, especially around parks, should be accessible by walking. Narrow roads should be widened to all for pedestrians to walk safely in Towamencin.	4/11/2023 5:53 PM
10	Keeler Road section of Towamencin trail needs to be made safe for bikes and pedestrians. It is very dangerous as it is.	4/6/2023 10:24 PM
11	Community centers like Freddy's Family Fun Center	4/6/2023 12:23 PM
12	It would be nice to be able to walk on Allentown Road to the Towamencin Village Shopping Center (if they EVER get stores in there!) Wish Towamencin welcomed new businesses like Hatfield Township does.	2/18/2023 9:19 PM
13	We use the areas already in place.	2/17/2023 8:50 PM
14	Through routes. I bike from Hatfield to upper Gwynedd and pass thru	2/9/2023 7:55 PM
15	Pedestrian bridge connecting Green Lane	2/9/2023 5:14 PM
16	The new pathway on the Towamencin Trail is phenomenal! So appreciative!! Would love for it to connect to Fisher Park and/or for it to loop around and provide sidewalk access on Morris Road all the way back to Trumbauer Road. Morris Road has sidewalks most of the way back to Trumbauer.	2/7/2023 6:31 AM
17	If there were actually viable businesses in Towamencin, I would walk to them. Seems you need to address absence of any useful businesses before you address at which points you would need sidewalks.	2/6/2023 3:59 PM
18	Connecting neighbour's	2/6/2023 1:07 PM
19	Be able to walk to Township buildings	2/5/2023 6:15 PM
20	pedestrian access along Sumneytown pike	2/3/2023 3:42 PM
21	Connection to trails like the Skippack	2/1/2023 11:23 AM
22	All high-traffic roads	1/23/2023 4:07 PM
23	Bustard Rd from the school to the fire house	1/23/2023 3:55 PM
24	Connecting neighborhoods	1/2/2023 1:52 AM
25	Please work with other boroughs to link trails and connect them to residential and commercial areas throughout North Penn.	12/30/2022 10:52 AM
26	I have no idea where the limitations are.	12/15/2022 8:51 PM
27	Bustard Road	12/6/2022 10:59 AM
28	Orvilla Road and Welsh Road - would like to walk to the Lansdale train station	11/30/2022 6:27 PM
29	Sumneytown pike has several areas near Green Lane that do not have sidewalks	11/23/2022 7:21 PM
30	Country Roads - areas back by Kerr Rd, Kriebel, Springer	11/22/2022 2:52 PM
31	There are no sidewalks on part of Anders Rd. This creates a very dangerous condition for walkers or anyone trying to share the road with cars.	11/21/2022 6:01 PM
32	Connect green lane road to kriebel with a walking trail	11/11/2022 11:10 PM
33	Streets & Roads	11/11/2022 11:08 PM

Towamencin Township Sidewalk Connectivity Study

34	ADA access to cross Anders Rd connectig sidewalks	11/10/2022 10:53 PM
35	Green Lane road needs a foot/bike path	11/10/2022 9:28 PM
36	Some sort of lighting/ signage like on whites road for crosswalk at WF elementary. Very dangerous to cross.	11/10/2022 8:23 PM
37	Kriebel Road curve leading to the path	11/10/2022 7:40 PM
38	Connections between these places. E.g: neighborhoods to shopping centers.	11/10/2022 7:27 PM

Q12 From a perspective of traffic safety, how comfortable do you feel walking in Towamencin Township?

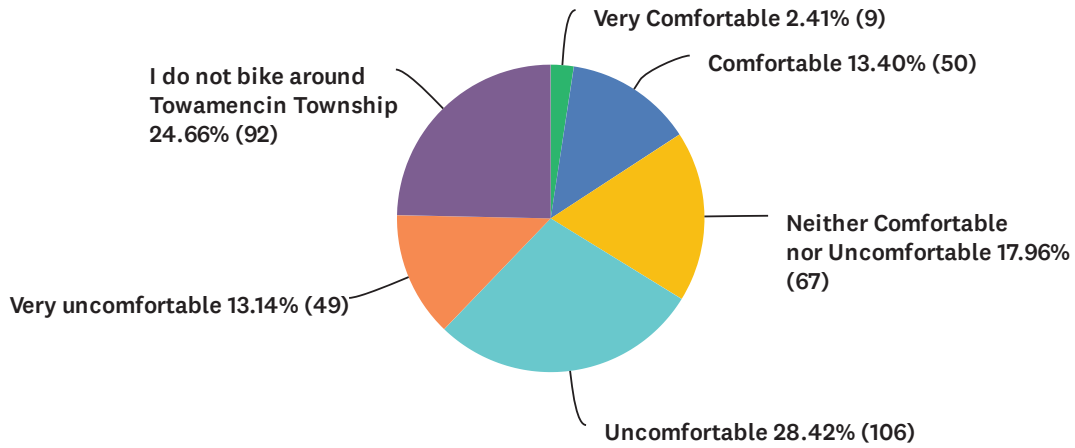
Answered: 373 Skipped: 58



ANSWER CHOICES	RESPONSES	
Very comfortable	9.92%	37
Comfortable	33.24%	124
Neither comfortable nor Uncomfortable	24.40%	91
Uncomfortable	22.52%	84
Very uncomfortable	6.97%	26
I do not walk around Towamencin Township	2.95%	11
TOTAL		373

Q13 From a perspective of traffic safety, how comfortable do you feel biking in Towamencin Township?

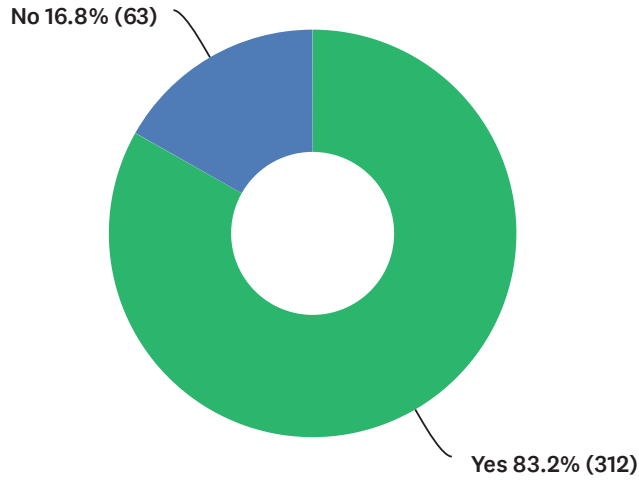
Answered: 373 Skipped: 58



ANSWER CHOICES	RESPONSES	
Very Comfortable	2.41%	9
Comfortable	13.40%	50
Neither Comfortable nor Uncomfortable	17.96%	67
Uncomfortable	28.42%	106
Very uncomfortable	13.14%	49
I do not bike around Towamencin Township	24.66%	92
TOTAL		373

Q14 From a perspective of traffic safety, are there locations as a motorist where you are concerned with pedestrian and/or bicyclist safety?

Answered: 375 Skipped: 56



ANSWER CHOICES	RESPONSES	
Yes	83.2%	312
No	16.8%	63
TOTAL		375

Q15 Please list the top 5 locations where you are concerned with pedestrian and/or bicyclist safety.

Answered: 281 Skipped: 150

#	RESPONSES	DATE
1	Fisher's park bridge/4 way stop area to kriebel Morris road to trambauer Trambauer to Kriebel Kriebel around fisher park where the trail ends to the road. The road connecting Kriebel to 40ft road	4/13/2023 7:30 PM
2	Troxel and Snyder Rd Snyder Rd and Valley Forge Rd Troxel Rd bridge over Towamencin creek Inglewood Elementary across Allentown Rd	4/13/2023 3:33 PM
3	Kriebel Road right behind Fischer's Park. Now that there is a wonderful much needed bridge behind Fischer's Park there needs to be a safer way to get there from Kriebel Road. Cars drive through there a lot and there is a huge blind spot as the street curves. Many walkers/runners/bicyclists of all ages come up on that road to get into Fischer's Park but there is a huge safety concern crossing Kriebel Road to get onto the Park. Everyday when the weather is 50 degrees or higher, Springer Road has tons of runners/walkers/bicyclists that use my street but the street is not very wide as there is no sidewalk. It would be helpful to have sidewalks especially for Kriebel Road to get onto the park ground safely.	4/13/2023 10:08 AM
4	Forty Foot and Sumneytown pike Old Forty Foot and Sumneytown pike Allentown and Forty Foot Bustard road Old Forty Foot road	4/13/2023 9:41 AM
5	Morris Rd	4/13/2023 9:33 AM
6	Sumneytown Pike, Valley Forge Road	4/13/2023 9:00 AM
7	The cross way between Old Forty Road and Rittenhouse Road.	4/12/2023 9:16 PM
8	Morris Road approaching Bustard (Fischer's park) in both directions	4/12/2023 9:08 PM
9	Intersection of Sumneytown and Bustard/Forty Foot, Sumneytown and Green Lane, Green Lane in general	4/12/2023 8:50 PM
10	All access paths to Fischer Park. Many peds/cyclists and speed limits don't align with road size.	4/12/2023 6:51 PM
11	The approach to the Towamencin pool on Weikel Rd from Snyder Rd	4/12/2023 6:43 PM
12	Weikel Rd—between Orchard and Snyder Woodlawn and surrounding streets without sidewalks. Troxel Rd.	4/12/2023 6:04 PM
13	Morris rd where there is no sidewalk. Accessing Fisher park other than car Connecting the new trail with the other existing trails	4/12/2023 3:33 PM
14	Valley Forge Road , Morris Road, Spring Valley Road,	4/12/2023 3:31 PM
15	Forty foot and Allentown, forty foot and welsh, Sumneytown and forty foot, Allentown and valley forge, Snyder and valley forge	4/12/2023 3:03 PM
16	Towamencin is not very bike friendly	4/12/2023 2:36 PM
17	1) Kriebel Road near the (new) back entrance to fisher park 2) Kriebel Road gong towards 40 foot road- there are many turns that make this area dangerous- due to blind spots 3) Bustard Road between Fishers park and Sumnytown, then on to Allentown Rd Pike- this is a high traffic road, that is not Bike Friendly 4) Kerr Road- this road is way too narrow for the traffic it currently handles. Also popular with walkers and bikers due to its proximity to parklands 5) Old Morris Road: would benefit from a sidewalk that connexts bustard to 40 foot road. This road is narrow and traffic high and most people do not feel safe on this road for walking or biking.	4/12/2023 2:17 PM
18	Rittenhouse and Old Forty Foot Rd	4/12/2023 1:25 PM

Towamencin Township Sidewalk Connectivity Study

19	Fishers Park CVS- Ray's Troxel RD Wendy's- and fitness center Snyder Rd	4/12/2023 12:48 PM
20	Allentown and forty foot rds. Allentown and Derstine rds	4/12/2023 12:11 PM
21	Kriebel Rd near water treatment plant. Deer & geese issue, too. No sidewalk connecting turnpike bridge to neighbor hoods on both sides. No good way to cross Sumneytown. Add a pedestrian/bridge connector on Green Lane Rd across the creek?	4/12/2023 11:54 AM
22	Bustard road, old forty foot, valley forge road	4/12/2023 9:12 AM
23	1. Snyder Road is too dark in the winter when kids are trying to cross the street before sunrise. 2. I would like more sidewalks down Keeler towards Quarry - the curve does not have enough visibility to see smaller pedestrians when driving. 3. It would be nice to have more bike trails along bigger roads.	4/12/2023 5:21 AM
24	1. Allentown Road and Valley Forge Rd intersection is a death trap. 2. Forty Foot Road and Allentown Road - also a death trap. 3. Valley Forge Road and Sumneytown Pike 4. Troxel Road and Sumneytown Pike 5. Troxel Road and Allentown Road	4/12/2023 12:08 AM
25	Sumneytown Pike Orvilla Road Welsh Road Bustard Road	4/11/2023 10:26 PM
26	All. No bikes paths in tya	4/11/2023 9:54 PM
27	sumneytown pike, allentown rd, kriebel rd	4/11/2023 8:44 PM
28	Sumnytown between 40 ft and valley forge. Keeler and Allentown. Keeler between quarry and orvilla (my wife and I almost got hit). Orvilla between keeler and Allentown.	4/11/2023 7:34 PM
29	Valley Forge Rd., Kriebel Rd, Valley Forge Rd	4/11/2023 7:00 PM
30	Kriebel Road, Bustard Road, Old Forty Foot Road, Wentz Church Road, Kerr Road, and all roads leading up to and near Fischer's Park.	4/11/2023 5:55 PM
31	Allentown Road both above and below Forty Foot Road.	4/11/2023 5:36 PM
32	Kriebel Road. There is a blind sport in both directions near the old school.	4/11/2023 4:32 PM
33	Old Morris, Old Forty Foot, Rittenhouse,	4/11/2023 4:28 PM
34	Allentown road Weikel Road	4/11/2023 4:12 PM
35	Allentown Rd, Forty Foot Rd, Sumneytown Pk, Detwiler Rd, Welsh Rd	4/11/2023 3:43 PM
36	Fischer's park Morris road Valley forge rd	4/11/2023 3:19 PM
37	Bustard Road/Morris Road near Fisher's Park	4/11/2023 3:11 PM
38	Valley Forge Rd (kids walking and biking to school and Wawa/McDonalds) Anders rd Kreibel Rd Morris Rd (sidewalks end before Troxel and after Valley View)	4/11/2023 3:02 PM
39	Sumneytown pike	4/11/2023 2:52 PM
40	Near Freddy Hill Farms, Weikel road from Snyder where there is no sidewalk, Sumneytown Pike from Freddy Hill to Margaritas, Kriebel rd from Sumneytown pike to Fischer's Park	4/11/2023 2:21 PM
41	Kreibel Rd	4/11/2023 1:59 PM
42	Troxel Rd Bustard Rd Morris Rd Sumneytown Pike Old Forty Ft Rd	4/11/2023 1:43 PM
43	Troxel and Sumneytown Pike Snyder and Valley Forge Rd Please put a sidewalk the full length of troxel and on Kriebel to connect into Fishers park!	4/11/2023 1:15 PM
44	Allentown Road Sumneytown Pike Old Forty Foot Road Bustard Road Valley Forge Road	4/11/2023 1:05 PM
45	Anders rd, kriebel rd,(from Sumneytown all to Old Forty Ft) bustard rd, obv: Valley Forge rd, , Sumneytown Pk	4/11/2023 1:00 PM
46	40 ft road, Sumneytown pike	4/7/2023 5:30 AM
47	Allentown rd Sumneytown pike Bustard rd	4/7/2023 5:17 AM
48	Sections of Keeler Road, Troxel, Welsh, and Valley Forge Road in front of NP high school (no shoulder or sidewalk).	4/6/2023 10:29 PM

Towamencin Township Sidewalk Connectivity Study

49	Welsh Rd/Rt 63 to Orvilla Rd Orvilla Rd to Allentown Portions of Allentown Rd	4/6/2023 4:02 PM
50	1. Along Sumneytown Pike (walking & biking) 2. Along Allentown Road (Forty Foot Rd to Sumneytown Pike; both walking and biking) 3. Along Forty Foot Road (speeding traffic; biking) 4. Along Welsh Road (Forty Foot Road to Valley Forge Road; both walking and biking) 5. From Sumneytown Pike (Freddy Hill) past Township Bldg to Allentown Road (walking and cycling)	4/6/2023 3:48 PM
51	Troxel & Sumneytown Kriebel between Sumneytown & Trumbauer Keeler Rd between Michael Way & Quarry Rd Keller Rd & Troxel Intersection Weikel Rd between Snyder & Orchard rd	4/6/2023 12:27 PM
52	40 foot road; allentown road	4/5/2023 12:31 PM
53	1. Commercial area near Welsh and Forty Foot Road including Ralph's Corner 2. Along major roads specifically Welsh, Forty Foot, Allentown, and Orville.	4/5/2023 11:00 AM
54	Sumneytown Pike - missing sidewalks between Green Lane & Forty Foot Troxel Rd - Missing sidewalks near light at Sumneytown Pike Bustard Road - Missing Sidewalk between 476 bridge and Firehouse Park entrance	4/4/2023 5:06 PM
55	Corner of Bustard and Forty foot rd	4/4/2023 4:59 PM
56	Bustard rd between Sumneytown and Rittenhouse.	4/4/2023 4:07 PM
57	Troxel Road between Allentown Road and Pickwick Lane Troxel Rd. btw. Seventh Day Adventist and Carriage Way Weikel Road between Orchard Lane and Snyder Road Trails and walking around Towamencin Pool	4/4/2023 3:25 PM
58	Getting to Fisher Park by walking along Kriebel or Bustard Roads. Walking an/or driving on Kriebel Road. Drivers discovered Kriebel road as a quicker way to avoid traffic lights to get to Valley Forge Road. they drive too fast. Where Kriebel intersects Pheasant Hill Road and Way people come flying over the turnpike bridge and don't really see the intersection of Pheasant Hill Road and Way with Keibel. It is hidden and now two little children live in the house on the corner and they have pets. We need a slower speed on Kriebel and a warning that the street is hidden or a stop sign and Children at play sign. We also need street lights on both sides of the bridge at Trumbauer Road and Kreibe intersection. The street lights have been needed for a long time at that bridge.	4/2/2023 12:55 PM
59	Morris Rd, old Morris Rd, bustard rd, Wentz Church Rd	4/2/2023 9:02 AM
60	Weikel Road (South end) without sidewalks. Also, Weikel Road and Allentown Road intersection.	4/1/2023 9:35 AM
61	Bustard road, green lane road, old forty foot road	4/1/2023 8:13 AM
62	Valley Forge Rd & Sumneytown Pike Sumneytown Pike & Bridle Path Dr Allentown Rd @ Walton Farm Elementary School Kriebel Rd @ Fischer's Park Anders Rd for bicyclist safety	3/31/2023 9:33 PM
63	Intersections of Welsh/Orvilla, Welsh/Gristmill, Welsh/Forty Foot, Forty Foot/Allentown, Sumneytown/Valley Forge	3/31/2023 7:43 PM
64	Green Lane/Liberty Bell intersection. And the majority of the neighborhood around liberty bell dr that doesn't have sidewalks	3/31/2023 6:31 PM
65	Sumneytown pike Welsh Rd	3/31/2023 6:25 PM
66	ALL OF MORRIS RD. SPEEDING CARS AND TRUCKS. 60 MPH PLUS	3/31/2023 5:03 PM
67	Areas that do not have sidewalks. Valley Forge Rd., Troxell, Bustard Road, Old Forty Ft Rd.	3/31/2023 4:52 PM
68	Bustard Rd and Kriebel Green Lane Rd Kriebel Rd	3/31/2023 4:45 PM
69	Forty foot road	3/31/2023 4:37 PM
70	Trying to get to green lane park or Fischers park should be simple since we live so close. It is not because the only current way is to walk, ride, or run on bustard road and there are no sidewalks. We end up driving since it isn't safe. Many of us would LOVE a walking/riding trail that connects Green Lane Road. Currently, it is very difficult/almost impossible to walk through the woods/creek that separates Green Lane Road. This would solve many issues that this area currently has and would connect multiple parks.	3/31/2023 3:32 PM
71	Troxell Road at Sumneytown Pike, intermittent sidewalks to light controlled crossing. Snyder	3/27/2023 3:21 PM

Towamencin Township Sidewalk Connectivity Study

Road at Weikel, missing sidewalk at junction. Valley Forge at Sumneytown Pike, access to North Penn Market Place. Allentown Road at Woodlawn, light does not detect cyclists. Snyder and Troxell, trail crosses Troxel but no pedestrian crossing.

72	Areas where there are partial sidewalks which end abruptly forcing pedestrians onto the shoulder or directly onto the road. For example, Snyder Rd in front of the Vet's property.	3/27/2023 11:39 AM
73	Weikel Road	3/26/2023 8:02 PM
74	Forty Foot Rd.	3/26/2023 11:33 AM
75	Welsh Road through Lansdale	3/24/2023 9:35 PM
76	Valley Forge Road from Snyder to North Penn High School as walkers use that road to walk to the high school and stores. Bicycling/Walking along parts of Snyder Road Bicycling/Walking to cross Sumneytown pike	3/24/2023 8:04 PM
77	Bustard Road Green Lane Road Forty Foot Road	3/24/2023 7:23 PM
78	Along Allentown Road, Sumneytown Pike, and along Main Street — many walkers & cyclists, no sidewalks. Along most roads and sidewalks—too many cyclists who think they own the property, run over pedestrians on sidewalks or ignore traffic regulations!	3/24/2023 5:30 PM
79	Forty Foot Road, Towamencin Avenue, Tomlinson Road,	3/24/2023 5:27 PM
80	intersection of 40 ft road and sumneytown pike	2/20/2023 9:02 PM
81	Sumneytown and Forty Foot Road	2/20/2023 8:10 PM
82	Sumneytown Pike Bustard Road	2/19/2023 5:23 PM
83	Bustard Road - no sidewalks! Route from our house to Nash and Fischer's Park	2/19/2023 3:02 AM
84	Forty Foot Road Fretz Road Allentown Road	2/18/2023 9:19 PM
85	Bikes on Kriebel especially past Bustard towards Skippack.	2/18/2023 8:59 AM
86	Near turnpike/ sumneytown and forty foot Forty foot and Allentown Valley forge at NPHS Sumneytown and valley forge Allentown and valley forge	2/17/2023 9:01 PM
87	Troxel Keeler Allentown Rd Welsh Rd Forty foot Rd	2/17/2023 6:18 PM
88	Wherever there aren't sidewalks and I have to ride in the street	2/17/2023 6:12 PM
89	Rittenhouse Road Bridge	2/17/2023 5:49 PM
90	Snyder x Troxel Snyder x Valley Forge Rd Exiting CVS onto Valley Forge Rd	2/17/2023 2:25 PM
91	Near the intersection of Rt 63 (Welsh Rd) and Orvilla Rd. The intersection of Rt 63 and Forty Foot Rd The intersection of Rt 63 and Kohl's shopping center	2/16/2023 11:11 AM
92	Morris rd by Fisher park	2/11/2023 9:39 AM
93	Crosswalks, schools, parks, major intersections, and non-residential streets	2/9/2023 8:58 PM
94	Old forty foot road Rittenhouse road	2/9/2023 8:50 PM
95	Public roads with no sidewalk	2/9/2023 7:25 PM
96	Bustard Road once you pass Liberty Bell Dr heading South	2/9/2023 5:15 PM
97	Old Forty Foot Road and Quarry Road intersection. Designated a bike route but horrible to turn out onto Old Forty Foot	2/9/2023 5:03 PM
98	Weikel Road Troxel Road Quarry Road	2/9/2023 4:18 PM
99	1. bicyclists on Morris Road near Fisher's Park	2/9/2023 6:31 AM
100	1. Keeler Road over the bridge (behind the police dept between Quarry Rd and Troxel) 2. Where Allentown Road meets Keeler 3. Allentown Road from Inglewood Elem to forty foot rd 4. Detwiler Road between Wombold and Forty Foot 5. Forty Foot Rd Over the turnpike bridge from Sumneytown to Firehouse park	2/7/2023 1:15 PM
101	Green lane rd Fischer's park	2/7/2023 8:30 AM

Towamencin Township Sidewalk Connectivity Study

102	Allentown Road near Keeler	2/7/2023 7:41 AM
103	Kriebel to Bustard and Morris to Bustard	2/7/2023 6:32 AM
104	Allentown Rd., Fretz Rd., Tomlinson Rd., Destine Rd., Welsh Rd	2/6/2023 11:44 PM
105	Bustard Rd bridge at Kriebel. Allentown Rd from Reinert to Forty Foot. Crossing Forty Foot Rd around ShopRite plaza	2/6/2023 11:37 PM
106	Around fisher park	2/6/2023 7:29 PM
107	The only safe bike or walking places in Towamencin are within protected neighborhoods.	2/6/2023 4:00 PM
108	(1)Welsh Road - very little space for pedestrians and bicyclists between Orvilla and 40 Foot Roads, sight lines are limited. Signage prohibits eastbound pedestrians arriving at Orvilla (walking on the left per guidelines) from crossing either Orvilla or Welsh. The graveyard fence and wall prevents any legal option except turning back. (2) Forty Foot and Towamencin - People turning right from Forty Foot to Towamencin do not expect to slow down more than need to actually make the turn. (3) Forty Foot and Allentown - Crossing Allentown is dangerous because of both right and left turning vehicles not expecting people on foot. (4) Much of S. Valley Forge Road from Sumneytown to Morris Roads. No safe place for cyclists or walkers. (5) Morris and Bustard at Fischer's Park. In spite of the 3 way Stop, it feels dangerous just to be near that intersection. The Fischer's fence is place too close to the road to enable safe walking along the road.	2/6/2023 3:43 PM
109	No sidewalk from hillside to meadow Glen. Sidewalk from meadow to valley forge on anders. Have to walk in the grass/ditch with heavy traffic on anders.	2/6/2023 1:10 PM
110	Bustard & Rittenhouse road Sumneytown & Bustard / 40 ft road 40ft rd & Allentown rd	2/6/2023 9:51 AM
111	Morris road - my kids want to bike to Fischer's park and it's too dangerous.	2/6/2023 9:29 AM
112	Allentown and Forty Foot Road Reinert Road Tomlinson Road Fretz Road	2/6/2023 9:14 AM
113	Morris Rd between Spring Valley and Trumbauer Morris Rd Spring Valley to Bustard	2/6/2023 9:06 AM
114	Keeler Td. between Quarry and Michael Way	2/5/2023 6:17 PM
115	1. Coming downhill from Freddy Hill on Sumneytown Pike towards the turnpike. 2. Between Towamencin Beverage and Wawa on Sumneytown Pike	2/3/2023 5:21 PM
116	Sumneytown Pike Between North Penn High School and Forty Foot Rd	2/3/2023 3:44 PM
117	Sumneytown pike	2/3/2023 1:41 PM
118	Morris Road before Bustard, Mainland Rd & Sumneytown Pike at new turnpike entrance, Bustard Rd bridge	2/2/2023 11:30 AM
119	Kriebel Road	2/2/2023 8:21 AM
120	Sumneytown Pike from Valley Forge to the TP, Valley Forge Rd from Snyder to Sumneytown Pk, Orvilla Rd.	2/1/2023 7:39 PM
121	Kriebel Rd & Springer Road	2/1/2023 6:12 PM
122	Keeler Road Wambold Road	2/1/2023 5:33 PM
123	Valley Forge Rd and Sumneytown . Walking anywhere without sidewalks	2/1/2023 4:53 PM
124	Bridge on Bustard Rd. near Kriebel. Kriebel Rd. near Springer Rd intersection Anders Rd and Valley Forge Rd Metz Rd between Schlosser and Kerr Rds Kriebel Rd. between Kulp and Metz Rds	2/1/2023 2:43 PM
125	Along Sumneytown Pike, Allentown Road, and parts of Forty Foot Road — speeding, heavy traffic and no sidewalks	2/1/2023 12:18 PM
126	Forty foot rd, sumneytown pike, valley forge rd,	2/1/2023 12:12 PM
127	Morris road some areas, Snyder road	2/1/2023 12:02 PM
128	Bustard & Sumneytown, Sumneytown between towamencin beverage and Freddy Hill (only the section from the bottom of the hill to Freddy Hill), Freddy Hill to Kriebel,	2/1/2023 11:33 AM

Towamencin Township Sidewalk Connectivity Study

129	Along Old Forty Foot Rd. Going the “illegal” way across the Rittenhouse Rd bridge	1/28/2023 11:28 AM
130	Keeler Rd bridge Allentown Rd between Walton farm school and keeler where there is no sidewalk	1/27/2023 2:52 AM
131	Sumneytown Pike - Forty Foot to Green Lane (No sidewalk on a side of the road). Forty Foot - No sidewalk past Allentown to Welsh Road Detwiler Road - No sidewalk on one side of road. Everywhere - No bike lanes or places to walk (e.g. Bustard Road, Old Forty Foot Road) - Cannot get to Skippack from Kulpsville by foot or bike.	1/26/2023 8:32 PM
132	The entire length of Allentown Road, Forty Foot Road, Tomlinson Road, and Detweiler Road where sidewalks don't exist.	1/25/2023 12:25 PM
133	Bustard Rd, Sumneytown Pike	1/24/2023 8:24 AM
134	- kriebel rd between Kulp and Metz rd (getting to fisher park the back way) - old Morris has lots of walkers but it's not as dangerous - would love safe/continuous way to bike to/from train	1/23/2023 6:28 PM
135	Allentown Road, crossing Allentown Road at Forty foot road, bustard road, Tomlison road. Sumneytown pike	1/23/2023 6:15 PM
136	Forty Foot Road Sumney Town Pike Valley Forge ropad	1/23/2023 5:49 PM
137	Troxel Rd Sumneytown Pike Old Forty Foot Rd Allentown Rd	1/23/2023 5:17 PM
138	Pedestrians often walk / run / bike along Troxel Road where it crosses towamencin creek. It's a blind curve with no shoulder or sidewalk. I'm not sure how to solve.	1/23/2023 4:16 PM
139	Inglewood development	1/23/2023 4:07 PM
140	Forty Foot Road between Sumneytown Pike & Allentown Road is a death trap — speeding vehicles, too many trucks	1/23/2023 4:03 PM
141	Bustard Rd Old Morris Rd Sumneytown Pike Forty Foot Rd Allentown Rd Troxel Rd	1/23/2023 4:02 PM
142	turnpike bridge over bustard road Crossing Bustard Road at Rittenhouse Crossing Bustard Road at Sumneytown Pike Crossing Sumneytown Pike at Forty Foot Road Crossing Bustard Road over Bridge to Fishers Park	1/15/2023 3:29 PM
143	Main St./Welch Road from Lansdale to Forty Foot Rd., The Kulpsville/Forty Foot/Turnpike area Sumneytown Pike from NPHS to Freddy Hill	1/13/2023 9:22 AM
144	Valley forge rd Allentown rd	1/12/2023 1:54 PM
145	Bustard Road, Old Morris Road, Kriebel Road, Detweiler Road, Tomlinson Road	1/9/2023 8:46 AM
146	Allentown rd Woodlawn drive Weikel road Valley forge road sumneytown pike	1/8/2023 2:33 PM
147	Trumbauer Road to access trail on Kriebel Rd Morris Road where sidewalk ends before Trumbauer Road	1/7/2023 6:39 AM
148	Sumneytown Pike at NPHS Kriebel Rd curve near Turnpike overpass	1/5/2023 8:37 PM
149	Walk/Bike from Gristmill development to Lansdale Walk from Gristmill development to 40 Foot road shopping (Lowes/ShopRite) Corner of West Orvilla Road and Welsh Road	1/5/2023 3:03 PM
150	Welsh rd, Allentown road, troxel rd	1/5/2023 11:27 AM
151	1. The intersection of forty foot road and Allentown road. 2. Forty Foot road and Sumneytown Pike 3. Forty foot road and welsh road	1/5/2023 9:37 AM
152	Forty Foot Rd Valley Forge Road Sumneytown Pike	1/4/2023 8:12 PM
153	Bustard and Summneytown Intersection Old forty foot road	1/4/2023 7:17 PM
154	Sumneytown Pike Allentown Rd between Forty Foot and Wambold Fretz Rd from Wambold to Allentown Bustard Rd	1/4/2023 6:40 PM
155	Crossing troxel road from municipal building to Snyder needs a pedestrian yield walkway...for kids needed for school/practices and pool	1/4/2023 6:14 PM
156	Quarry Rd/Bridge Rd and Old Forty Foot Rd; Rittenhouse Rd and Old Forty Foot Rd; car bridge on Bustard Rd near Fisher's Park - too narrow; anywhere along Old Forty Foot Rd - no shoulder	1/4/2023 5:34 PM

Towamencin Township Sidewalk Connectivity Study

157	Green Lane Road near trail at turnpike bridge Bustard Road entrance to Firehouse Park	1/4/2023 5:10 PM
158	Weikel Road, Boyd Ave,	1/4/2023 4:54 PM
159	Sumneytown and Bustard Rds. Rittenhouse and Old Forty Foot Rds., Sumneytown and Green Lane Rds., Sumneytown and Forty Foot Rds, Sumneytown and Towamencin Rds.	1/4/2023 4:50 PM
160	Sumneytown Pike, Kriebel Rd, Troxel Rd	1/4/2023 4:44 PM
161	Kriebel Rd	1/4/2023 4:42 PM
162	Towamencin Trail along Old Morris Road between Old Forty Foot and Bustard. There is no shoulder and bikes/walkers have to ride/walk on the road. It would be great to have a 3ft wide gravel trail to walk/bike on. We do not feel safe on the road because cars go way too fast.	1/4/2023 4:30 PM
163	Crossing street from my neighborhood to Towamencin Shopping Village Allentown Road has some sidewalks, but it's not continual and that would make me feel safer	1/4/2023 4:12 PM
164	Weikel Road between Orchard Lane and Snyder Road.	1/4/2023 4:10 PM
165	Any location where sidewalks have been deferred. As a bicyclist I never know where a ride will take me and often times I run into areas of concern since I can't get off the roadway due to the lack of sidewalks.	1/4/2023 4:04 PM
166	Sumneytown Pike Allentown Rd Valley Forge Rd Bustard Rd Kriebel Rd	1/4/2023 3:49 PM
167	1-Kriebel Road between 476 and Sumneytown 2-The Trumbauer Road bridge over Towamencin Creek 3-The Bustard Road bridge over Towamencin Creek. These two bridges hamper access for residents to enjoy Fischer's Park and great trail by the creek. In general, Fischer's Park is tough to access on foot or bicycle.	1/4/2023 3:47 PM
168	Bustard rd near Kriebel; Kriebel Rd is dangerous no shoulder	1/2/2023 1:53 AM
169	Sumneytown Pike S Valley Forge Rd	12/30/2022 7:50 PM
170	Allentown road Bustard road Weinkle road I usually stay in a confined area, however would definately bike or run further out if safer to go along some of the main drags	12/30/2022 4:58 PM
171	Intersection of Valley Forge Rd. and Sumneytown Pike - and anywhere around the High School complex. Allentown Road between Troxel and Keeler roads. Particularly the intersection at Keeler. Anders Road crossing at Valley Forge Rd. Morris Road on the windy part from where the bike lane ends down to the Bustard Rd intersection. Welsh Rd. between Orville and Ralphs Corner entrance.	12/30/2022 11:29 AM
172	Anywhere on Allentown Road. That whole road is a nightmare for biking or walking. Also, some trail intersections need work. Specifically, the one by Leidy and Cherry Lane right between the church and the cemetery because I don't think drivers even know there's a bike trail there. There are stop signs in both directions for the drivers, and the trail riders have right of way because they don't have a stop sign. However, very few of the drivers ever stop for people using the trail. It also needs to be maintained in the winter or bicyclists are going to have to ride on the road.	12/30/2022 10:57 AM
173	Allentown and forty foot rd, Allentown and valley forge rd, forty foot and welsh, forty foot and Sumneytown, Snyder and valley forge	12/30/2022 9:49 AM
174	Sumneytown Pike. Riding to North Wales train station or riding to retail establishments on Sumneytown Pike toward Forty Foot Road	12/21/2022 9:32 AM
175	intersections, potholes, Valley Forge Road, places surrounding the high school, the towamencin shopping center	12/17/2022 6:56 PM
176	The underpass for cars makes transversal inconvenient due to the lack of sidewalk.	12/16/2022 7:40 AM
177	Valley Forge Rd too small for pedestrian, too scary for bicyclist	12/15/2022 4:50 PM
178	North Penn High School Parking Lot & Surrounding Area	12/15/2022 3:48 PM
179	sidewalks from NPHS to wawa/mcdonalds firehouse park to general nash elementary	12/15/2022 11:16 AM
180	- Any point past the Wawa at Bustard and Sumneytown - Bustard by General Nash Elementary	12/15/2022 8:24 AM

Towamencin Township Sidewalk Connectivity Study

181	Allentown / Valley Forge Road	12/15/2022 8:19 AM
182	I'm not sure	12/15/2022 7:30 AM
183	Main street, north penn to the shopping center, north penn to main street,	12/15/2022 7:23 AM
184	North Penn High School Area, Allentown Road along Grist Mill Park Area, crossing Sumneytown from Troxel to Kriebel Rd. , Allentown Road - traffic calming in residential areas, Old Forty Foot Road - so many of the existing road trails connect to this road but it has no shoulder and wayfinding is much needed.	12/10/2022 1:56 PM
185	Curve on kriebel by new trail, Kerr rd,	12/10/2022 6:00 AM
186	Bustard Road bridge over the Turnpike- there should be a barrier of some type between the roadway and the shoulder. Also, Bustard Road in general - there is not continuous sidewalk from the school to the restaurants at the corner of Sumneytown Pike.	12/6/2022 10:59 AM
187	1) Kriebel Road between Green Lane Road and Parkview Road where there are 2 properties without a sidewalk so you are forced onto the street with 35 mph speed limit. 2) Green Lane Road between Pheasant Hill Road and Old Forde Way - the property where the power lines are has a sidewalk but it is not maintained for snowy and icy conditions or wet slippery leaves and you are forced onto the street	12/4/2022 11:43 AM
188	Along bustard rd. Sumneytown Pk. Troxel Old Forty Ft.	12/4/2022 8:53 AM
189	1. Morris road between Fischer's Park and Traumbuer Rd 2. Bridge on Traumbuer Rd 3. Bridge near Fischer's park 4. Bustard Rd between Adam Rd and Sumneytown Pike	12/3/2022 11:36 AM
190	1. Bustard Road between Kriebel and Sumneytown 2. Allentown Road between Valley Forge Rd and Wambold Road 3. Kriebel Rd. between Sumneytown Pike and Old Forty Foot Road 4. Valley Forge Rd between Anders and Allentown Rd. 5. Sumneytown Pike between Valley Forge and Wambold Road.	12/1/2022 10:05 PM
191	1. Keeler road is supposedly the "trail" that runs between my house and Dock Villaige where I go to help out daily. Sometimes I do not have a car and have no choice but run the "trail" around the dangerous corner on Keeler road. 2. While road also no shoulder or sidewalks. 3. Troxel road no shoulder, limited sidewalks. 4. Joining "the trail" with actual trail down forty foot rd to Bustard road park would be nice! Especially for runners and bikers safety	12/1/2022 7:57 PM
192	Sumneytown Pk Bustard Rd Kriebel Rd Valley Forge Rd Allentown Rd	12/1/2022 5:43 PM
193	1. The curve/bridge on Troxel Road next to Seventh Day Adventist Church. 2. Troxel Rd in front of the Harris house (connecting Carriage Way to sidewalk in front of Family Worship Center. 3. As you exit the Township building on Troxel Road, up to and across Keeler Rd there is no sidewalk. It would also be nice to have a pedestrian crossing (with a button to push and lights) from the Troxel Rd exit of the township building across Troxel to the paved trails that goes up Snyder. 4. Crossing Allentown Road at Inglewood Elementary School. 5. North Penn High School, from the school to Valley Forge Road, I can't believe after all these years there is no sidewalk on either side. Everyone, including students, must walk in the street or in the grass.	12/1/2022 11:22 AM
194	Kriebel road	11/30/2022 7:06 PM
195	Crossing Welsh Road from Gristmill Run neighborhood to Plains Mennonite Park Walking Welsh Road from Gristmill Run neighborhood to Forty Foot Road Orvilla Road Walking Welsh Road going towards Lansdale	11/30/2022 6:31 PM
196	Kriebel Road	11/30/2022 9:42 AM
197	Kriebel Rd	11/30/2022 9:05 AM
198	Kriebel Road Bustard rd	11/29/2022 7:32 PM
199	Forty Foot Road, Kriebel Road, Sumneytown Pike, Allentown Road, Bustaed Road	11/29/2022 4:51 PM
200	Kriebel rd too narrow to share with other cars and pedestrians or bike. Morris Rd, Sumneytown pike, Allentown rd	11/29/2022 4:42 PM
201	Kriebel Morris Bridge over the turnpike	11/29/2022 3:13 PM
202	Metz road has become a thoroughfare to bustard road. People routinely go 50mph and above	11/29/2022 10:50 AM

Towamencin Township Sidewalk Connectivity Study

with people walking and cycling with access to fisher park as well. Very dangerous

203	1. Weikel Road from pool to Snyder 2. Troxel Road (opposite side of township building/on the farm property from the corner of Troxel & Snyder to where the sidewalk picks back up in front of Keeler Rd.) 3. Crossing the street at Troxel and Snyder 4. Crosswalk in front of Walton Farm 5.	11/28/2022 6:36 PM
204	Metz Road Frye Road Kerr Road bustard Road Essentially area around Fischer's park. Many people in township walk to park and cars all speed excessively down the small roads	11/27/2022 11:14 AM
205	Kriebel Road, Old Forty Foot Road, Bustard Road, Allentown Road, Valley Forge Road.	11/26/2022 11:14 PM
206	Morris Rd & Valley Forge Rd Valley View Way at Morris & Locust (Milestone) Morris Rd near Bustard (windy, narrow)	11/26/2022 9:43 PM
207	1. Troxel Road from Keeler Road to Snyder Road. 2. Troxel Road from Stephen Lane to Sumneytown Pike 3. Snyder Road from Oxford Road to the High School Driveway. 4. Weikel Road from Snyder Road to the Township Swimming Pool. 5. Valley Forge Road from Snyder Road to the High School Driveway.	11/25/2022 10:10 PM
208	Kerr road (way to thin with cars zipping thru it), Bustard road, Forty foot road	11/25/2022 5:33 PM
209	Kreibel Rd Bustard Rd Valley Forge Rd	11/25/2022 4:22 PM
210	Kriebel Rd from Sumneytown Pike to Anders Rd. Over the bridges near Fushers Park and Troumbaur Rd. Sumneytown pike.	11/24/2022 10:33 AM
211	Weikel Road between Orchard Ln and Snyder. Troxel Rd between Carriage Way and Pickwick Lane	11/24/2022 8:34 AM
212	Bridle Path & Sumneytown Pike Troxel Road & Sumneytown Pike Sumneytown Pike & Valley Forge Road Allentown Road & Forty Foot Road	11/23/2022 11:35 PM
213	Sumneytown and Green Lane Sumneytown between Finch Run and Village Way (large differences in height of sidewalk slabs)	11/23/2022 7:22 PM
214	Bustard/Forty Foot Rd and Sumneytown- NO ONE stops when making a right from Sumneytown on to forty foot Accessing Fishers Park- an amazing resource for the township and you can't safely walk/bike there from pretty much anywhere in the township with kids! Bustard Rd	11/23/2022 7:13 PM
215	Bustard Road between Liberty and Fishers Park. There is zero shoulder. I would never bike through there and when I run its way up in the grass against the tree line both ways. Along Old Morris and Old Forty Foot. Busy roads with no sidewalk or shoulder both of which limit how far one can go that direction. Crossing Sumneytown at Bustard/Forty Foot is insanely dangerous! Intersection is way too big and cars rarely if ever abide cross walk lights. Ive almost been hit so many times I wont even go that way anymore.	11/23/2022 6:19 PM
216	The firehouse park trail ends on Green Lane road and can get busy due the neighborhood where Nash elementary is located. Since that trail ends on Green Lane road and is not connected to Liberty Bell Drive this presents a safety issue since there are a-lot of walkers with strollers coming from the neighborhood going back to their homes.	11/23/2022 3:17 PM
217	Old Forty Foot Road; Rittenhouse Rd Bridge on a bike or on foot going in the wrong direction	11/23/2022 11:19 AM
218	Allentown Road, Forty Foot Road	11/23/2022 10:37 AM
219	Trumbauer Rd no sidewalks Morris Rd no sidewalks Kriebel rd no sidewalks Bustard rd no sidewalks No access to get to any shopping centers via sidewalks	11/23/2022 7:24 AM
220	Access across township. Access to Freddy Hill or other businesses Access to public pool Access to grocery shopping	11/22/2022 8:15 PM
221	Quarry Road Sumneytown Pike	11/22/2022 5:57 PM
222	The bend on Keeler Road between Troxel and Quarry.	11/22/2022 5:37 PM
223	Sumneytown pike	11/22/2022 4:32 PM
224	1. Kerr Road 2. Kriebel Road 3. Springer Road 4. Schlosser Road *In addition to the people who live in these areas, we frequently get people taking extended walks and bike rides from	11/22/2022 2:55 PM

Towamencin Township Sidewalk Connectivity Study

Fisher Park, Evansburg, etc. In some areas, our roads are too narrow for two cars to pass, let alone what may happen if a pedestrian is there. If a truck or bus passes you, you often have to move to the side of the road to avoid being hit. Very dangerous area!

225	Old Forty Foot Rd + Rittenhouse Rd Kriebel Rd + Bustard Rd Sumneytown Pk + Bustard Rd/Forty Foot Rd Clemens Rd Sumneytown Pk	11/22/2022 1:09 PM
226	Morris Rd Kreible Rd Sumneytown Pike	11/22/2022 7:25 AM
227	My neighborhood (Inglewood Gardens) is often used as a traffic cut through, especially Boyd and Woodlawn. I have seen cars go entirely too fast, and without sidewalks I am not comfortable letting my children walk and ride bikes in the neighborhood.	11/22/2022 7:22 AM
228	Valley Forge & Morris Road. Upper Gwynedd has bike lanes, then once you cross Valley Forge Road, no bike lanes on Morris Road in Towamencin Two.	11/21/2022 8:41 PM
229	Our half of Anders Road is too narrow. We've lost pets, wildlife, and mailboxes to speeding motorists. A stop sign or widening of the street is desperately needed!!!!!!	11/21/2022 7:35 PM
230	South Valley Forge Road between Morris Road and Sumneytown Pike, locations on Allentown road that are narrow and have no sidewalks like the intersection of Fretz Road and Allentown Road	11/21/2022 6:20 PM
231	Anders Rd between Meadow Glen Dr and Valley Forge Rd has no sidewalk and no bike path, despite being very heavily walked and biked. Troxel Rd near Carriage way has no sidewalk on a blind turn in both directions.	11/21/2022 6:04 PM
232	Anders Road (1000 block) is heavily trafficked and people SPEED down the street. Every time I go for a walk, i risk getting hit by a motor vehicle because there are no sidewalks. We need sidewalks and speed bumps to help make the street safer.	11/21/2022 5:25 PM
233	Keeler Road Troxler Road Wambold Road Sumneytown Pike	11/21/2022 4:56 PM
234	Orvilla Road between Allentown road and Welsh road. Weikel Road between the pool and Snyder road. Old Forty Ft road between Rittenhouse and Hedrick road. Kriebel road between Sumneytown pike and Anders road.	11/21/2022 3:02 PM
235	Troxel Rd, Orvilla Rd, Allentown Rd (biking safety), Bustard Rd, and Sumneytown	11/20/2022 1:24 PM
236	Kriebel Road Sumneytown Pike Bustard Road Fischers Park Valley Forge Road	11/18/2022 11:22 AM
237	KRIEBEL RD (BETWEEN SUMNEYTOWN AND TURNPIKE BRIDGE BUSTARD RD (BETWEEN KRIEBLE AND SUMNEYTOWN) KRIEBEL RD (BUSTARD RD TO SPRINGER ROAD) TROXEL RD	11/16/2022 6:18 PM
238	Allentown and Valley Forge, Sumneytown and Valley Forge, Kriebel Road entire length (widen and add yellow lines and edge lines and sidewalks) Green lane road connecting for cars but at least for pedestrians by baseball fields. Sidewalks along Morris road from SunnyAyre to Trumbaur and along Trumbauer.	11/16/2022 12:59 PM
239	Kriebel Road Bustard Road Anders Road	11/14/2022 8:42 PM
240	Bikes on the narrow roads . Danger to themselves and vehicles	11/14/2022 8:39 AM
241	The bridge on trumbauer, the curve on Kriebel, sections on Kriebel with no sidewalk between rampart and green lane.	11/13/2022 9:10 PM
242	Weikel Road, between Snyder and Orchard Lane (i.e., section before it widens by Orchard).	11/13/2022 10:59 AM
243	Bicycles on back roads. They should be on trails already available to lessen traffic accidents	11/13/2022 6:57 AM
244	All of bustard rd, Kreible rd Summneytown pike Valley forge rd Allentown rd	11/12/2022 4:39 PM
245	Excessive speeding on Rittenhouse Rd the entire length	11/11/2022 11:12 PM
246	Kriebel Road	11/11/2022 8:43 PM
247	Sumneytown Pike, Valley Forge, Bustard Rd. Allentown Rd. (bike) Pretty much all roads without sidewalks that do not have a shoulder for walking or biking	11/11/2022 7:48 PM
248	Forty Foot Road, Troxel Road at the narrow bridge, Troxel Road where there is no sidewalk, Keeler Road at the 90 degree curve, Troxel Road right off Sumneytown pike	11/11/2022 7:47 PM

Towamencin Township Sidewalk Connectivity Study

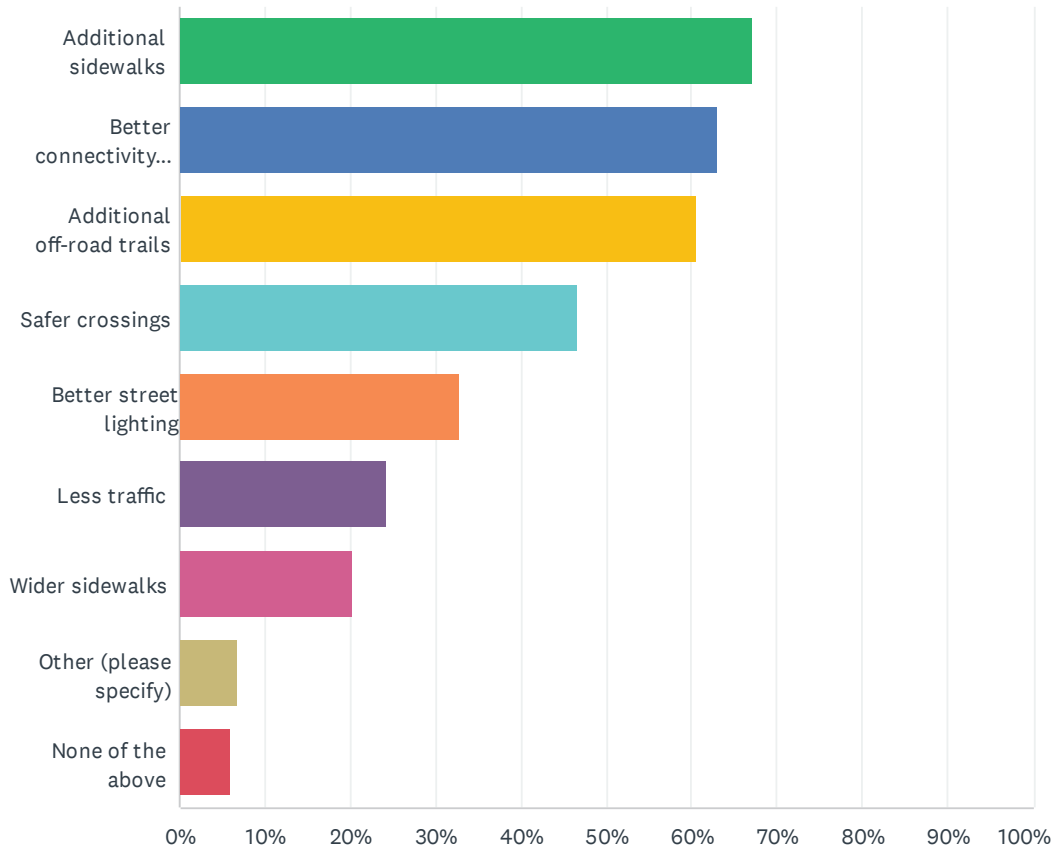
249	Intersection of Bustard and Kriebel Rd, , Bustard Rd., Kriebel Rd., all crossroads over Sumneytown and Valley Forge Rds	11/11/2022 6:26 PM
250	Forty Foot rd	11/11/2022 5:58 PM
251	Intersection of Old Forty Foot Road and Rittenhouse Road; all along Bustard Road from Sumneytown Pike to Hollis Road; Derstine Road; Detwiler Road; Forty Foot Road in front of Lowes, Wawa, Chick Fil A	11/11/2022 5:35 PM
252	On roads near fishers park, kriebel, springer, bustard; the intersection of bustard rd and kriebel by the bridge. Also worry for teens crossing sumneytown pike to get to wawa.	11/11/2022 4:41 PM
253	Kriebel Road - the entire length. Bustard Road Sumneytown Pike Keeler Road Allentown Road	11/11/2022 2:59 PM
254	Kriebel road, bustard road, keeler road, sumneytown pike, valley forge road	11/11/2022 2:48 PM
255	Kriebel Rd, Bustard Rd, Keeler Rd, Summnytown Pike, and Valley Forge.	11/11/2022 2:47 PM
256	Towards giant in Harleysville from neighborhood. Along the Harleysville pike.	11/11/2022 1:40 PM
257	Allentown road mostly	11/11/2022 12:59 PM
258	Sumneytown Pike and Forty Foot Rd	11/11/2022 9:57 AM
259	Welsh Rd, Allentown Rd, Valley Forge Rd, Bustard Rd	11/11/2022 9:47 AM
260	Troxel Rd (all) Allentown Rd - all that goes through Towamencin. All intersections along it are pretty dangerous. Weikel Rd - all Sumneytown and Valley Forge Intersection Woodlawn Drive	11/11/2022 8:43 AM
261	Sumneytown Rd Allentown Rd Fourty Foot Rd	11/11/2022 6:39 AM
262	Bustard Road, Sumneytown Pike, Allentown Road, Welsh Road, Old Morris	11/11/2022 12:51 AM
263	Allentown Rd Valley Forge Rd	11/10/2022 10:44 PM
264	Morgan Way and Yeakel Way. There is no stop sign people don't stop when kids are walking	11/10/2022 10:33 PM
265	Rt63 and Orvilla, Rt63 and Forty Foot, and Forty Foot and Sumneytown	11/10/2022 10:07 PM
266	1. Orville - Welsh Junction 2. Allentown - forty foot junction 3. Koeffel - Forty foot junction 4. The crosswalk outside walton farm	11/10/2022 9:29 PM
267	The speed on Forty Foot Road is getting bad especial with kids from Pennfield walking and kids walking or biking to wawa and shopping centers.	11/10/2022 9:29 PM
268	Kriebel Road from Sumneytown to Pheasant Hill Road There is a hill and bicyclists force drivers into blind oncoming traffic	11/10/2022 9:14 PM
269	Forty Foot Road Sumneytown Pike Allentown Road Tomlinson	11/10/2022 9:07 PM
270	The trail from fishers park after the bridge which leads to the street Anders Rd	11/10/2022 9:01 PM
271	Weimar rd and other area with no sidewalks/paths	11/10/2022 8:42 PM
272	Allentown Road crosswalk near WF	11/10/2022 8:24 PM
273	Derstine rd. Tomlinson Rd. Allentown Rd. Forty Foot and Allentown intersection	11/10/2022 7:50 PM
274	The Kriebel curve - I was walking this week and staying to the side and a woman driving an SUV honked multiple time and forced me off the road on to private property so she could pass - there was no one coming towards her or in the other lane - I felt very very unsafe. I have seen this happen multiple times being a resident on this street.	11/10/2022 7:43 PM
275	Reinert Rd. to Forty Foot via Allentown. Tomlinson Rd. Deterstine Rd. Allentown Rd. Forty Foot because traffic does not stop at red lights.	11/10/2022 7:32 PM
276	Busy roads without sidewalks (Allentown, Valley Forge Forty Foot, Bustard, etc.)	11/10/2022 4:11 PM
277	Neighborhood behind Towamencin pool (no sidewalks) Weikel Road Allentown Road Kriebel Road Derstine/Fretz Rd.	11/10/2022 3:40 PM
278	Inglewood neighborhood workout sidewalks Morris rd	11/10/2022 2:38 PM

Towamencin Township Sidewalk Connectivity Study

279	Morris Road between 363 and Bustard Rd	11/10/2022 2:06 PM
280	The cross section of summeytown and forty foot and Allentown and forty foot. I think the cross walks should be a lot larger, designated horizontal I stripes across and noted PED-Xing. Drivers are so distracted I think it would help.	11/10/2022 12:50 PM
281	Bustard Road, connecting Sumneytown to Fischers	11/10/2022 12:34 PM

Q16 What would encourage you to walk more? Select all that apply.

Answered: 357 Skipped: 74



ANSWER CHOICES	RESPONSES	
Additional sidewalks	67.23%	240
Better connectivity between sidewalks	63.03%	225
Additional off-road trails	60.50%	216
Safer crossings	46.78%	167
Better street lighting	32.77%	117
Less traffic	24.37%	87
Wider sidewalks	20.17%	72
Other (please specify)	6.72%	24
None of the above	5.88%	21
Total Respondents: 357		

#	OTHER (PLEASE SPECIFY)	DATE
1	Better places to walk to!! My family likes to go to Skippack usually because it's more fun to	4/12/2023 9:20 PM

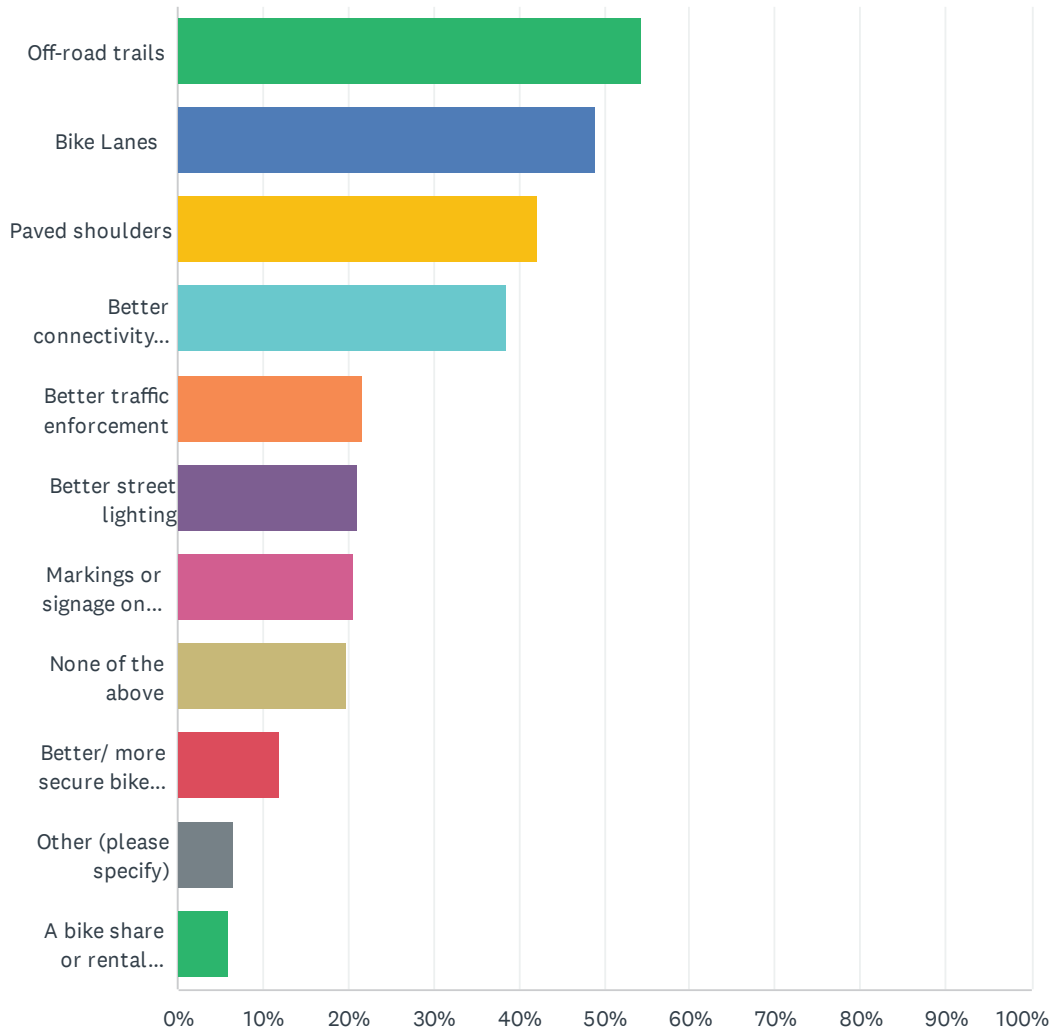
Towamencin Township Sidewalk Connectivity Study

walk around. Please do something about these abandoned shopping centers and the boring Towamencin downtown. We don't need another Wawa. We need fun shops, restaurants, and entertainment.

2	Speed limits	4/12/2023 6:52 PM
3	Towamencin Trail should be connected!	4/12/2023 6:05 PM
4	Wider Roads in some areas (e.g. Kerr Road).	4/12/2023 2:19 PM
5	speed enforcement or calming on Kreibel Rd	4/12/2023 11:56 AM
6	Township Police enforcing speed limits	4/12/2023 11:55 AM
7	Slow the traffic; force cyclists to yield to walkers; ban dirt bikes and ATVs	4/6/2023 3:50 PM
8	No	3/31/2023 5:37 PM
9	GET THE POLICE ON MORRIS RD	3/31/2023 5:04 PM
10	Green lane road trail	3/31/2023 3:32 PM
11	Sidewalks to shopping, pool, parks and schools	3/27/2023 3:23 PM
12	More control of traffic speed.	3/24/2023 5:29 PM
13	Not Applicable. I walk plenty in my neighborhood and connect easily to Christopher Dock campus.	2/18/2023 9:20 PM
14	Lowering speed limits	2/9/2023 5:04 PM
15	Parking at trail entrances	2/1/2023 4:55 PM
16	Keep bicycles and dirt bikes off the sidewalks	2/1/2023 12:19 PM
17	More sidewalks. Bike lanes - there is no real safe area to ride a bike in Towamencin.	1/26/2023 8:36 PM
18	Longer traffic lights for crossing and no turn on red	1/15/2023 3:30 PM
19	BRIDE OVER TOWAMENCIN CREEK AT BUSTARD AND KRIEBLE RD INTERSECTION	11/16/2022 6:27 PM
20	Being able to walk to fischers park safely from Kriebel road	11/13/2022 9:13 PM
21	Violations for speeding on Rittenhouse Rd	11/11/2022 11:14 PM
22	Paved trails not rocks that wash away	11/11/2022 8:45 PM
23	Clean air	11/11/2022 1:41 PM
24	Stop sign at Yeakel Way	11/10/2022 10:34 PM

Q17 What would encourage you to bike more? Select all that apply.

Answered: 349 Skipped: 82



Towamencin Township Sidewalk Connectivity Study

ANSWER CHOICES	RESPONSES	
Off-road trails	54.44%	190
Bike Lanes	49.00%	171
Paved shoulders	42.12%	147
Better connectivity between bike facilities	38.68%	135
Better traffic enforcement	21.78%	76
Better street lighting	21.20%	74
Markings or signage on roads	20.63%	72
None of the above	19.77%	69
Better/ more secure bike parking	12.03%	42
Other (please specify)	6.59%	23
A bike share or rental program	6.02%	21
Total Respondents: 349		

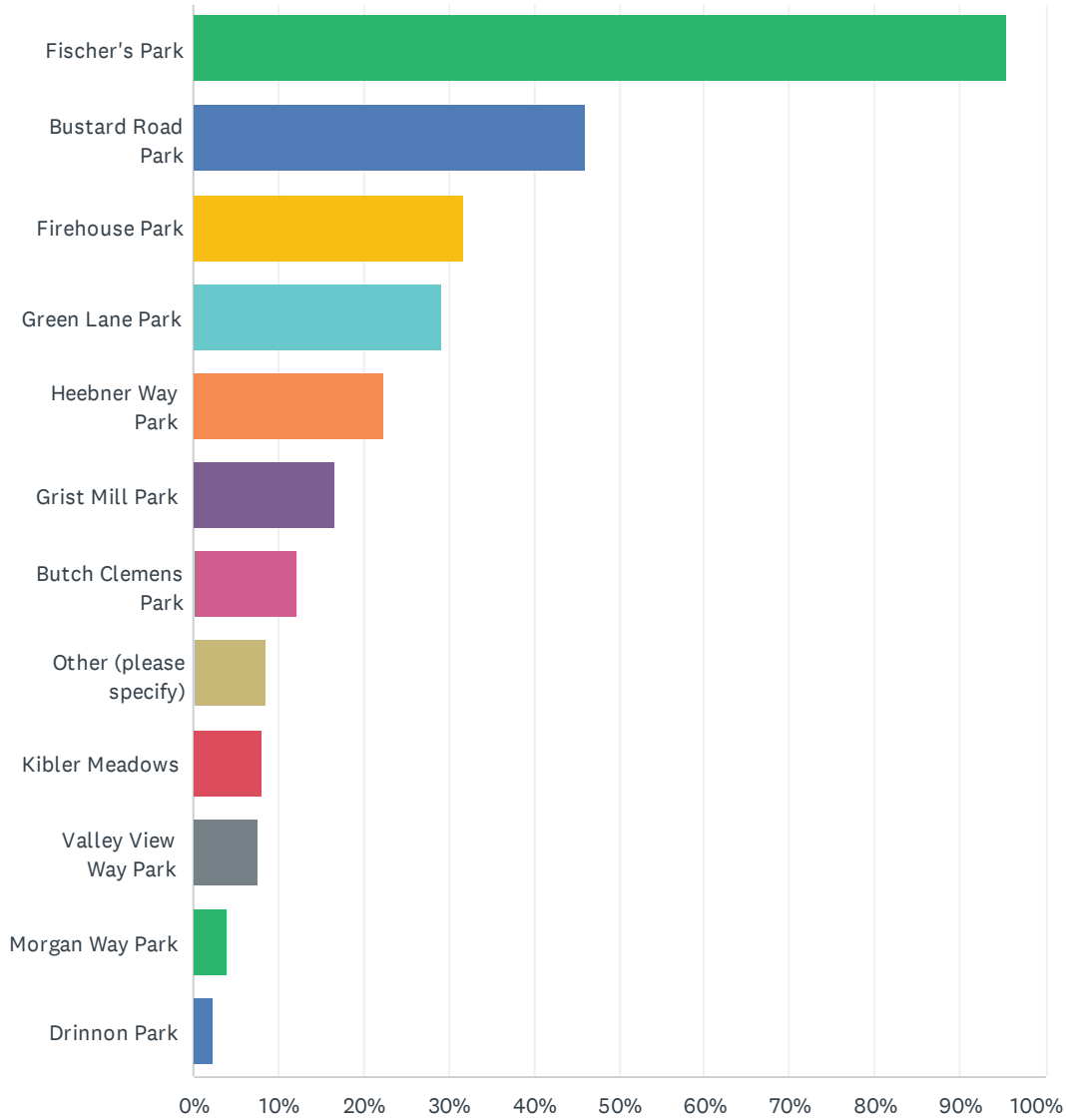
#	OTHER (PLEASE SPECIFY)	DATE
1	Speed limits	4/12/2023 6:52 PM
2	Township Police enforcing speed limits	4/12/2023 11:55 AM
3	Would not bike on streets	4/11/2023 6:40 PM
4	traffic lights that sense bicycles not just cars	4/6/2023 10:31 PM
5	Enforcement of rules for bikers and drivers.	4/2/2023 12:58 PM
6	Stop signs at Green Lane/Liberty Bell Dr.	3/31/2023 6:33 PM
7	STOP THE SPEEDING AND TAIL GAITING	3/31/2023 5:04 PM
8	Trails	3/31/2023 4:37 PM
9	Green lane road trail	3/31/2023 3:32 PM
10	Force cyclists to follow the laws!	3/24/2023 5:31 PM
11	I do not own a bike so doesn't pertain to me.	2/18/2023 9:20 PM
12	Connection to established trails	2/3/2023 1:43 PM
13	More bike lanes and trails. Would like to get from Kulpsville to Skippack, Harleysville and North Penn HS by walking or bike. There are NO SHOULDERS on these roads so it is very dangerous to walk and bike. I like to leave the car home whenever I can as I prefer to walk/bike for errands and exercise.	1/26/2023 8:36 PM
14	Paved trails	1/5/2023 11:29 AM
15	a highly interconnected bike path such as in Harleysville, interconnecting neighborhoods, schools & businesses	1/4/2023 5:36 PM
16	More sidewalks	1/4/2023 4:05 PM
17	They shouldn't only connect to bike facilities. They need to connect to all the kinds of places motorists would go to such as stores, schools, movie theaters, churches, etc. Any bike lanes installed should be protected because otherwise it's just paint that drivers can ignore, and the bike lanes and trails need winter maintenance.	12/30/2022 11:00 AM
18	wayfinding, existing signs are confusing at best	12/10/2022 1:58 PM

Towamencin Township Sidewalk Connectivity Study

19	Better roads - some roads get worked on and then paved in spots, 3 or 4 places, and they are brutal to ride across.	12/1/2022 11:24 AM
20	biking on paved ways vs gravels.	11/29/2022 4:43 PM
21	a way to cross the Mainland Golf Course creek in the "wrong" direction for that bridge - maybe a narrow lane painted on the bridge for walkers & bikes - it is wide enough for 2 cars to squeeze past each other - I did this once decades ago!	11/23/2022 11:20 AM
22	Connectivity of trails	11/21/2022 4:58 PM
23	Less traffic	11/10/2022 9:08 PM

Q18 Which parks, natural areas, or open spaces areas do you currently visit? (Please check all that apply)

Answered: 343 Skipped: 88



Towamencin Township Sidewalk Connectivity Study

ANSWER CHOICES	RESPONSES	
Fischer's Park	95.63%	328
Bustard Road Park	46.06%	158
Firehouse Park	31.78%	109
Green Lane Park	29.15%	100
Heebner Way Park	22.45%	77
Grist Mill Park	16.62%	57
Butch Clemens Park	12.24%	42
Other (please specify)	8.45%	29
Kibler Meadows	8.16%	28
Valley View Way Park	7.58%	26
Morgan Way Park	4.08%	14
Drinnon Park	2.33%	8
Total Respondents: 343		

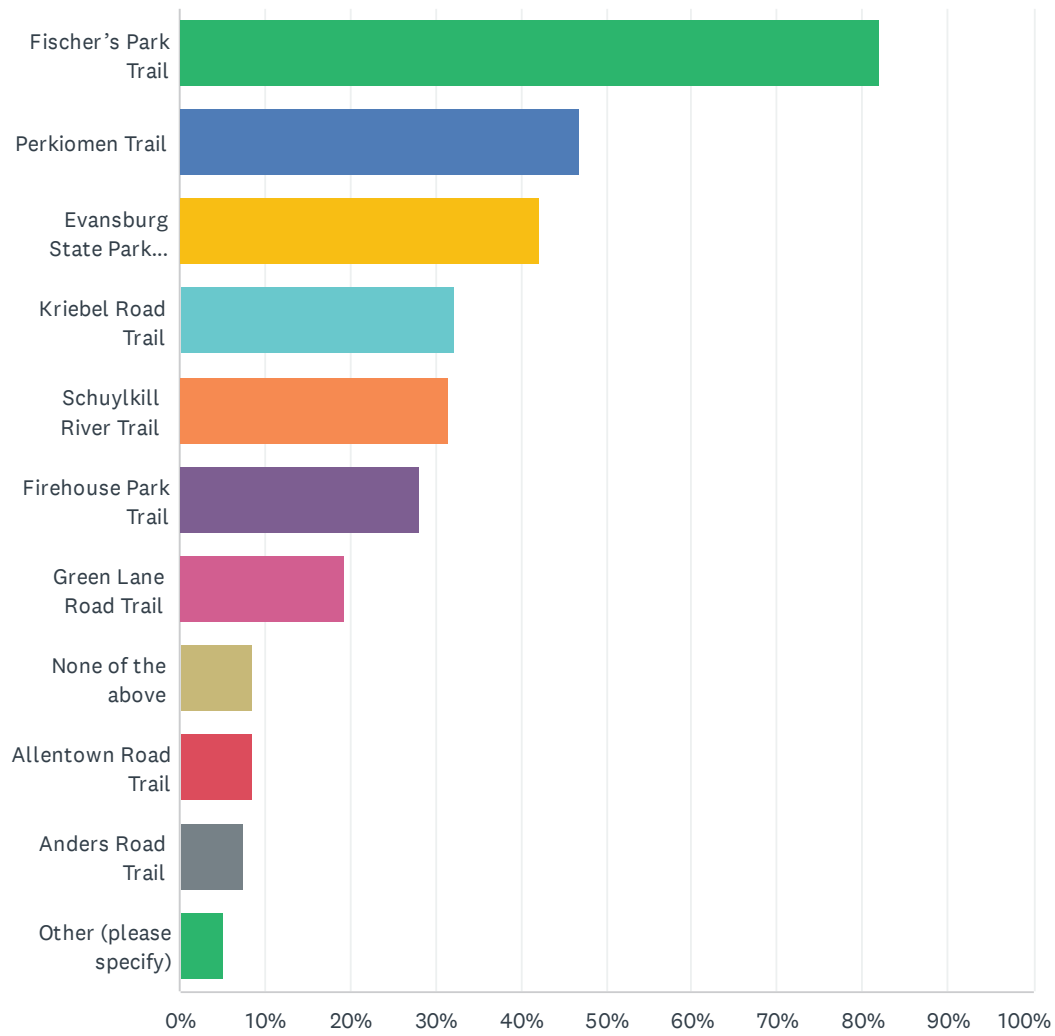
#	OTHER (PLEASE SPECIFY)	DATE
1	Evansburg	4/4/2023 5:00 PM
2	Between Towamencin Pool and Woodlawn	4/4/2023 3:27 PM
3	Pool walking area	4/4/2023 2:38 PM
4	Heebner Park, White's Road Park	3/31/2023 4:53 PM
5	Stoney Creek Park	3/27/2023 11:41 AM
6	I do not visit parks.	3/24/2023 5:30 PM
7	Drubbing park needs paved path and improved playground	2/13/2023 2:16 PM
8	Evansburg State Park	2/9/2023 5:05 PM
9	Charles L. Reed Park, Whites Rd. Park, Parkside Place	2/6/2023 11:50 PM
10	Garfield park	2/6/2023 1:24 PM
11	Parkside place	2/1/2023 4:59 PM
12	Gwennyd preserve	1/23/2023 4:16 PM
13	Evansburg Park	1/13/2023 9:24 AM
14	Area by the pool complex	1/4/2023 4:56 PM
15	Towamencin pool	12/28/2022 6:19 PM
16	Spring Valley and Peace Valley Park	12/15/2022 9:45 PM
17	Evansburg State Park	12/10/2022 2:02 PM
18	I used many more when I had kids playing soccer!	12/1/2022 11:25 AM
19	Out of township trails	11/30/2022 7:08 PM
20	Plains Mennonite Church Park (Hatfield)	11/30/2022 6:59 PM
21	Isn't Bustard rd park the same as the Firehouse park?	11/23/2022 11:21 AM

Towamencin Township Sidewalk Connectivity Study

22	Heebner Park in Worchester	11/21/2022 7:36 PM
23	Towamencin Pool Park	11/20/2022 1:27 PM
24	New Kriebel Road Trail	11/16/2022 1:00 PM
25	Briarwyck Park	11/11/2022 1:42 PM
26	Would visit more/parks lack active activities	11/11/2022 1:01 PM
27	Park/trail around Towamencin pool	11/10/2022 9:44 PM
28	Trails within Dock Woods	11/10/2022 7:35 PM
29	Park at the pool	11/10/2022 2:40 PM

Q19 Which trails do you currently visit? (Please check all that apply)

Answered: 351 Skipped: 80



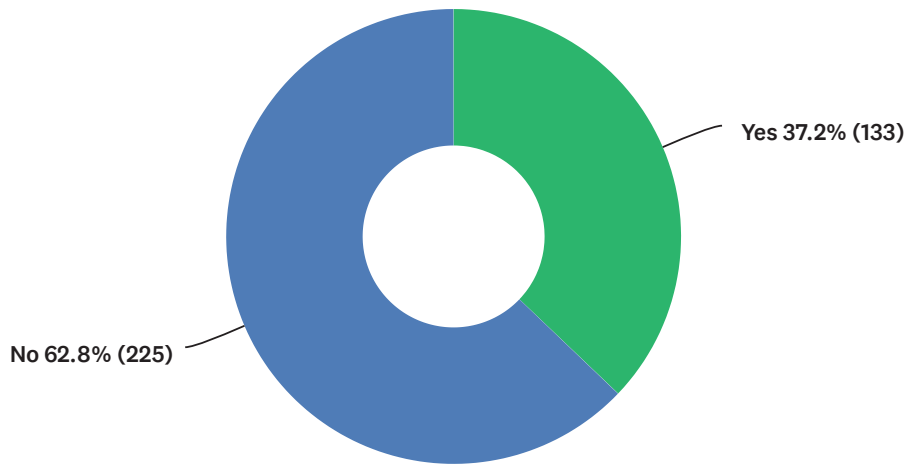
Towamencin Township Sidewalk Connectivity Study

ANSWER CHOICES	RESPONSES	
Fischer's Park Trail	82.05%	288
Perkiomen Trail	47.01%	165
Evansburg State Park Trails	42.17%	148
Kriebel Road Trail	32.19%	113
Schuylkill River Trail	31.62%	111
Firehouse Park Trail	28.21%	99
Green Lane Road Trail	19.37%	68
None of the above	8.55%	30
Allentown Road Trail	8.55%	30
Anders Road Trail	7.41%	26
Other (please specify)	5.13%	18
Total Respondents: 351		

#	OTHER (PLEASE SPECIFY)	DATE
1	There is no Anders Rd Trail?!?! - Have no idea about the Allentown Rd Trail, Where is the Green Lane Rd Trail?,	4/11/2023 1:03 PM
2	Wissahickon Valley (Green)	4/6/2023 12:28 PM
3	Have no idea where these trails are or the names of the trails I go on	4/4/2023 5:07 PM
4	I do not use trails.	3/24/2023 5:30 PM
5	Lower Gwynedd Trails	2/9/2023 9:00 PM
6	New trail behind Valley View park	2/6/2023 9:08 AM
7	Trail behind Parkside	2/1/2023 4:59 PM
8	Skippack Trail	2/1/2023 11:36 AM
9	Skippack Trail. Weekly use Perkiomen and Skippack trails to visit eating places and go for exercise. The other trails are not sufficiently linked to allow me to utilize them. I often walk from Towamencin Firehouse to Ralph's Corners, but it is hard to walk in other nearby areas.	1/26/2023 8:40 PM
10	Have no idea where these trails are or the names of the trails I go on	1/4/2023 5:28 PM
11	Green Ribbon Trail, 202 Parkway Trail, Liberty Bell Trail	12/30/2022 11:37 AM
12	I don't know the names of the trails.	12/30/2022 11:02 AM
13	202 to Doylestown, Skippack Trail	12/21/2022 9:36 AM
14	Zacharias Creek (not in Towamencin)	11/22/2022 5:39 PM
15	Zacharias Creek Trail	11/18/2022 11:27 AM
16	Zacharia	11/14/2022 7:15 AM
17	Green ribbon trail, Zacharias creek trail	11/13/2022 9:15 PM
18	Franconia Park, White's Road Park	11/11/2022 7:49 PM

Q20 Do you have school-aged children?

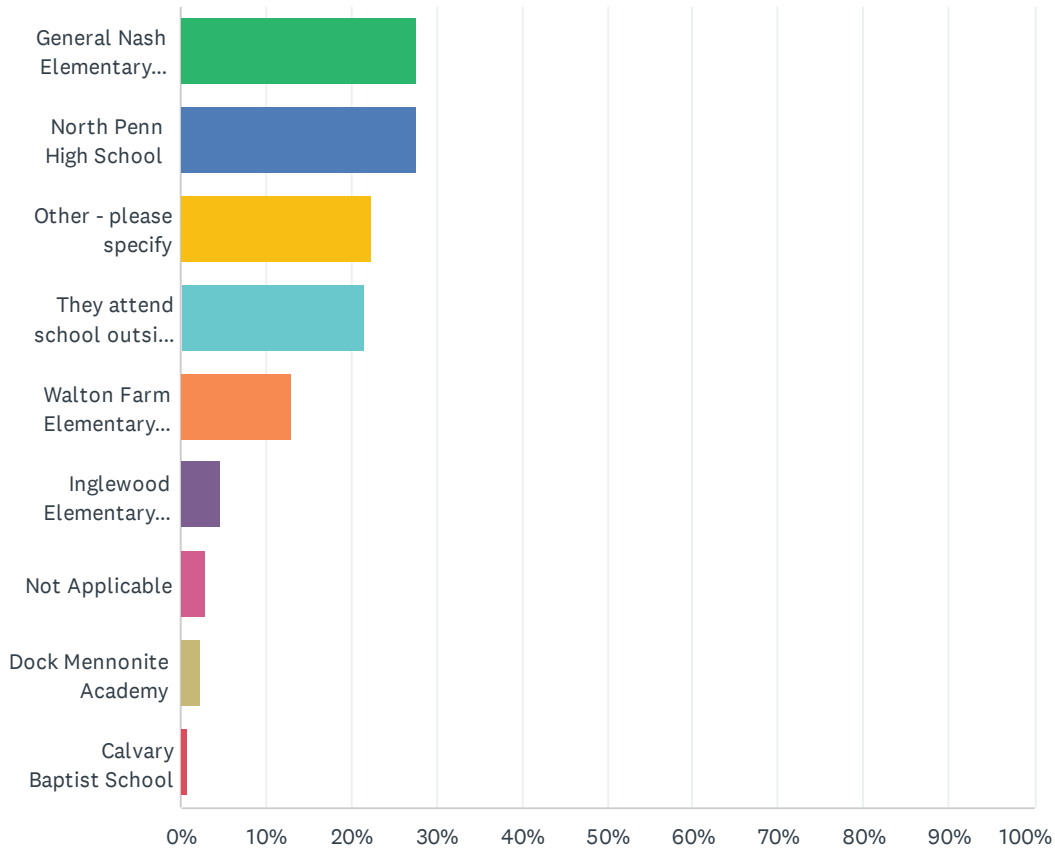
Answered: 358 Skipped: 73



ANSWER CHOICES	RESPONSES	
Yes	37.2%	133
No	62.8%	225
TOTAL		358

Q21 Which school(s) in the township do your school-aged children attend?

Answered: 130 Skipped: 301



ANSWER CHOICES	RESPONSES	
General Nash Elementary School	27.69%	36
North Penn High School	27.69%	36
Other - please specify	22.31%	29
They attend school outside of Towamencin Township	21.54%	28
Walton Farm Elementary School	13.08%	17
Inglewood Elementary School	4.62%	6
Not Applicable	3.08%	4
Dock Mennonite Academy	2.31%	3
Calvary Baptist School	0.77%	1
Total Respondents: 130		

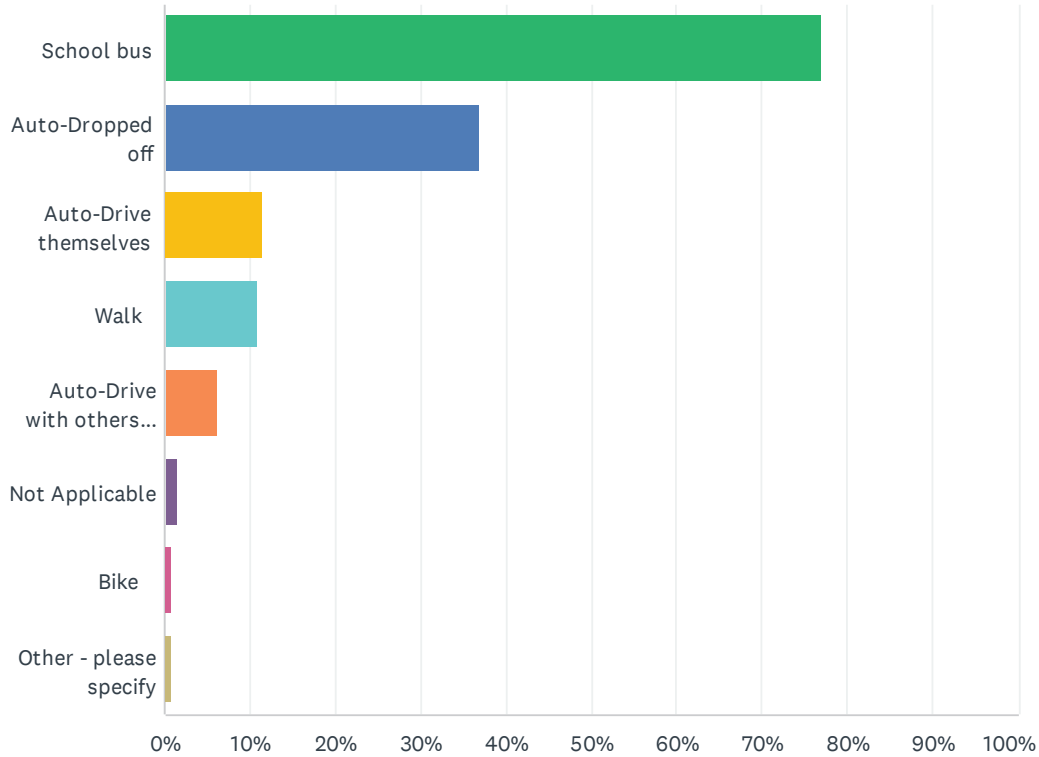
#	OTHER - PLEASE SPECIFY	DATE
1	Gwynedd Square	4/12/2023 3:34 PM

Towamencin Township Sidewalk Connectivity Study

2	Gwynedd Square	4/11/2023 7:03 PM
3	Gwynedd Square	4/11/2023 3:36 PM
4	Gwynedd Square	4/11/2023 3:21 PM
5	Penndale and Gwynedd Sq	4/11/2023 3:05 PM
6	Corpus christi	4/11/2023 1:17 PM
7	Walton farm needs paved path from her net way	2/13/2023 2:17 PM
8	Corpus Christi	2/7/2023 8:32 AM
9	Pennfield; will attend NPHS	2/7/2023 6:37 AM
10	Preschool	2/6/2023 11:40 PM
11	Penndale Gwynedd Square	2/6/2023 9:31 AM
12	SHS	2/1/2023 11:10 AM
13	Other	1/5/2023 8:38 PM
14	La Petite Academy	1/4/2023 4:14 PM
15	Pennfield MS	1/4/2023 3:56 PM
16	Pennfield MS	1/4/2023 3:28 PM
17	Pennfield MS	1/4/2023 3:24 PM
18	Corpus Christi	1/2/2023 1:56 AM
19	Am kulp	12/22/2022 12:12 PM
20	Pennfield	12/1/2022 7:59 PM
21	College	12/1/2022 11:26 AM
22	Corpus Christi	11/23/2022 11:29 AM
23	Pennfield Middle School	11/23/2022 10:39 AM
24	Gwynedd Square	11/21/2022 7:37 PM
25	When younger, attended General Nash Elementary School	11/11/2022 3:04 PM
26	Gwynedd Square	11/10/2022 9:03 PM
27	Corpus Christi	11/10/2022 8:55 PM
28	Gwynned square	11/10/2022 8:22 PM
29	Pennfield	11/10/2022 7:37 PM

Q22 What modes of transportation do your school-aged children use to get to/from school? Select all that apply.

Answered: 130 Skipped: 301

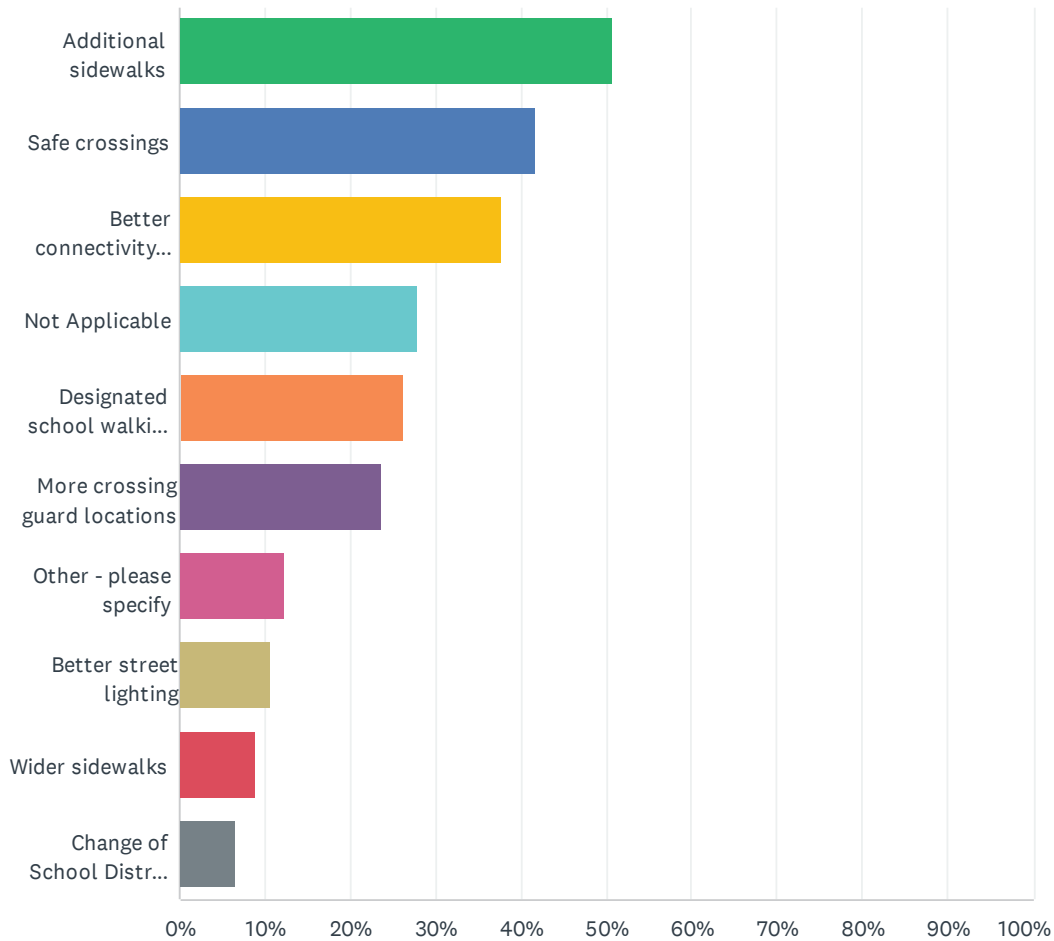


ANSWER CHOICES	RESPONSES
School bus	76.92% 100
Auto-Dropped off	36.92% 48
Auto-Drive themselves	11.54% 15
Walk	10.77% 14
Auto-Drive with others (carpool)	6.15% 8
Not Applicable	1.54% 2
Bike	0.77% 1
Other - please specify	0.77% 1
Total Respondents: 130	

#	OTHER - PLEASE SPECIFY	DATE
1	Onewheel	12/30/2022 7:52 PM

Q23 If your child/children do not walk or bike to/from school, which physical changes would need to be made for this to occur? Select all that apply.

Answered: 122 Skipped: 309



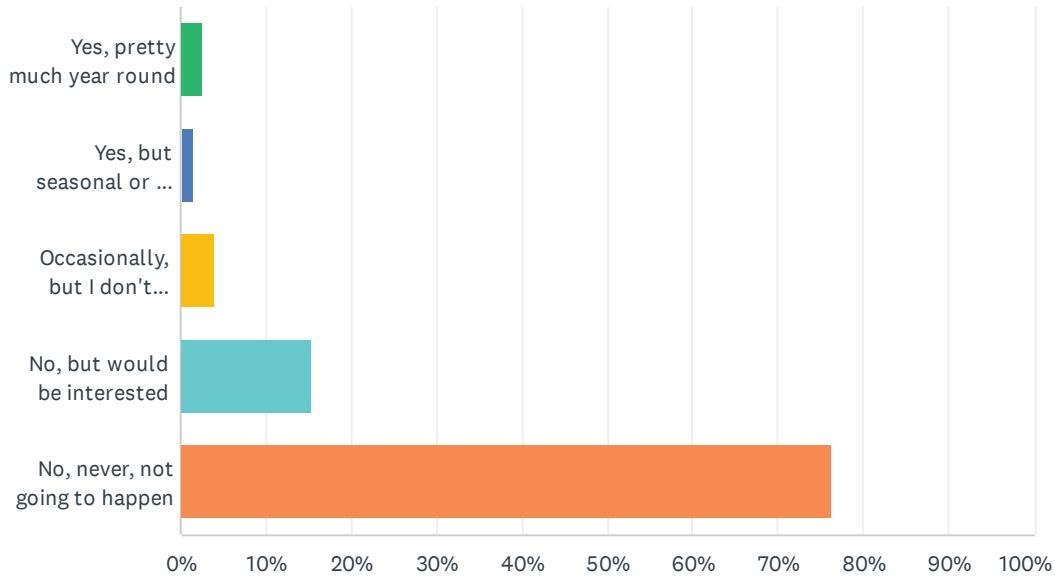
Towamencin Township Sidewalk Connectivity Study

ANSWER CHOICES	RESPONSES	
Additional sidewalks	50.82%	62
Safe crossings	41.80%	51
Better connectivity between sidewalks	37.70%	46
Not Applicable	27.87%	34
Designated school walking routes	26.23%	32
More crossing guard locations	23.77%	29
Other - please specify	12.30%	15
Better street lighting	10.66%	13
Wider sidewalks	9.02%	11
Change of School District Policies	6.56%	8
Total Respondents: 122		

#	OTHER - PLEASE SPECIFY	DATE
1	Township Police enforcing speed limits	4/12/2023 11:57 AM
2	a bridge at green lane rd	3/31/2023 4:48 PM
3	Walking bridge over the creek	3/31/2023 4:38 PM
4	Safe bike storage at NPHS	2/17/2023 2:27 PM
5	Paved path from heebner way to the back of Walton farm	2/13/2023 2:17 PM
6	Bike lanes, traffic enforcement	2/9/2023 5:06 PM
7	Bike Paths and bike lanes and more connectivity in and out of the High School complex to surrounding neighborhoods, and better traffic speed enforcement.	12/30/2022 11:38 AM
8	safe bicycle paths	12/10/2022 2:05 PM
9	Cars do not stop for the bus most mornings. I would be very hesitant to allow my children to cross the street!	11/23/2022 7:24 PM
10	Move us out of Gwynedd Square to Nash or other	11/21/2022 7:37 PM
11	I'm not sure we're close enough but there are no sidewalks so it'd be impossible	11/13/2022 9:19 PM
12	A crosswalk / guard close to the Inglewood walking path near Weikel Road side. Allentown Road is no place to cross currently without a traffic light.	11/13/2022 11:07 AM
13	When they were at General Nash, build a pedestrian bridge to connect Green Lane with Green Lane Road.	11/11/2022 3:04 PM
14	Less traffic	11/10/2022 9:09 PM
15	Too far to walk	11/10/2022 12:52 PM

Q24 Do you presently commute to work on foot?

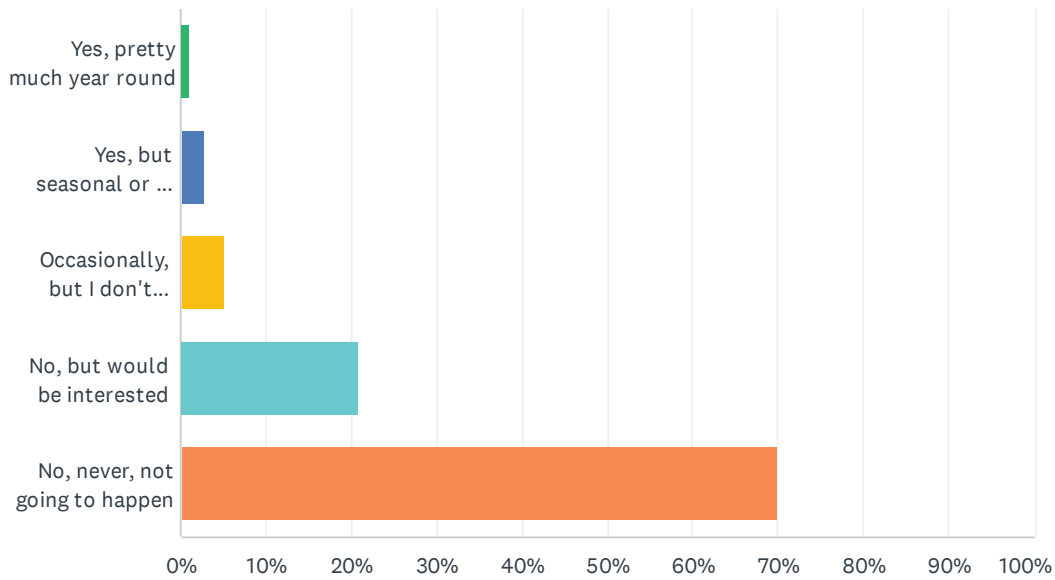
Answered: 343 Skipped: 88



ANSWER CHOICES	RESPONSES	
Yes, pretty much year round	2.62%	9
Yes, but seasonal or in fair weather	1.46%	5
Occasionally, but I don't consider myself a 'commuter'	4.08%	14
No, but would be interested	15.45%	53
No, never, not going to happen	76.38%	262
TOTAL		343

Q25 Do you presently commute to work by bicycle?

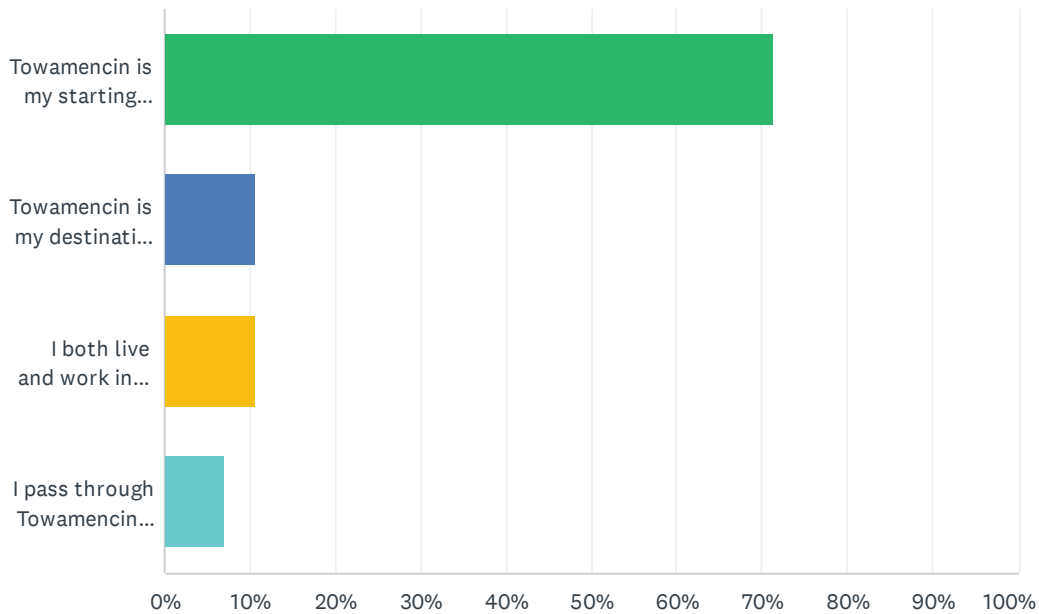
Answered: 353 Skipped: 78



ANSWER CHOICES	RESPONSES	
Yes, pretty much year round	1.13%	4
Yes, but seasonal or in fair weather	2.83%	10
Occasionally, but I don't consider myself a 'commuter'	5.10%	18
No, but would be interested	20.96%	74
No, never, not going to happen	69.97%	247
TOTAL		353

Q26 If you commute to work by bicycle:

Answered: 28 Skipped: 403



ANSWER CHOICES	RESPONSES
Towamencin is my starting point (please enter destination in 'Please specify' below)	71.43% 20
Towamencin is my destination (please enter starting point in 'Please specify' below)	10.71% 3
I both live and work in Towamencin	10.71% 3
I pass through Towamencin (please enter start and end points in 'Please specify' below)	7.14% 2
TOTAL	28

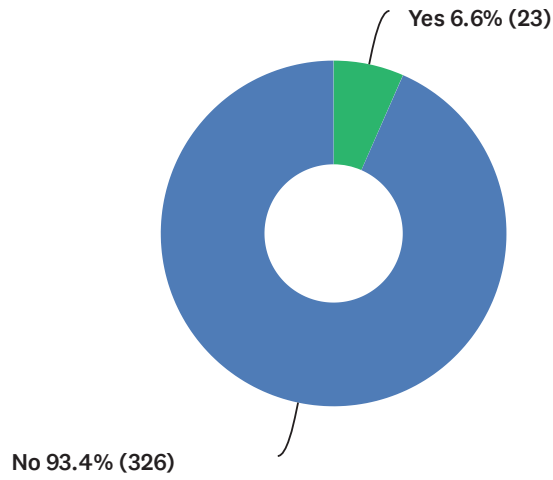
#	PLEASE SPECIFY.	DATE
1	Merck	4/13/2023 3:34 PM
2	Merck West Point Site	4/11/2023 2:27 PM
3	Upper Gwynedd	4/6/2023 10:34 PM
4	North Wales	4/6/2023 3:52 PM
5	Telford	4/4/2023 1:44 PM
6	Merck	3/24/2023 5:33 PM
7	Merck	2/17/2023 5:50 PM
8	140 Clemens Road, Harleysville PA	2/10/2023 12:58 PM
9	I only bike through Towamencin for recreation and leisure	2/9/2023 9:01 PM
10	From Hatfield to Merck	2/9/2023 7:56 PM
11	North Wales and Blue Bell	2/1/2023 12:21 PM

Towamencin Township Sidewalk Connectivity Study

12	Treywetown rd	2/1/2023 12:15 PM
13	King of Prussia	2/1/2023 11:37 AM
14	North Wales	1/23/2023 4:05 PM
15	Broad street lansdale	1/8/2023 2:35 PM
16	Montgomery County Community College, avoiding the end of Morris near Fisher's Park	1/4/2023 5:38 PM
17	Telford	1/4/2023 3:35 PM
18	Main and Chestnut in Souderton	12/30/2022 11:03 AM
19	Hatfield Borough	12/16/2022 7:48 AM
20	Carriage Way	12/1/2022 11:27 AM

Q27 Do you commute to work using public transportation (i.e. bus, train)

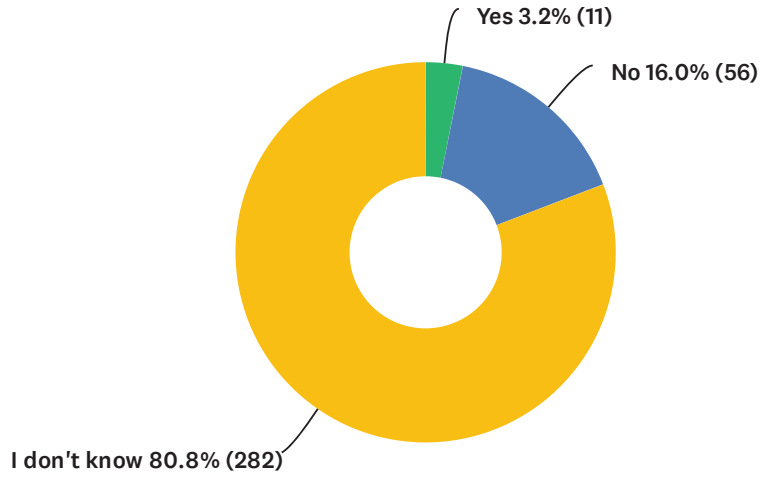
Answered: 349 Skipped: 82



ANSWER CHOICES	RESPONSES	
Yes	6.6%	23
No	93.4%	326
TOTAL		349

Q28 Are there an adequate number of bus shelters in Towamencin Township?

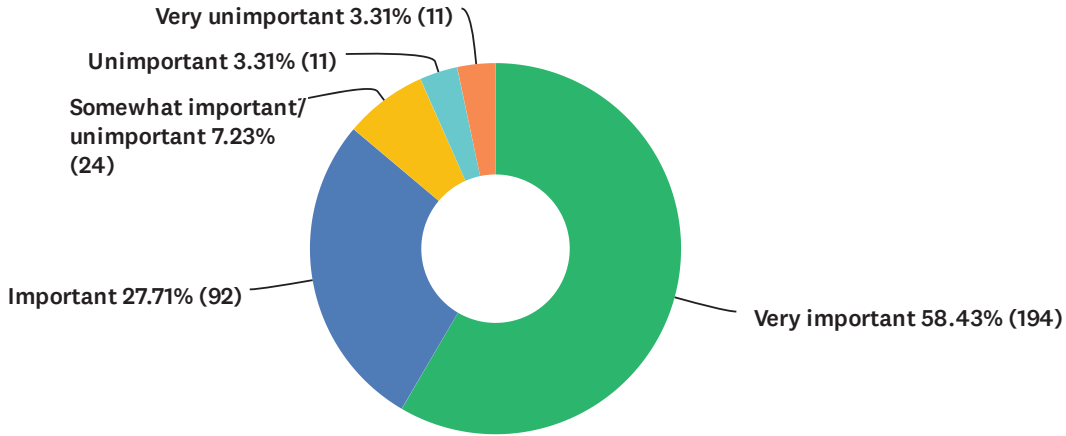
Answered: 349 Skipped: 82



ANSWER CHOICES	RESPONSES	
Yes	3.2%	11
No	16.0%	56
I don't know	80.8%	282
TOTAL		349

Q29 How important are sidewalk connections and trails to the well-being of the community and the quality of life in Towamencin Township?

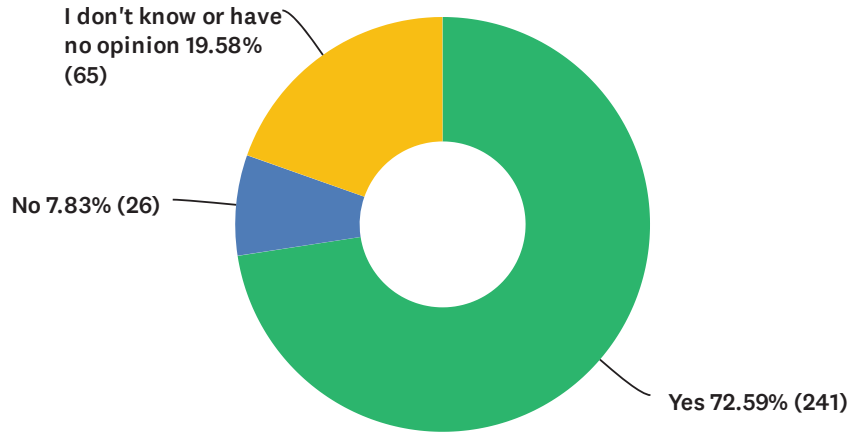
Answered: 332 Skipped: 99



ANSWER CHOICES	RESPONSES	
Very important	58.43%	194
Important	27.71%	92
Somewhat important/ unimportant	7.23%	24
Unimportant	3.31%	11
Very unimportant	3.31%	11
TOTAL		332

Q30 As a motorist I would accept a slightly longer travel time if that meant a safer environment for pedestrians and bicyclists.

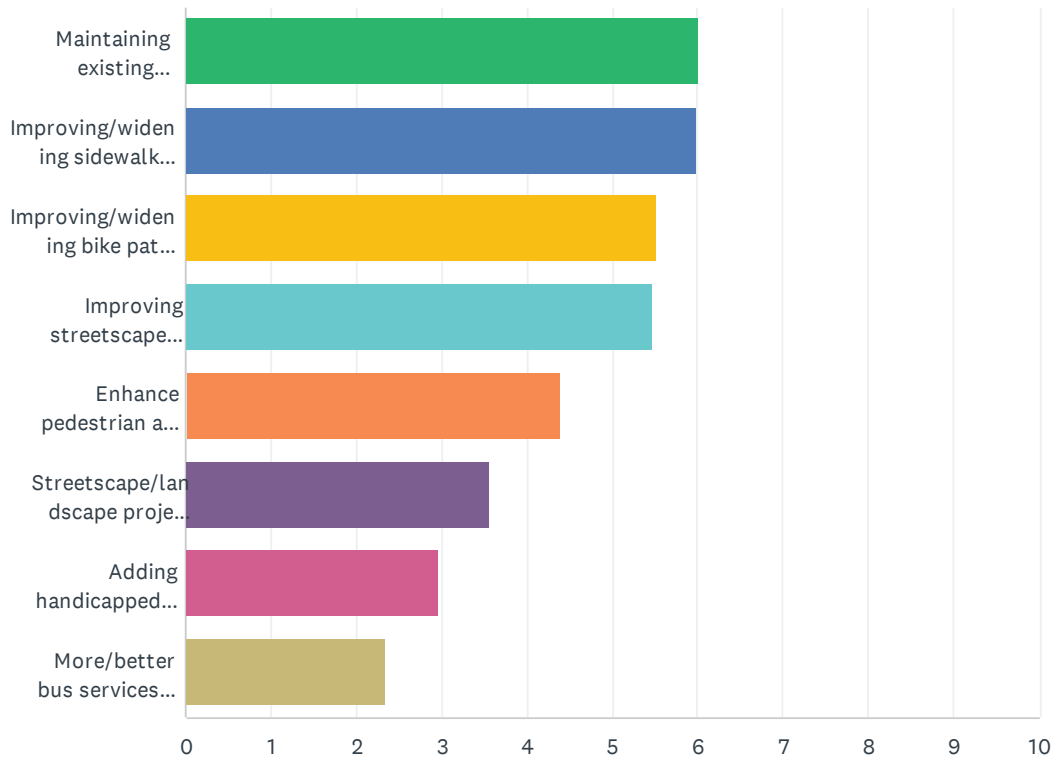
Answered: 332 Skipped: 99



ANSWER CHOICES	RESPONSES	
Yes	72.59%	241
No	7.83%	26
I don't know or have no opinion	19.58%	65
TOTAL		332

Q31 Please rank the following improvements on how you think Towamencin Township can create better pedestrian and bicycle connectivity. (1=Highest Priority, 8=Lowest Priority)

Answered: 325 Skipped: 106



Towamencin Township Sidewalk Connectivity Study

	1	2	3	4	5	6	7	8	TOTAL	SCORE
Maintaining existing infrastructure (sidewalks, roadways, etc.)	31.60% 97	16.94% 52	15.96% 49	13.36% 41	8.79% 27	7.49% 23	4.56% 14	1.30% 4	307	6.02
Improving/widening sidewalks and pedestrian paths	22.11% 67	24.42% 74	22.11% 67	12.87% 39	7.26% 22	5.61% 17	3.63% 11	1.98% 6	303	6.00
Improving/widening bike paths and routes	16.67% 50	20.67% 62	18.00% 54	15.00% 45	14.00% 42	7.00% 21	6.00% 18	2.67% 8	300	5.53
Improving streetscape safety measures (adding crosswalks, pedestrian signage/signals, sidewalk buffers, etc.)	14.62% 44	19.60% 59	13.29% 40	23.26% 70	16.94% 51	6.31% 19	4.98% 15	1.00% 3	301	5.48
Enhance pedestrian and biking connections to commercial corridors	11.44% 35	9.48% 29	13.40% 41	8.82% 27	13.73% 42	21.57% 66	15.36% 47	6.21% 19	306	4.39
Streetscape/landscape projects to improve corridor aesthetics (adding street lights, plantings, decorative pavements, etc.)	2.65% 8	5.30% 16	11.26% 34	10.60% 32	17.88% 54	19.87% 60	14.90% 45	17.55% 53	302	3.57
Adding handicapped ramps/accessibility improvements	2.64% 8	3.30% 10	4.95% 15	12.21% 37	11.22% 34	15.18% 46	21.45% 65	29.04% 88	303	2.97
More/better bus services and routes	2.30% 7	1.97% 6	1.97% 6	3.62% 11	8.88% 27	14.47% 44	25.99% 79	40.79% 124	304	2.34

Q32 Please share any additional thoughts, comments or ideas you have for the Towamencin Township Sidewalk Connectivity Plan.

Answered: 147 Skipped: 284

#	RESPONSES	DATE
1	Connect towamencin lane trail to other bike routes (srt)	4/13/2023 7:37 PM
2	It would also be nice to have a few trashcans here and there so people can discard trash or pick up and discard litter.	4/13/2023 3:37 PM
3	Sidewalks from the commercial centers to surrounding neighborhoods needs to be a priority. Also, completing the proposed off-road trails would add a lot of quality to the area.	4/13/2023 9:46 AM
4	Adding bike lanes and/or sidewalks to Sumneytown Pike would not be worth it as the drivers are not careful, they speed, litter, and do not watch out for bikers or pedestrians. It is dangerous to even mow the lawn in our yard! It's much more important to add bike paths and sidewalks on less traveled roads.	4/13/2023 9:06 AM
5	The Towamencin Trail seems to be a mishmash of pieces here and there with no connectivity. If it really is a continuous trail, could you place maps i.e. outside of the pool area in Weikel?,	4/12/2023 6:09 PM
6	Pick points (commercial areas/parks) throughout the township and determine how many residents could potentially reach that point safely as a pedestrian to determine priority of improvements and connectivity.	4/12/2023 3:07 PM
7	I'd like to see added recreational facilities with Tennis & Pickleball. Towamencin should consider a facility like Montgomery & Upper Gwynedd has.	4/12/2023 2:45 PM
8	Please remember that this township already has a drainage problem. Do not pave more of our land and make a bigger problem.	4/12/2023 1:28 PM
9	who is going to pay for this?	4/12/2023 12:51 PM
10	The township has plenty of places to walk. I think adding additional sidewalks is a waste of tax dollars. I've reviewed the financial statements and it appears Towamencin is operating in the red so we should not incur new unnecessary expenses. I'd rather see more Police enforcing speed limits on streets to keep our children safe. Bustard road posted speed limit 35mph (average speed 50+) forty foot road posted speed limit 35 (average speed 60+) Liberty bell drive posted speed limit 25 cars use this road as a cut thru going at times 50+. More police presence and speed enforcement will be much more beneficial to Towamencian residents and ultimately make our streets safer not only for pedestrians but everyone else as well.	4/12/2023 12:14 PM
11	Encourage people to train dogs better. We cross streets to avoid aggressive-seeming dogs "guarding" their homes. Many owners are not in sight, or ineffective at curbing the actions.	4/12/2023 12:08 PM
12	Enough dead shopping centers, overdevelopment, sidewalks/bridges to nowhere. Towamencin needs more pedestrian accessibility and natural areas.	4/12/2023 12:16 AM
13	Work on connectivity to Liberty Bell Trail in Hatfield and to bike lanes on Morris Rd Make bike lanes on forty foot rd protected bike lanes by adding delineators. Add sidepaths/trails to connect to NP High School	4/11/2023 8:50 PM
14	I'd like to see the sidewalk connection from Spring Valley Rd to the new path along the water	4/11/2023 7:06 PM
15	Access to newly installed walking path from our neighborhood is very important.	4/11/2023 6:47 PM
16	It ought to be possible to take a sidewalk up and down every major artery of the township, and to every park/trail in the township.	4/11/2023 5:40 PM
17	If they bring the trail up through the tree lit on Kriebel. I do not want the current tree line removed, would not like to see the walking trail.	4/11/2023 4:36 PM
18	As a resident of Brookside Farms, I would like to see an access point in our neighborhood to	4/11/2023 3:15 PM

Towamencin Township Sidewalk Connectivity Study

	be considered to connect us to the new walking path.	
19	Please connect Spring Valley Road to the new path along Kreibel. Thanks!	4/11/2023 3:09 PM
20	Would love a complete sidewalk path or trail from Township buildings to Fischer's park!	4/11/2023 2:29 PM
21	In our kulpsville area, we are mostly concerned about adding or improving sidewalks to feel more comfortable walking/biking near high-traffic areas. Particularly for us, we would love a connected sidewalk and crossing on Sumneytown across from pudge's so we can safely get across to the post-office strip mall. Also it would be nice to have a connector/full loop between firehouse park and the walking path in the business park behind margarita's. The section of road over the turnpike bridge always feels extremely open/unsafe to cross with young kids - similarly on green lane rd going under the turnpike bridge and up to liberty bell.	4/11/2023 1:59 PM
22	We need to make the shopping centers and places like Freddy Hill as accessible as downtown Skippack to their residents.... More sidewalks all over are needed.	4/11/2023 1:19 PM
23	I drive my car (with my bike on)across Valley Forge Rd to bike in Upper Gwynedd. All thru the neighborhoods to Upper Gwynedd Pk (Garfield and Park Aves.need help) - Take a page from their (and others; Collegeville, Skippack) walkable/bikable communities.	4/11/2023 1:11 PM
24	Would love more trails/sidewalks to run/walk It would be beneficial to the community!	4/11/2023 1:03 PM
25	Please coordinate this survey & results with Towamencin Zoning (too many new houses, too many new warehouses); Traffic Safety (slow down Forty Foot Road traffic); and North Penn School District craziness	4/6/2023 3:57 PM
26	The best townships have off-street trails - encouraging and supporting healthy lifestyles. Calling "Towamnecin Trails" trails is kind of a joke. PLEASE improve off-street trails and sidewalk connections. Thank you.	4/6/2023 12:34 PM
27	Just walked today on the Chester County trail. What a pleasure, that is what we should aspire to	4/5/2023 12:36 PM
28	Added paved sidewalks and bike paths lead to less water retention. Please consider that this township already has drainage issues, don't make them worse!	4/4/2023 2:41 PM
29	I don't support bike lanes on busy main roads- I think biking should be done on the many bike trails already in place. I would like to be able to walk to Fisher's park but without sidewalks on the section of Morris rd between Henning Way and Bustard Rd it is too dangerous for pedestrians.	4/2/2023 9:13 AM
30	Street lighting improvements, and connection to green lane road park from other side of creek would help us from liberty bell drive would help us and neighbors	4/1/2023 8:19 AM
31	Thank you	3/31/2023 9:41 PM
32	We need to have functional sidewalks essentially everywhere they don't currently exist. They should be required in the plans of any new developments (residential or Commercial).	3/31/2023 7:48 PM
33	A 3 way stop is needed at green lane/liberty bell dr	3/31/2023 6:36 PM
34	POLICE ENDING THE SPEEDING ON MORRIS RD. I AM READY TO MOVE AWAY. FED UP !	3/31/2023 5:13 PM
35	Walking trail connecting green lane road	3/31/2023 4:58 PM
36	We have such great parks and open spaces, please help our kids get to them!	3/31/2023 4:56 PM
37	We should put a walking bridge over the towamencin creek from green lane road	3/31/2023 4:39 PM
38	It is pointless to spend funds on routes that go nowhere. Routes should be safe for children twelve or older to use independently. Routes should prioritize access to railroad stations, schools and shopping.	3/27/2023 3:33 PM
39	Enjoy educational and historic signage	3/24/2023 4:51 PM
40	Since the supervisors have moved to sell the sewer system leaving residents open to huge rate increases in the future, I think every effort should be taken to curb township spending in order to keep taxes steady or lower taxes. Worrying about bike bicyclists and pedestrians at a time when seniors worry about keeping their homes is irresponsible and tone deaf. Any	2/27/2023 12:11 PM

Towamencin Township Sidewalk Connectivity Study

expenditures beyond those to maintain current assets should be put on hold until it is learned how high the sewer rates will sky rocket.

41	I would like to be able to walk around the township. Walking within my neighborhood is great, but walking a longer distance is not safe since too many major roads have no sidewalks!	2/19/2023 3:08 AM
42	I would just like to see a sidewalk on Allentown Road so you can walk to Forty Foot Road.	2/18/2023 9:22 PM
43	The Rittenhouse Road bridge needs a lane for pedestrians and/or bicycles.	2/17/2023 5:52 PM
44	Bad info is worse than no info. NEVER require answers. The ranking approach is childish. What would it mean if I told you that number 1 had a weighting of 99% and all the others, combined, were 1%?	2/17/2023 2:42 PM
45	While planning for bike crossings and paths, please consider older residents who walk slowly or use mobility scooters for travels to and from grocery and other stores, as well as for enjoyment of the outdoors. Thank you.	2/16/2023 11:27 AM
46	The playground at drinnon needs update. Swingsets? Older age playground added? Needs a trail because the back is pure marsh mud and wet most of the time. I have 5 boys that play there and it could be utilized much more if people have more access. Usually people have to cross through our yard to get to it	2/13/2023 2:21 PM
47	Additional entrances to kreibel path	2/11/2023 9:45 AM
48	My wife and I would love any type of path from Old Forty Foot Road (at Hendricks) to Skippack.	2/10/2023 1:02 PM
49	Looking forward to it	2/10/2023 9:55 AM
50	Consider linking up neighborhoods with paths so that non-motorists can move through closed off/dead-end neighborhoods. Consider traffic calming measures in addition to trails. Lastly, think of the town for the person and not the car.	2/9/2023 9:07 PM
51	Evansburg State Park trail connectivity could get funding from at least 3 townships AND state and could connect to huge existing trail systems	2/9/2023 5:09 PM
52	Weikel Road is part of the towamencin trail yet walking/biking the trail is dangerous. Especially along Weikel Road.	2/9/2023 4:22 PM
53	Connecting Bustard Rd Park to Green Lane to allow families and kids to freely move between parks should be a no brainer. Unfortunately there was always an excuse why a trail could not be built. Regardless of the reason, many kids go between the parks in the woods when games are being played at both facilities. These two parks need to be connected via a walking/biking path.	2/9/2023 6:37 AM
54	We would very much appreciate more connectivity between existing sidewalks, especially in sections, where they are gaps, making unsafe for children and pedestrians. We would not want to see any more lighting in telemedicine. We feel like there are enough street lights and too many lights at night. Do	2/7/2023 1:29 PM
55	Would love to see a connection of Green lane roads. Also a connection from the Kriebel rd trail to Fischer's park	2/7/2023 8:34 AM
56	Sidewalks and bike paths are only useful if they are interconnected as part of a network. If 90% of my route has a nice sidewalk, but 10% is on a dangerous, blind curve of a road like on Tomlinson, Fretz, or Allentown, I'll opt to drive. Also, almost all successful downtown areas are very walkable and bikeable, are are a place to be and enjoy, not JUST shop or run errands.	2/7/2023 12:03 AM
57	Add green gathering spaces at our shopping areas	2/6/2023 11:43 PM
58	Connecting neighborhood sideways will be a great improvement to walking and running the township.	2/6/2023 7:40 PM
59	More needs to be done on the poor quality of roads in the twp	2/6/2023 7:36 PM
60	The Township spent a ridiculous amount of money in neighborhoods redoing already adequate curb cuts....and making curb cuts where none were needed. I am an advocate for the handicapped (by profession)....and even I think Towamencin is way too good at spending money where not needed and then grabbing money that will harm residents (i.e. your stupid sewer sale). When will you really pay attention to residents?	2/6/2023 4:06 PM

Towamencin Township Sidewalk Connectivity Study

61	Please put an entrance to the new trail on spring valley road- it would be such a shame to have that trail right there w safe access to Fischer's park but not have a way to get on it.	2/6/2023 9:33 AM
62	Trash along the existing walkways is an issue. Perhaps trash receptacles, especially near commercial walkways may be helpful (think Chick-Fil-A, Wawa, etc. Lots of trash along that walkway.	2/6/2023 9:21 AM
63	Would love to have sidewalk connecting Trumbauer to Spring Valley on Morris Rd	2/6/2023 9:11 AM
64	I'm sure you have great ideas and I hope you can implement them. However, the only comment I have is that it is "dangerous" to walk, jog or bike the dog leg from Quarry to Michael Way over the bridge and probably quite expensive to correct!	2/5/2023 6:27 PM
65	Let's use the ones we have instead of everyone running and walking in the roads.	2/2/2023 11:36 AM
66	It would be especially good if the walking trail on Kriebel could be extended to allow access to Fisher Park.	2/2/2023 8:24 AM
67	I tried suggesting a path on the wikimapping page, but it came back with this message: Draft project can only have limited users, please activate the project	2/1/2023 2:50 PM
68	Enforce existing traffic laws to decrease speeding along Forty Foot Road and speeding/reckless driving by ATVs & dirt bikers.	2/1/2023 12:26 PM
69	Connection to neighboring trails like Skippack and Perkiomen.	2/1/2023 11:42 AM
70	I work from home and would love to be able to walk/bike to local businesses for breakfast, lunch and dinner. Living in Kulpville, I would like to walk/bike to places like Skippack, Hatfield, Harleysville and towards Valley Forge road. I walk daily from the Rittenhouse Road to the Wawa and would appreciate better sidewalks on both sides of Bustard Road. I cross Sumneytown daily near Margarita's restaurant, and would like better traffic lights that respond to the crossing button. It is a long wait for the light to turn. I moved to this area over 25 years ago after reading an article in the Philly Inquirer about this area and how Towamencin had a plan to build trails. I am still waiting for this.	1/26/2023 8:49 PM
71	Having lived in Towamencin for 42 years and raising 3 children, the concern we had when we were younger and the kids were getting around the neighborhoods was the lack of sidewalks along Bustard Rd and Sumneytown Pike. We never allowed our kids to walk/ ride bikes the 4 miles to or from NPHS, because of the lack of sidewalks or bike paths. We no longer have those concerns, but now as senior drivers, we see the need to keep drivers and walkers/bike riders separate from the roadway. Sidewalks/paths along those main arteries are important, especially with the amount of traffic now.	1/24/2023 8:33 AM
72	1. Allow people to get to parks without driving 2. Get streetlights or reflectors on roads so people use high beams less and decrease risk of hitting deer 3. Have a way for most area to safely bike to the train station.	1/23/2023 6:35 PM
73	Improve lighting on streets & sidewalks. Enforce speed limits, especially speeding by dirt bikers & impaired drivers (drugs & alcohol).	1/23/2023 4:09 PM
74	I don't want the added cost and maintenance for sidewalks. Residents will be burdened with both adding and maintaining them.	1/23/2023 3:56 PM
75	There are many children in the communities near General Nash Elementary and you see them heading to the Wawa on Bustard Road over the Turnpike Bridge and then crossing Sumneytown Pike. This is something they should be able to do safely and I worry every time I see them as these are not safe roads whatsoever. I think serious thought needs to be considered as to how to make them safe. There was an overpass created where it wasn't needed and really there ought to be some consideration of how to allow safe passage to the Wawa. Pedestrians will always want to walk there for snacks, so this will continue to be an issue. One of the biggest downsides of Towamencin is its lack of walkability and this is especially the case for those on the Bustard side of Sumneytown Pike when the "convenience" stores require a car.	1/15/2023 3:38 PM
76	Why waste our taxes on surveys and ideas like this	1/12/2023 1:57 PM
77	My neighborhood, Grist Mill Run, only has sidewalk along half of the main street (Grist Mill Dr). This makes it difficult to walk around the neighborhood. Many times people end up walking on	1/6/2023 11:36 AM

Towamencin Township Sidewalk Connectivity Study

the lawn on the side that was never finished. I would like to see the sidewalk in my neighborhood completed as normal with a walking path on both sides of the main street.

78	Please review possible routes for connecting all areas of the township to Fishchers Park via sidewalks or trails	1/5/2023 9:02 PM
79	There is no safe exit to leave Gristmill development other than a busy Welsh road. Walking into Lansdale has no sidewalks, Walking towards 40 Foot Road has no connector to the shopping centers on 40 Foot Road. Traffic issues on West Orvilla and Welsh roads need to be improved.	1/5/2023 3:11 PM
80	Could we please look at the sidewalks for the Towamencin Shopping Village - they are unsafe.	1/5/2023 9:46 AM
81	Many areas have sidewalks but they are isolated. We need to connect sidewalked areas to each other to avoid walking on the road.	1/4/2023 9:29 PM
82	looking forward to the park/trails near towamencin village shopping center	1/4/2023 7:57 PM
83	Ban tractor trailers from single-lane roadways through residential areas	1/4/2023 6:47 PM
84	Great community, love living here. Hope for safer paved trails and crosswalks as my kids are getting older and they are walking with friends and to promote a healthy and active lifestyle in our community. Thanks for making the survey!	1/4/2023 6:23 PM
85	I did not think any public buses traveled anywhere within Towamencin. A painted stripe on the Rittenhouse Rd bridge to create a 2-way bike/pedestrian lane since it is now a one way car bridge.	1/4/2023 5:42 PM
86	The Towamencin Trail doesn't seem to exist as a safe walking trail. There are signs on roads but they don't connect. Is there a map!	1/4/2023 4:16 PM
87	Stop allowing developers to defer sidewalk installation	1/4/2023 4:10 PM
88	We love the new trail extension south of Kriebel Road just west of 476. More off-road project like this and better connectivity between already establish paths would really enhance our quality of life. Thank you for your efforts!	1/4/2023 4:01 PM
89	Residents of Walnut Meadows that walk around the development must cross Detwiler Rd to find a sidewalk to complete the loop. It would be so nice to have a sidewalk on Walnut Meadows side of Detwiler Road so we don't have to cross the dangerous street. Thank you	1/4/2023 3:40 PM
90	I believe priorities should be: 1.Connecting existing neighborhoods to their elementary school. 2. Connecting existing neighborhoods to their nearest park or trail. 3. Connecting existing neighborhoods to other attractions (ie pool, Freddy Hill, Shopping areas.	1/4/2023 3:36 PM
91	The new pedestrian bridge on the Kriebel trail is great. We really need another one just like it connecting the green lane rd dead ends. That'd be a huge trail connection for the community. Thank you	1/2/2023 2:02 AM
92	I added a few suggestions via the maps, not sure if it went through	12/30/2022 5:02 PM
93	I appreciate being able to complete this survey even though I live in Upper Gwynedd Township. I bike and drive through Towamencin often and and a frequent customer at business like Lowe/s and I have a child to attends North Penn High School. I can only encourage the township to take a region approach to their planning in this effort. Towamencin is not an island. They value they create by enhancing sidewalks and paths will increase dramatically if they are coordinated with surrounding municipal bodies and promote connectivity between these municipal bodies.	12/30/2022 11:44 AM
94	Honestly, as long as Towamencin Township remains spread out, public transportation might not be feasible unless taxes are increased, and walking as a mode of transportation won't be practical. I'm not against those things, but you need to densify first. If you don't allow medium density, mixed use development, improving and maintaining bicycle infrastructure would be the next best step to a cleaner, safer, and more live-able environment.	12/30/2022 11:11 AM
95	Towamencin is a car centric community, defining and improving the regional access to highways needs to be balanced with local connectivity for persons not in a car. How do we safely connect every resident in Towamencin to a park, a commercial area, and public transportation?	12/30/2022 10:01 AM

Towamencin Township Sidewalk Connectivity Study

96	I believe the current options are great and these improvements can make this township an example for other municipalities of a successful blend of travel options for pedestrians, cyclists and motorists. Please be mindful of a safe link to the Rail infrastructure. Safe passage for folks cycling to the train. I've done it and it is a great idea to explore other communities but the ride home down Sumneytown Pike from North Wales train station gets a bit sketchy near North Penn HS. One lane without a shoulder. Recipe for disaster, now I just drive to the train station. Hopeful for the planned changes.	12/21/2022 9:45 AM
97	Kriebel Road Trail is nice and I would love to walk there more often especially since if it connected to Fischers park, but living on Kriebel rd there's no way to get to it, it's not at all a safe street to walk on.	12/17/2022 4:06 PM
98	Major roads like Allentown Road or Sumneytown Pike are only moveable by Car, due to the lack of sidewalks and bumpy structure. Even roads like Troxel and Weikel mostly don't have sidewalks even if they aren't used nearly as much. I do think the path down Forty foot Road and the connections to Landsdale are well done, though.	12/16/2022 7:57 AM
99	As a neighbor to Towamencin Twp. I know there is great interest in how our communities are connected. Please make sure that this gets advertised to the neighboring municipalities.	12/10/2022 2:11 PM
100	Thank you!	12/4/2022 8:59 AM
101	I am retired and walk mainly for recreation but see the need for all neighborhoods to connect to parks and schools. On my many walks I always see people walking in the streets, not on the sidewalks even though they are present. Especially in neighborhoods when there are two or three people walking together. Sidewalks seem to be wide enough for only one person or maybe two now that people seem to stay further apart.	12/1/2022 10:22 PM
102	Excited to see this survey. Would love to see the trail connected throughout the township for everyone to be more encouraged to get out and move more.	12/1/2022 8:04 PM
103	I think the key word here is "connectivity" - too often a walker has to cross a street to get to a sidewalk, or walk in the street or grass for a while until the next sidewalk is available. Towamencin doesn't have a "main street" like a Lansdale or Hatfield, so where do people walk? Do they really want to drive somewhere to walk? I'd prefer to walk from my house, in a loop, then back home again. Same for biking. Maybe the committee and walk and bike different areas and see for themselves the challenges.	12/1/2022 11:33 AM
104	Thank you for conducting this study and asking for my opinion.	11/30/2022 7:02 PM
105	Adding speed signs or bumps around park access points in the township	11/29/2022 10:54 AM
106	Adding handicap entrances to all corners in the township where there are sidewalks already.	11/28/2022 6:41 PM
107	The speed limit needs to be lowered on residential streets around township to 25 with more regulation. Speed bumps near pedestrian park entrances, speed radar signs, etc. Sidewalks would help move around township safer.	11/27/2022 11:19 AM
108	A lot of the connectivity problems are due to relatively short spans of missing sidewalks between existing ones that make no sense when trying to safely walk to a park, a business or to a school.	11/25/2022 10:22 PM
109	Please refrain from saddening residents with any additional costs associated with residing in the Township. If costs are going to be incurred, let the proceeds from the sewer sale cover these costs.	11/24/2022 6:48 PM
110	The Towamencin Trail should be 100% sidewalks. What good is this trail if you can't walk it or bike it? There is no complete circuit anywhere in towamencin that has sidewalks. Any circuit involves having to be in the road or on someone's grass at some point. Very dangerous especially in the evenings when it dark earlier.	11/24/2022 8:41 AM
111	Please consider finding a way to connect Green Lane Rd to Green Lane Road. There are two large neighborhoods that would be connected, more students could bike/walk to Nash if they choose. Also, improvig pedestrian access to Fisher's Park- combining these two thigns would give a large portion of the town ship biking/running/walking access to Fisher's Park. Also safety with the bustard/forty foot rd/sumneytown intersection needs to be addressed. No one stops turning from Sumneytown on to Forty Foot. I frequently run/bike there and have almost been hit numerous times.	11/23/2022 7:20 PM

Towamencin Township Sidewalk Connectivity Study

112	Would love to explore if there could be a sidewalk on Woodlawn drive all the way to Allentown road	11/23/2022 7:05 PM
113	There are a number of quiet safe areas to walk and bike however you have to pass through insanely unsafe areas (traffic wise, not crime) to get to them. Example getting to Fishers Park, Kriebel Rd and neighborhoods heading towards Valley Forge Rd, the loop near the farms of Schlosser, Kulp, Kriebel and Kerr etc are all made impossible by that one short section of Bustard along the creek where there is no shoulder and bad visibility due to the hills and bend. You cant even cut through Green Lane because the two ends of the road dont connect.	11/23/2022 6:27 PM
114	Top priority would be a way for bicyclists & pedestrians to cross the creek in the Mainland Golf Course along Old Forty Foot Rd! I do think the Rittenhouse Rd bridge is safer being one way for cars, but I have experienced drivers get annoyed if I bicycle or walk in the wrong direction on it. The only other places to cross are Sumneytown Pike Pike at Old Forty Foot (way too dangerous!) or to walk/bike quite a ways along Old Forty Foot Rd down to Quarry/Bridge Rd. Old Forty Foot Rd has a large volume of high speed traffic & 1-2 inches of shoulder in some places ; none in others! A sidewalk along Old Forty Foot Rd would be wonderful - from Sumneytown Pike down to Skippack Pike, on the creek side. Also, the trail from the Bustard Rd firehouse up to the shopping center with the post office is a wonderful & seldom used trail. Give it some publicity or at least signs last both ends.	11/23/2022 11:33 AM
115	We appreciate all the hard work going into making our community safer and able to walk and stay healthy and safe by adding sidewalks to these areas.	11/23/2022 7:31 AM
116	Can there be a pedestrian bridge from one side of Bustard Rd to the other so I don't have to drive from my neighborhood to Fischers. It's scary to run across the road	11/22/2022 4:37 PM
117	Thank you for organizing this survey and committee. I would encourage you to see the condition of areas by Fisher's Park (ie Kriebel Road, Kerr Road) and see how often people are walking and enjoying these areas. The road condition, driver's speed, etc. make it a very dangerous area.	11/22/2022 3:00 PM
118	Please connect Spring Valley Rd to the new Kriebel Rd Trail I project via the intended easement between 2050 & 2052 SV Rd.	11/22/2022 7:37 AM
119	Please consider adding sidewalks throughout the Inglewood Gardens neighborhood :)	11/22/2022 7:27 AM
120	The New Kriebel Road trail could be accessible from the Brookside Farms development adjacent the newly installed trail bridge. Access from this development to the trail would be a great benefit to the township residents.	11/21/2022 8:49 PM
121	I had many years in Philly and cramps City living. I move to this Township 10 years ago because of the nice wide open rural atmosphere. Don't change it. No more sidewalks. Leave it rural and live happy not crowded.	11/21/2022 7:44 PM
122	Anders Road is a heavily used road for bicycles, the North Penn cross country team, and many residents for recreational use. There is a large need for widening the road and additional sidewalks and lighting. Or at the very least a stop sign to slow down the NASCAR raceway that our neighborhood has become. Thank you and God Bless.	11/21/2022 7:42 PM
123	I have a toddler and another baby on the way. I would like to be able to take them on walks around the neighborhood (Anders Rd) but in its current state, that is not possible. There are no sidewalks and cars speed down the street making it dangerous endeavor. I would love to have sidewalks added to my street.	11/21/2022 5:30 PM
124	Extend sidewalks on Green Lane Road from Liberty Bell Drive to Hedgerow Way as students who attend Nash have to walk in the street for that stretch.	11/21/2022 5:16 PM
125	The so called Towamencin Trail is disjointed and confusing. Need to improve or discontinue	11/21/2022 5:03 PM
126	Adding sidewalks to Troxel Rd specifically between Pickwick Lane and Avalon Way to have better walking access to Towamencin Pool.	11/20/2022 1:32 PM
127	Kriebel Road needs widening and continuous sidewalks to accommodate traffic, bikers and pedestrians. Traffic signal at Sumneytown Road would be helpful or open Green Lane Road at Pheasant Hill Road. Why is there no safe pedestrian/bike access to Fischers Park?	11/18/2022 11:30 AM
128	The new Kriebel Road trail is great but parking for trail heads? Making sure their are sidewalks that connect these trails together. Along Kriebel Road old trail should cross to the north and	11/16/2022 1:07 PM

Towamencin Township Sidewalk Connectivity Study

add sidewalks across PECO right of way past the wastewater treatment plant with perhaps lighted crosswalk over Forty Foot Road to pedestrian bridge to access Fishers Park. On the North side of Anders road, Kriebel Road is simply too small for the traffic it carries (for people avoiding Sumneytown and Valley Forge light) no safe place for bikes nor pedestrians. Widen, add sidewalks and perhaps a backway entrance to Freddy Hill Farms to encourage walks their, now I must drive but I would walk if it was safe)

129	Forgot to mention no sidewalks around firehouse park trail exit, would be nice to have	11/13/2022 9:23 PM
130	More frequent street cleaning in neighborhoods. :-)	11/13/2022 11:11 AM
131	We have enough concrete in twp. Keep it natural!	11/13/2022 7:03 AM
132	I walk along Troxel Road frequently - there are several breaks in the sidewalk where you have to walk on the shoulder (if there is one) or on the grass. Connecting the sidewalks would be so helpful. Building sidewalks out to Sumneytown pike and providing a safe crosswalk to Freddy Hill would be such a great addition. And if the bridge on Troxel Road could be widened to include a pedestrian space safety for pedestrians would be enhanced. I literally jog across the bridge praying that no cars will come.	11/11/2022 7:55 PM
133	Answers on commuting are not applicable, since I am retired, just saying.	11/11/2022 7:52 PM
134	I appreciate you asking	11/11/2022 6:02 PM
135	Biking on most roads can be very dangerous. Bike lanes would help.	11/11/2022 5:38 PM
136	Walking a loop trail is more desirable than an out and back trail.	11/11/2022 3:09 PM
137	Another important location- Weikel Rd where it narrows between pool and NPHS	11/11/2022 9:50 AM
138	Towamencin is extremely pedestrian friendly. While there are many locations with sidewalks, connectivity is an issue. It's common for sidewalks to not lead anywhere. Connectivity and safe crossing would be a huge improvement. One of my children used to attend Inglewood, which should be a super easy walk from our house. However, there was no connection of current sidewalks, which made it unsafe - add to that, it's not safe to cross Allentown. I don't think we need more lights it all, but better patterns for pedestrian safety would be great. While it shares space Upper Gwynedd, the intersection of Allentown and Valley Forge is scary. I watched near misses with pedestrians and cyclists daily. The same goes for Valley Forge and Sumney - even more concerning since many high school kids attempt to cross there. Hopefully, better walkability can be achieved without more destruction of Towamencin's rapidly dwindling natural and open spaces.	11/11/2022 8:53 AM
139	Originating from Quebec Canada, they take pride in Pedestrian trails for walking and biking and Rollerblading. So much so that we also bike on nice winter days to & from work. It helps keep our Mental and physical health in check. I advocate our money going towards our health by improving our sidewalks and trails and parks and adding beautiful arrangements and huge planters around town for us to "see" our lovely town as a cozy welcome of home, something we feel proud of, something to drive through on our way home from work and being reminded of where our hard earned money is going towards and to feel proud to be a part of the town we live in.	11/11/2022 7:00 AM
140	My family just bought a house here a few months ago, came from Philly. The two biggest things we miss are the food and walking/running everywhere. We bought a house that has sidewalks to walk after work but it's a small area so we have to do the same loop multiple times. We live near fisher park which we love to run at but my wife drives the 3 minutes there because it is unsafe to run there. The run is perfect except after Kulp rd we turn on Kriebel rd and that 1/4 mile is very dangerous until we turn off on Metz road and go into the park on the back end. I'll be at every meeting and support this project anyway I can because I know how much my family's quality of life will improve by building something on that 1/4 mile section of road. Lots of people walk or bike old Morris road and Kulp road. They would get so much more exercise if they could extend their route to Fisher Park. The timing of moving here and this survey is amazing. Please help us run from green bank way to fisher park safely. We currently share a car since in Philly we never needed a car so not needing it to get to fisher park would free the other person up.	11/10/2022 9:23 PM
141	After forcing the residents of Towamencin to dig DEEP into their savings accounts for new curbs and sidewalks don't you dare pay for more by raising taxes, everything works well leave	11/10/2022 9:21 PM

Towamencin Township Sidewalk Connectivity Study

it alone and don't burden the taxpayers anymore. Restrict bike riders to bike lane roads and stop putting themselves and drivers in jeopardy.

142	Yes it be nice to visit the and local eateries on food or bike instead of a vehicle. These locations are not, but if accessible would be going on foot or bike. Thanks Henry	11/10/2022 8:00 PM
143	Would love to see the Kriebel Road trail completed and added safety to the curve. I enjoy the local park trails as well it will be nice when they connect to have a lengthy path	11/10/2022 7:48 PM
144	With more people working from home, including myself, being able to walk/bike further via sidewalks would greatly improve my wellbeing. You can only walk so far before you are trapped by deadly roads with no sidewalks or shoulders. It would greatly enhance the community to be able to walk or bike to shopping centers, schools and friends. Thank you for this survey!	11/10/2022 7:43 PM
145	The fact that I had to google the names of most of the parks and "trails" doesn't say a lot for the Township's parks. Many developments and major roads don't have sidewalks so therin the township I don't consider a baseball field a park. It is a sports facility that may or may not have a jungle gym. The only park in the township that I consider multi-use is Fischer's, other than that most of the "parks" in the township are just glorified baseball fields. If nothing else, add some walking trails around the perimeters,	11/10/2022 4:26 PM
146	Please, please, we need sidewalks in Inglewood south of Allentown, enforcement of the speed limit, and traffic calming measures!!!!	11/10/2022 2:49 PM
147	Sidewalk from Sunny Ayr to Trumbauer Rd would unlock several neighborhoods to have pedestrian access to the fischer park system and bustard road park.	11/10/2022 2:10 PM

1329119 line 15980 Desired TrPlease add pedestrian trail and bridge to connect green lane road
 1329120 line 15980 Desired TrConnecting trail between green land and bustard park
 1329121 line 15980 Desired TrPlease add pedestrian trail and bridge to connect green lane road
 1329122 line 15980 Desired Trtrial and walking bridge to connect green lane rd and bustard park
 1329123 line 15980 Desired Trtrial and walking bridge to connect green lane park and bustard park
 1329124 line 15980 Desired Tradd additional trail along Kriebel rd and walking bridge to connect to fishers park
 1329133 line 15981 Barriers to Would like to connect Green Lane with the path behind 1600 Summeytown Pike. There is currently a vacant open field that we currently cut across to get to the parking lot to get to the trail. It is very difficult to ride a bike across the grass, and impossible for young kids. There should be ways to make a connector b
 1329134 line 15981 Barriers to Through no one wants Green Lane to connect to car passage. It would be nice if there was a path to connect here to be able to walk/ride to Green Lane fields and Fischer Park.
 1329135 line 15981 Barriers to I would like to see a path to connect Green Lane to the parking lot at the very busy Morris Road.
 1329145 line 15981 Barriers to I am able to connect Spring Valley to Kriebel. Then also connect Wilky View Way Rd so they can also access the trails and parks off Kriebel.
 1329158 line 15980 Desired TrIridgde somewhere over valley forge like the one over ferry foot road by the hotel and walgreens
 1329159 line 15979 Desired Sidewalk
 1329161 line 15979 Desired Sidewalk
 1329163 line 15979 Desired Sidewalk
 1329164 line 15979 Desired Sidewalk
 1329165 line 15979 Desired Sidewalk
 1329166 line 15987 Desired BtConnecting the trails in Evansburg up through Jacob Reiff park and to Fischer Plains and to the big network that ties in up there would be an amazing connection to make
 1329167 line 15987 Desired BtConnecting the trails in Evansburg up through Jacob Reiff park and to Fischer Plains and to the big network that ties in up there would be an amazing connection to make
 1329168 line 15987 Desired BtConnecting the trails in Evansburg up through Jacob Reiff park and to Fischer Plains and to the big network that ties in up there would be an amazing connection to make
 1329169 line 15980 Desired TrCould this be an alternative to using Kriebel Road and incorporate using Wagon Wheel down to Anders?
 1329171 line 15987 Desired Bike Route
 1329172 line 15980 Desired Trail
 1329173 line 15980 Desired Trail
 1329174 line 15979 Desired Sidewalk
 1329175 line 15979 Desired Sidewalk
 1329176 line 15987 Desired BtNo shoulders. Impossible to bike or run here
 1329177 line 15980 Desired TrIn this affroad trail would get a lot of use, please build it
 1329180 line 15987 Desired BtNo shoulders. Impossible to bike or run here
 1329181 line 15980 Desired TrIn this affroad trail would get a lot of use, please build it

Users(7): 8 Lines: 74 Points: 54 Line comment comments: 5
 Note: * when allow anonymous users, the data won't be precise as multiple users may use the same computer to input

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Line Comment Create Line Comment Comment(*) 3



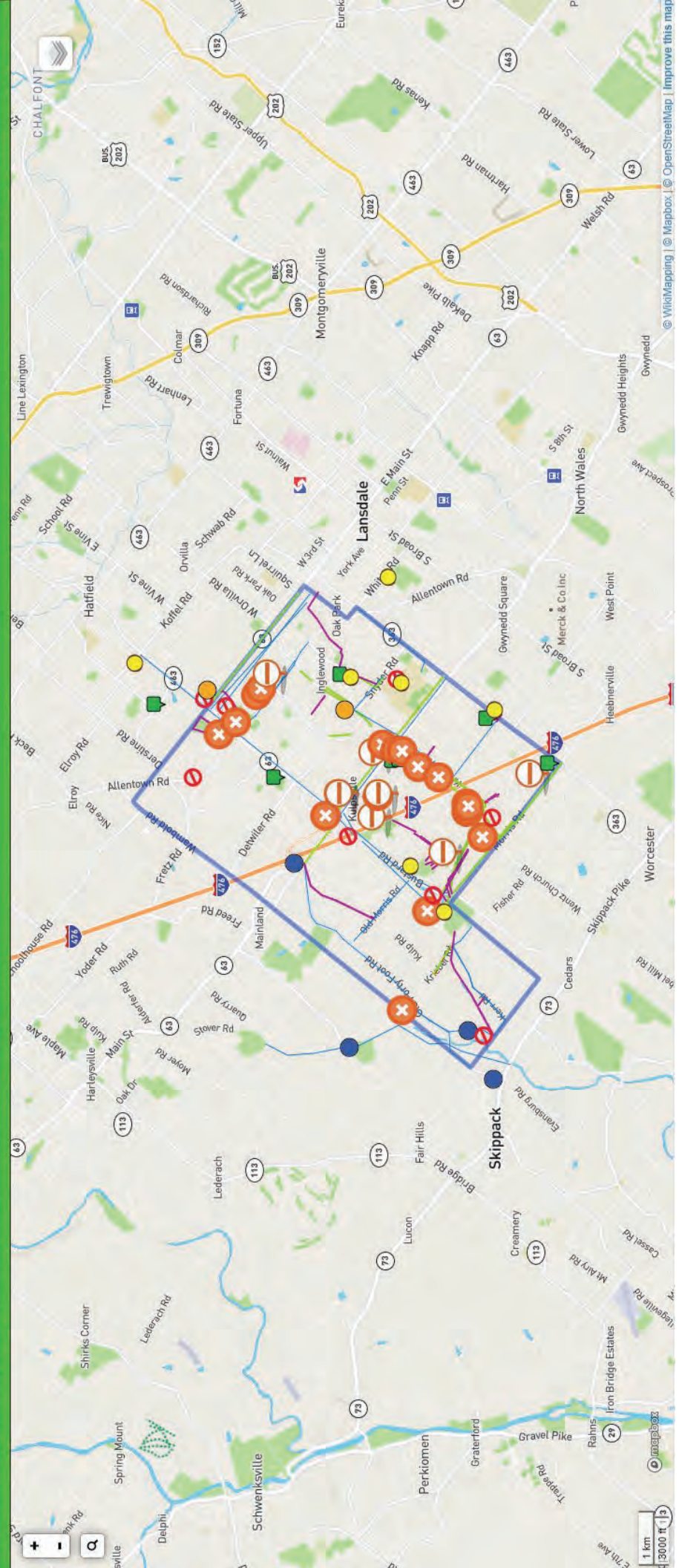
Towamencin Township would like to get your input into trail connections, pedestrian connections and bicycle routes as part of the current 'Connectivity & Trails' study taking place in the Township.



Click 'Add Routes' to draw desired bike routes sidewalks, and trails.

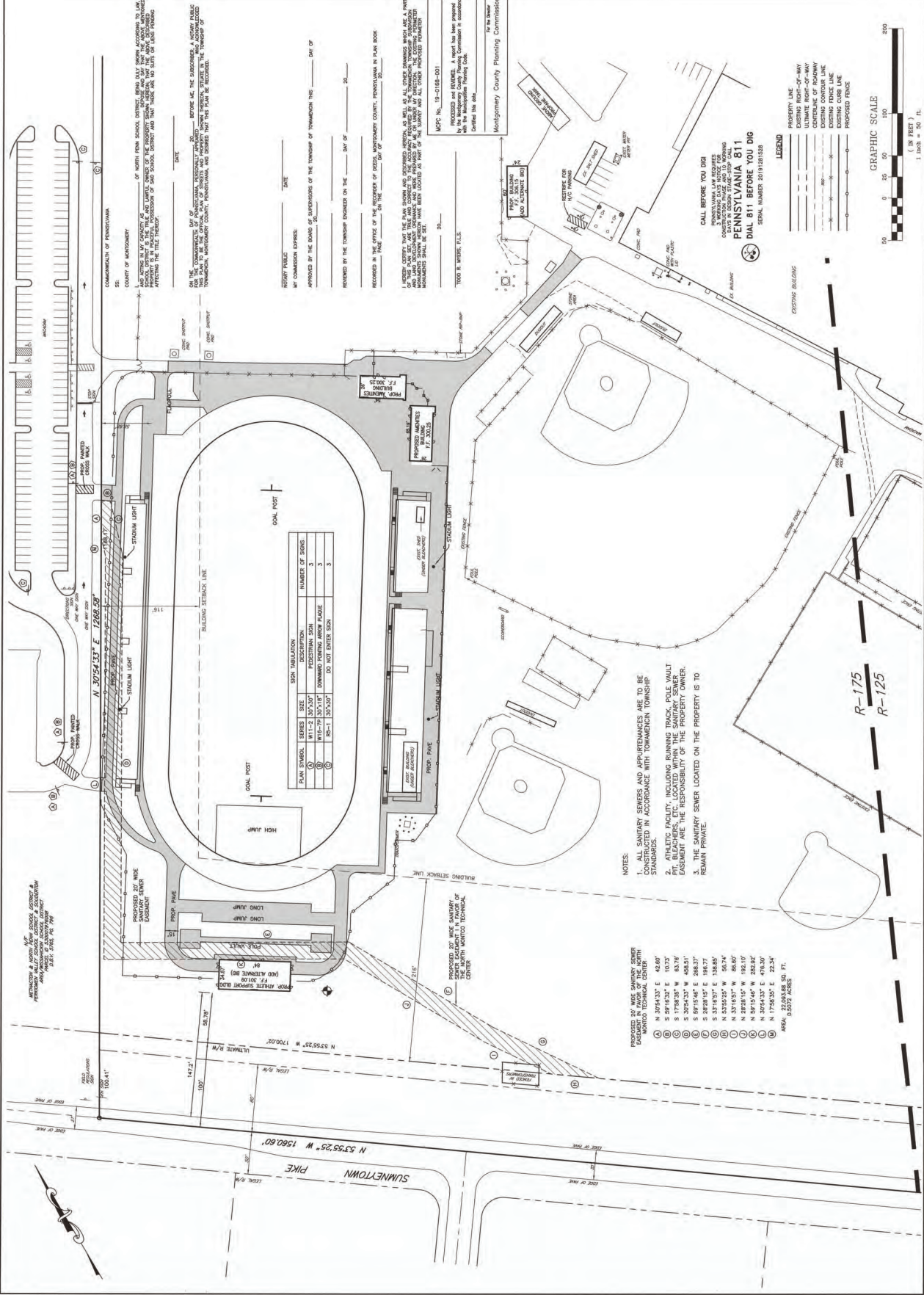


Click 'Add Points' to note locations of desired destinations, sidewalk gaps, desired crosswalk locations challenging areas, and areas of safety concern.



REVISIONS

06-13-19	PER CONSERVATION DISTRICT
07-23-19	GENERAL REVISIONS
08-05-19	PER CONSERVATION DISTRICT
08-21-19	ERR ISSUE
09-27-19	GENERAL REVISIONS
10-10-19	REBID
01-23-20	RECORD SET



COMMUNALITY OF PENNSYLVANIA
 COUNTY OF MONTGOMERY
 I, SCOTT PETER MENDENHALL, a duly licensed Professional Engineer in the State of Pennsylvania, do hereby certify that I am the author of the above described plan and that it was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer in the State of Pennsylvania.
 ON THE _____ DAY OF _____, 20____, BEFORE ME, the undersigned a Notary Public in and for the County of Montgomery, Pennsylvania, and I certified that the person whose name is subscribed to the foregoing instrument is the author of the same and that he is a duly licensed Professional Engineer in the State of Pennsylvania.
 WITNESSE MY HAND AND SEAL OF OFFICE AT COOPERSBURG, PENNSYLVANIA, ON THE _____ DAY OF _____, 20____.

RECAP TABLE
 DATE _____
 MY COMMISSION EXPIRES _____
 APPROVED BY THE BOARD OF SUPERVISORS OF THE TOWNSHIP OF TOWAMENCINY THIS _____ DAY OF _____, 20____.
 REVIEWED BY THE TOWNSHIP ENGINEER ON THE _____ DAY OF _____, 20____.
 RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS, MONTGOMERY COUNTY, PENNSYLVANIA IN PLAN BOOK _____ PAGE _____ ON THE _____ DAY OF _____, 20____.
 I HEREBY CERTIFY THAT THE PLAN SHOWS THE EXACT LOCATION AS WELL AS ALL LOCAL EASEMENTS, RIGHTS, AND BURDENS ON THIS PLAN AND THAT I AM NOT PROVIDING ANY INFORMATION TO THE PUBLIC THAT IS NOT SHOWN ON THIS PLAN. I AM NOT PROVIDING ANY INFORMATION TO THE PUBLIC THAT IS NOT SHOWN ON THIS PLAN. I AM NOT PROVIDING ANY INFORMATION TO THE PUBLIC THAT IS NOT SHOWN ON THIS PLAN.
 TOWNSHIP ENGINEER: _____
 TOWNSHIP BOARD: _____
 MONTGOMERY COUNTY PLANNING COMMISSION: _____

- NOTES:**
- ALL SANITARY SEWERS AND IMPROVEMENTS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH TOWAMENCINY TOWNSHIP STANDARDS.
 - ATHLETIC FACILITY, INCLUDING RUNNING TRACK, POLE VAULT PIT, AND STADIUM LIGHT TOWER, ARE TO BE CONSTRUCTED IN ACCORDANCE WITH TOWAMENCINY TOWNSHIP STANDARDS.
 - THE SANITARY SEWER LOCATED ON THE PROPERTY IS TO REMAIN PRIVATE.

PROPOSED BY: ROSE SANITARY SEWER EASEMENT IN FAVOR OF MARIO TECHNICAL CENTER

POINT	N	S	E	W	AREA
(A)	3754.37'	42.50'			
(B)	2919.32'	10.73'			
(C)	1799.35'	63.79'			
(D)	2919.32'	10.73'			
(E)	3754.37'	42.50'			
(F)	2919.32'	10.73'			
(G)	1799.35'	63.79'			
(H)	2919.32'	10.73'			
(I)	3754.37'	42.50'			
(J)	2919.32'	10.73'			
(K)	1799.35'	63.79'			
(L)	2919.32'	10.73'			
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(N)	2919.32'	10.73'			
(O)	1799.35'	63.79'			
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(Q)	3754.37'	42.50'			
(R)	2919.32'	10.73'			
(S)	1799.35'	63.79'			
(T)	2919.32'	10.73'			
(U)	3754.37'	42.50'			
(V)	2919.32'	10.73'			
(W)	1799.35'	63.79'			
(X)	2919.32'	10.73'			
(Y)	3754.37'	42.50'			
(Z)	2919.32'	10.73'			

Year	SLD #	Development Name	Address
2017	LD 808	Lansdale Commerce Center (withdrawn)	2130 Allentown Rd
	LD 809	Wambold Realty LP	551 Wambold Rd
	LD 810	WAWA	1401 Forty Foot Rd
	LD 811	Ronald Main Sub-Division	1765 Metz Road
2018	LD 812	Walker Residential Subdiv	695 Keeler Rd
	LD 813	Upper Gwynedd Twp	1898 S Valley Forge Rd
	LD 814	NP Towamencin Industrial LLC	2130 Allentown Rd
2019	LD 815	CFC-Freddie's & Firestone/Phase IIB	Forty Foot Rd
	LD 816	Reynolds Acquisitions LP (24.49 acre lot)	2750 Kriebel Rd
	LD 817	NPHS Crawford Stadium Renovations	1340 Valley Forge Rd
	LD 818	CORE 5	2130 Allentown Rd
	LD 819	Towamencin Town Square Stage II-A - Starbucks	1735 Sumneytown Pike
2020	LD 820	Franklin Street Storage	1520 Franklin Street
	LD 821	Belfair Square townhomes	Welsh Road
	LD 822	Delp Drive Industrial Building	Delp Drive
2021	LD 823	Chipotle Restaurant/Mattress Warehouse	1758 Allentown Rd, Pad C
	LD 824	Dock Academy Campus Expansion	1000 Forty Foot Rd
	LD 825	Wambold Realty LP	531 Wambold Rd
	LD 826	Dock Woods Health Care Addition	275 Dock Dr
	LD 827	North Penn Animal Hospital	1200 Welsh Rd
	LD 828	Dock Woods Hybrid Independent Living Apts	275 Dock Dr
	LD 829	Liberty Paving Company LLC	0 Detwiler Rd
	LD 830	Schempp Properties	1261-1301 Snyder & 1064 Weikel Rds
2022	LD 831	Essential Portfolio Partners LLC	1560 Old Forty Foot Rd
	LD 832	PSDC Grocery Supermarket	1758 Allentown Rd Unit 1
	LD 833	Schnabel Minor Subdivision	1750 Kriebel Rd



**HEINRICH & KLEIN
ASSOCIATES, INC.**

TRAFFIC ENGINEERING & PLANNING
1134 Heinrich Lane • Ambler, Pennsylvania 19002
215-793-4177 • FAX 215-793-4179

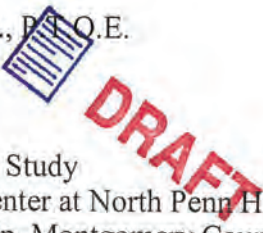
MEMORANDUM

TO: Thomas W. Schneider, Director of Facilities and Operations
North Penn School District

FROM: Andreas Heinrich, P.E., P.T.O.E.

DATE: April 15, 2022

RE: Transportation Impact Study
Proposed 9th Grade Center at North Penn High School
Towamencin Township, Montgomery County, PA



As requested, please accept the results of this Transportation Impact Study for the proposed 9th Grade Center at North Penn High School situated along Valley Forge Road (PA Route 363) in Towamencin Township, Montgomery County, Pennsylvania. The North Penn School District is undertaking a master planning project to determine the impact of locating the 9th Grade programs for the School District to the North Penn High School Campus.

The proposed scope of the project includes construction of a new 200,000 square foot expansion of the High School that will accommodate up to 1,000 9th grade students and 125 staff. As such, the School District will be moving the 9th grade population out of the current middle schools and bringing students, staff and school related vehicle circulation to this site, from other locations in the School District, for the additional grade structure. The existing high school currently accommodates 10th through 12 grades with an existing enrollment of 3,100 students and existing staff count of 400. The 2021-22 bell schedule for North Penn High School is 7:21 AM and 2:12 PM. Access to the North Penn High School Campus is provided via a signalized full-movement driveway that intersects Valley Forge Road (PA Route 363) at a point approximately 1,135 feet north of Sumneytown Pike, and via an unsignalized full-movement driveway that intersects Snyder Road at a point approximately midway between Valley Forge Road (PA Route 363) and Troxel Road.

The purpose of this Transportation Impact Study is to assess the potential traffic impact of the proposed 9th Grade Center on the immediately adjacent roadways, and to

comment on site access from the viewpoint of both traffic efficiency and safety. As such, our study has included:

- visits to the site to observe traffic conditions and to note existing physical characteristics of the adjacent highways;
- completion of Turning Movement Traffic Counts on a typical weekday from 6:30 AM to 9:00 AM and from 1:30 PM to 4:00 PM at the intersections listed below:
 - Valley Forge Road (PA Route 363) and Sumneytown Pike
 - Valley Forge Road (PA Route 363) and NPHS Driveway/McAuliffe Lane
 - Valley Forge Road (PA Route 363) and Snyder Road/McNair Drive
 - Snyder Road and NPHS Driveway
 - Troxel Road and Snyder Road;
- estimation of the anticipated traffic generation characteristics and potential travel patterns of new traffic generated by the proposed 9th Grade Center;
- completion of volume/capacity analyses of existing and future (2029 and 2034) peak hour traffic before and after development of the proposed 9th Grade Center; and,
- provision of recommendations to accommodate/mitigate the traffic impact of the proposed 9th Grade Center.

Appendices

- APPENDIX A – TRAFFIC SIGNAL PERMIT PLANS
- APPENDIX B - INTERSECTION TURNING MOVEMENT COUNTS
- APPENDIX C - VOLUME/CAPACITY ANALYSIS WORKSHEETS
EXISTING CONDITIONS
- APPENDIX D - TRAFFIC WARRANT ANALYSIS – VALLEY FORGE ROAD
(PA ROUTE 363) AND SNYDER ROAD
- APPENDIX E - TRAFFIC ASSIGNMENT FOR OTHER DEVELOPMENTS
- APPENDIX F - VOLUME/CAPACITY ANALYSIS WORKSHEETS
2029 WITHOUT DEVELOPMENT
- APPENDIX G - VOLUME/CAPACITY ANALYSIS WORKSHEETS
2029 AFTER DEVELOPMENT
- APPENDIX H - VOLUME/CAPACITY ANALYSIS WORKSHEETS
2034 WITHOUT DEVELOPMENT
- APPENDIX I - VOLUME/CAPACITY ANALYSIS WORKSHEETS
2034 AFTER DEVELOPMENT

Executive Summary

- It is anticipated that the proposed 9th Grade Center will generate 742 trips per hour during the weekday morning school peak hour and 360 trips per hour during the weekday afternoon school peak hour.
- Existing peak hour traffic was first increased to account for background traffic growth and traffic generated by other new development in the vicinity of the site. Background traffic growth of 0.33% per year was applied to existing peak hour traffic volumes in the study area. The background traffic growth rate was obtained for Montgomery County from the Pennsylvania Department of Transportation Bureau of Planning and Research. The opening year traffic volumes were based on projecting traffic for seven years to the year 2029. For the 2029 opening year, background traffic growth of about 2.33% was applied to existing peak hour traffic volumes. Existing peak hour traffic was then further increased to account for an additional five years of background traffic growth. The design year traffic volumes were based on projecting traffic for twelve years to the year 2034. For the 2034 design year, background traffic growth of about 4.03% was applied to existing peak hour traffic volumes. In addition, the specific traffic generation characteristics for the Towamencin Main Street Development were added to future peak hour traffic volumes. Towamencin Main Street will be developed for 250 apartments, 98,250 square feet of retail floor space, a 5,000 square foot high-turnover sit-down restaurant, a 10,600 square foot office building, and 33,250 square foot grocery store, with access provided via driveways that will intersect Sunneystown Pike and Forty Foot Road.
- The results of a Traffic Signal Warrant Analysis reveals that installation of a new traffic control signal is warranted at the intersection of Valley Forge Road (PA Route 363) and Snyder Road /McNair Drive. This is based on compliance with the requirements of Warrant 2, Four-Hour Vehicular Volume. It is likely that the requirements of Warrant 1, Eight-Hour Vehicular Volume, Condition B, Interruption of Continuous Traffic are also satisfied.
- The results of the analysis assume completion of several improvements in conjunction with development of the proposed 9th Grade Center:
 - Valley Forge Road (PA Route 363) and Sunneystown Pike - Pay Traffic Impact Fee preliminarily calculated to be \$329,634.00 in support of widening Sunneystown Pike to provide two through lanes in both directions through the signalized intersection with Valley Forge Road (PA Route 363).
 - Valley Forge Road (PA Route 363) and NPHS Driveway/McAuliffe Lane – Widen Valley Forge Road to lengthen the northbound left turn lane to 325 feet, widen southbound Valley Forge Road (PA Route 363) to provide a separate channelized right turn lane 14 feet wide and 400 feet long with tapers, widen the NPHS driveway to provide a lengthened left turn exit lane

375 feet long plus tapers, as well as to provide to entry lanes the entire length to the parking fields.

- Valley Forge Road (PA Route 363) and Snyder Road/McNair Drive – Install a new two-phased, traffic-actuated traffic control signal interconnected to the Closed Loop Signal System along Valley Forge Road (PA Route 363).
- Troxel Road and Snyder Road – Install All-way Stop-signs. (Consider construction of a roundabout.)
- With implementation of these improvements, the results of the analysis reveal that, with the exception of southbound through traffic at the NPHS Driveway/McAuliffe Lane (LOS E during the morning school peak hour), all movements at the signalized intersections along the Valley Forge Road (PA Route 363) Corridor will operate at an acceptable LOS D or better during both the morning school and afternoon school peak hours. All critical movements at the unsignalized intersection of Snyder Road and the NPHS Driveway will operate at an acceptable LOS C or better during both the morning school and afternoon school peak hours. Traffic on the northbound and southbound approaches of Troxel Road will operate at LOS F during the morning school peak hours.

Existing Transportation Setting

The proposed 9th Grade Center at North Penn High School is situated along Valley Forge Road (PA Route 363) in Towamencin Township, Montgomery County, Pennsylvania. Access to the North Penn High School Campus is provided via a signalized full-movement driveway that intersects Valley Forge Road (PA Route 363) at a point approximately 1,135 feet north of Sumneytown Pike, and via an unsignalized full-movement driveway that intersects Snyder Road at a point approximately midway between Valley Forge Road (PA Route 363) and Troxel Road. According to the *Smart Transportation Guidebook*, the land use context for the immediate area surrounding the site is Suburban Neighborhood.

Valley Forge Road (S.R. 0363) is generally a two-way, two-lane State Highway. According to PennDOT Pub. 10X (Design Manual Part 1X), Valley Forge Road (PA Route 363) would be classified as a Community Arterial; while, according to the PennDOT Traffic Information Repository (TIRE), Valley Forge Road (PA Route 363) is classified as an Other Principal Arterial. Valley Forge Road (PA Route 363) provides one travel lane in each direction with widening at Sumneytown Pike for a separate left turn lane on both approaches and a separate right turn lane on the southbound approach; and, widening at the NPHS Driveway for a separate northbound left turn lane. The posted speed limit along Valley Forge Road (PA Route 363) is 45 miles per hour. Based on PennDOT's TIRE site, the average daily traffic volume along Valley Forge Road (PA Route 363) is listed at 12,964 vehicles per day (total both directions).

Sumneytown Pike is a two-way, two-lane County Highway west of Valley Forge Road (PA Route 363) and a local road east of Valley Forge Road (PA Route 363). According to PennDOT Pub. 10X (Design Manual Part 1X), Sumneytown Pike would be classified as a Community Arterial; while, according to the PennDOT Traffic Information Repository (TIRe), Sumneytown Pike is classified as an Other Principal Arterial. Sumneytown Pike provides one travel lane in each direction with widening at Valley Forge Road (PA Route 363) for a separate left turn lane on both approaches and a separate right turn lane on the westbound approach. The posted speed limit along Sumneytown Pike is 35 miles per hour. Based on PennDOT's TIRe site, the average daily traffic volume along Sumneytown Pike is listed at 14,808 vehicles per day (total both directions).

Snyder Road is also a two-way, two-lane local road. According to PennDOT Pub. 10X (Design Manual Part 1X), Snyder Road would be classified as a Local road; while, according to the PennDOT Traffic Information Repository (TIRe), Snyder Road is classified as a local road. Traffic along Snyder Road is Stop-sign controlled at its intersections with Valley Forge Road (PA Route 363) and with Troxel Road. The posted speed limit along Snyder Road is 25 miles per hour.

Troxel Road (S.R. 1004) is a two-way, two-lane State Highway. According to PennDOT Pub. 10X (Design Manual Part 1X), Troxel Road would be classified as a Neighborhood Collector; while, according to the PennDOT Traffic Information Repository (TIRe), Troxel Road is classified as a Collector. The posted speed limit along Troxel Road is 25 miles per hour. Based on PennDOT's TIRe site, the average daily traffic volume along Troxel Road is listed at 4,882 vehicles per day (total both directions).

The nearest signalized intersection to the site is located at the intersection of Valley Forge Road (PA Route 363) and NPHS Driveway/McAuliffe Lane. Traffic through the intersection is regulated by a three-phased, traffic-actuated traffic signal controller that provides a lead left turn phase for the northbound approach of Valley Forge Road (PA Route 363). Traffic through the intersection of Valley Forge Road (PA Route 363) and Sumneytown Pike is regulated by a multi-phased, traffic-actuated traffic signal controller that provides a lead left turn phases for all four approaches to the intersection. The two signalized intersections are interconnected as part of a Closed Loop Signal System and are programed to operate on a 90-second signal cycle during the morning peak period, a 100-second signal cycle during the afternoon peak period, and an 80-second signal cycle during off-peak periods. It should be noted that the traffic signal controller at Valley Forge Road (PA Route 363) and NPHS Driveway/McAuliffe Lane is equipped with a Maximum extension timing during the weekday period 2:25 PM to 2:35 PM coinciding with the school dismissal time period.

Existing highway travel demand and traffic patterns in the vicinity of the site were determined from completion of Turning Movement Traffic Counts on a typical weekday from 6:30 AM to 9:00 AM and from 1:30 PM to 4:00 PM at the intersections listed below:

- Valley Forge Road (PA Route 363) and Sumneytown Pike
- Valley Forge Road (PA Route 363) and NPHS Driveway/McAuliffe Lane
- Valley Forge Road (PA Route 363) and Snyder Road/McNair Drive

- Snyder Road and NPHS Driveway
- Troxel Road and Snyder Road;

The results of the intersection turning movement counts for the two NPHS Driveways were reviewed to determine the peak 60-minute periods for traffic generated by the high school. The four highest consecutive 15 minute periods during the weekday morning school and weekday afternoon school peak periods constitute the peak hours for evaluation relative to the peak traffic activity for the North Penn High School Campus. Table 1 summarizes the existing traffic generation characteristics for the North Penn High School. A copy of the Traffic Count Summary Data sheets is attached. Existing weekday morning school and weekday afternoon school peak traffic volumes are summarized in Figures 1 and 2.

Public Transportation

There is no regular scheduled transit service provided in the vicinity of the site.

Pedestrian Activity

Existing curb and sidewalk is provided sporadically along one or both sides of some street sections in the vicinity of the site predominantly along the recently developed property frontages. A sidewalk/trail is provided from the North Penn High School parking lot out to Snyder Road. At the signalized intersection of Valley Forge Road (PA Route 363) and Sumneytown Pike, crosswalks, curb ramps, pedestrian pushbuttons and pedestrian signal heads with countdown timers are provided across all four legs of the intersection. At the signalized intersection of Valley Forge Road (PA Route 363) and NPHS Driveway/McAuliffe Lane, crosswalks, curb ramps, pedestrian pushbuttons and pedestrian signal heads with countdown timers are provided across the south leg of Valley Forge Road (PA Route 363), the east leg of McAuliffe Road, and the west leg of NPHS Driveway.

Plans to improve pedestrian facilities on or adjacent to the North Penn High School Campus have not yet been determined.

Planned Roadway Improvements

There are no known active roadway improvement projects in the vicinity of the site. As part of the Towamencin Township Transportation Capital Improvement Program, however, the intersection of Valley Forge Road (PA Route 363) and Sumneytown Pike is listed for improvements including widening along Sumneytown Pike to provide two through travel lanes in each direction. There is no completion date set for implementation of this improvement.

Traffic Generation Characteristics

The proposed scope of the project includes construction of a new 200,000 square foot expansion of the High School that will accommodate up to 1,000 9th grade students

TABLE 1

**TRAFFIC GENERATION CHARACTERISTICS
NORTH PENN HIGH SCHOOL CAMPUS
TOWAMENCIN TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA
MARCH, 2022**

Time Period	Valley Forge Road			Snyder Road		Valley Forge Road			Snyder Road		Total	
	Right In	Straight In	Left In	Right In	Left In	Left Out	Straight Out	Right Out	Left Out	Right Out	Left Out	Right Out
6:30 to 6:45 AM	22	0	33	31	5	3	0	8	5	0	16	107
6:45 to 7:00 AM	109	1	113	123	25	30	0	33	16	3	82	453
7:00 to 7:15 AM	191	17	136	205	15	57	3	67	36	5	168	732
7:15 to 7:30 AM	80	26	66	73	6	60	8	63	43	8	182	433
7:30 to 7:45 AM	10	0	5	9	4	12	0	6	6	3	27	55
7:45 to 8:00 AM	5	0	8	11	4	11	0	5	5	0	21	49
8:00 to 8:15 AM	13	0	11	8	2	3	0	6	4	0	13	47
8:15 to 8:30 AM	31	0	21	24	1	2	0	3	4	3	12	89
8:30 to 8:45 AM	6	0	5	8	4	5	0	5	8	1	19	42
8:45 to 9:00 AM	5	0	5	4	1	3	0	3	2	2	10	25
Morning Arrival Peak Hour												
6:30 to 7:30 AM	402	44	348	432	51	150	11	171	100	16	448	1725
1:30 to 1:45 PM	8	0	11	20	13	20	0	14	26	8	68	120
1:45 to 2:00 PM	26	0	16	35	15	9	0	7	7	5	28	120
2:00 to 2:15 PM	32	0	18	20	3	32	0	29	15	4	80	153
2:15 to 2:30 PM	16	0	9	11	6	146	4	123	123	9	405	447
2:30 to 2:45 PM	15	1	24	12	4	20	0	22	22	2	66	122
2:45 to 3:00 PM	23	0	22	21	4	32	0	34	47	5	118	188
3:00 to 3:15 PM	20	1	18	10	2	40	0	39	42	4	125	176
3:15 to 3:30 PM	15	0	6	11	1	22	1	24	16	1	64	97
3:30 to 3:45 PM	12	0	14	9	0	26	0	18	23	2	69	104
3:45 to 4:00 PM	12	0	14	6	1	15	1	11	13	0	40	73
Afternoon Dismissal Peak Hour												
2:15 to 3:15 PM	74	2	73	54	16	238	4	218	234	20	714	933

and 125 staff. As such, the School District will be moving the 9th grade population out of the current middle schools and bringing students, staff and school related vehicle circulation to this site, from other locations in the School District, for the additional grade structure. Development of the proposed 9th Grade Center will obviously add some new traffic to the roads serving the site -- as might any further development of the property.

Based on the size of the proposed development, estimates of new traffic demand can be calculated for the proposed development. The anticipated traffic generation of the proposed 9th Grade Center is estimated from trip generation data compiled by the Institute of Transportation Engineers and documented in the publication entitled Trip Generation Manual⁽¹⁾. Table 2 presents the calculated vehicular trip generation rates for the proposed 9th Grade Center. Application of these rates to the size of the proposed development produces the school peak hourly traffic volumes presented in the bottom of Table 1.

It should be noted that Table 2 also presents a comparison of the actual trip rates for North Penn High School in comparison with the trip generations rates calculated from ITE. As indicated, the actual trip generation rates for North Penn High School are significantly higher than those rates calculated from ITE. This may be likely due to reluctance of many parents to rely on school buses in the aftermath of COVID-19 and instead driving students to and/or from school.

As shown in Table 1, it is anticipated that proposed 9th Grade Center with up to 1,000 students, will generate a total of 742 trips per hour during the weekday morning school peak hour and 360 trips per hour during the weekday afternoon school peak hour.

It is anticipated that traffic generated by the proposed 9th Grade Center will approach and depart the site according to existing traffic patterns at the high school driveways and along the roads in the vicinity of the site. The assignment of new trip generation for the proposed development, based on the distribution percentages listed below, is presented in Figure 3:

- 39% to/from the north on Valley Forge Road (PA Route 363)
- 16% to/from the north on Troxel Road
- 15% to the south on Troxel Road
- 15% from the south on Valley Forge Road (PA Route 363)
- 10% to/from the east on Sumneytown Pike
- 5% to/from the west on Sumneytown Pike.

Volume/Capacity Analysis

While traffic volumes provide a measure of activity on the area road system, it is also important to calculate the ability of the road system to adequately accommodate the traffic demand. This involves a comparison of peak hour traffic demand with available

(1) Trip Generation Manual, 11th Ed., Institute of Transportation Engineers, Washington DC, 2021.

TABLE 2

**TRAFFIC GENERATION CHARACTERISTICS
NORTH PENN HIGH SCHOOL/9TH GRADE ADDITION
TOWAMENCIN TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA**

CALCULATED TRIP RATES⁽¹⁾

Description	Morning Arrival Peak Hour			Afternoon Dismissal Peak Hour		
	In	Out	Total	In	Out	Total
Actual Rates						
High School (3,100 students)	0.41	0.15	0.56	0.07	0.23	0.30
ITE Rates						
High School (3,100 students) ⁽²⁾	0.27	0.12	0.39	0.08	0.17	0.25
Middle School/9 th Grade Addition (1,000 students) ⁽²⁾	0.41	0.33	0.74	0.17	0.19	0.36

*Actual ITE Rates
Peak Hour*

TRAFFIC VOLUMES

Actual Trips						
High School (3,100 students)	1277	448	1725	219	714	933
Calculated/Projected Trips						
High School (3,100 students)	831	391	1222	252	536	788
Middle School/9 th Grade Addition (1,000 students)	408	334	742	165	195	360

*72 78 150
x 2197.56
= 329,634.00*

(1) Trips per student enrolled.

(2) Trip Generation Manual, 11th Edition, Institution of Transportation Engineers, Washington, D.C., 2021 (ITE Land Use Codes 522 and 525).

roadway or intersection capacity. Intersections and driveways are usually the critical points in any road network. At intersections, conflicts occur between through, crossing and turning traffic. It is at intersections where congestion is most likely to occur.

A volume/capacity analysis was completed for the signalized and unsignalized intersections in the study area based upon the peak hour traffic volumes illustrated in Figures 1 and 2. The volume/capacity analysis was completed in accordance with the standard procedures contained in the "Highway Capacity Manual"⁽²⁾. By definition, vehicle capacity represents "the maximum number of vehicles that can pass a given point during a specified period under prevailing roadway, traffic and control conditions". The level of functioning of an intersection or a uniform section of lane or roadway can be expressed in terms of levels of service. A level of service is a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. Such measures include speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience.

In calculating the capacity of an unsignalized intersection, it is assumed that the through movements on the major street and the right turns from the major street are unimpeded and have the right-of-way over all minor street traffic and left turns from the major street. All other movements in the intersection cross, merge with, or are affected by other flows. For each movement, all conflicting flows are summed and a "critical gap" is determined. The control delay of a critical movement includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

At signalized intersections, factors that affect the various approach capacities include width of approach, number of lanes, signal green time, turning percentages, truck volumes, etc. The relative functioning of a signalized intersection is, therefore, based on the average control delay per vehicle for the various movements within the intersection. While volume/capacity relationships affect capacity, there are other parameters that affect delay and must also be considered. It is possible under certain conditions to have excessive delay without exceeding roadway capacity. Conversely, a saturated approach may have relatively low vehicular delay under certain conditions. Thus, both capacity and control delay must be considered to evaluate the overall operation of a signalized intersection.

Since operation at capacity is usually unsatisfactory to most drivers, a descriptive mechanism has been developed which relates capacity with the expected traffic delay. This is known as Level of Service (LOS). Level of service for a two-way stop-controlled intersection is determined by the computed or measured control delay and is defined for each minor movement. Table 3 provides the correlation between levels of service and the average total delay at unsignalized intersections. The correlation between levels of service and the stopped delay per vehicle at signalized intersections is provided in Table 4.

(2) *Highway Capacity Manual*, 6th Edition, Transportation Research Board of the National Academies, Washington, D.C., 2016.

TABLE 3

LEVEL OF SERVICE

UNSIGNALIZED INTERSECTIONS

At unsignalized intersections the criteria used to evaluate the quality of flow is the measure of the adequacy of the number of acceptable gaps in the through traffic stream for drivers facing a STOP or YIELD condition. Variables affecting the gaps are the distribution or arrival of vehicles in the through traffic stream, percentage of trucks, grades, and the amount of time it requires to enter the traffic stream from a stop position (critical gap size). The control delay of a critical movement includes the initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

As a result, the following criteria has been established:

<u>Level of Service</u>	<u>Control Delay Range (sec./veh/)</u>
A	less than 10
B	10 to 15
C	15 to 25
D	25 to 35
E	35 to 50
F	more than 50 and/or volume-to- capacity ratio greater than 1.0

TABLE 4
LEVEL OF SERVICE
SIGNALIZED INTERSECTIONS

Level of Service for signalized intersections is defined in terms of average stopped delay. Delay is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. Delay at a traffic signal is a complex measure and is dependent on a number of variables including quality of progression, the cycle length, the green time ratio, the volume to capacity ratio for each lane group on each approach, trucks, pedestrians, and signal phasing.

The following has therefore been established by the Transportation Research Board as the average stopped delay in vehicles per second:

<u>LEVEL OF SERVICE</u>	<u>DESCRIPTION</u>	<u>AVERAGE STOPPED DELAY (sec./veh.)</u>
A	Very low delay, good progression; most vehicles do not stop at intersection.	less than 10.0
B	Generally good signal progression and/or short cycle length; more vehicles stop at intersection than level of service A.	10.1 to 20.0
C	Fair progression and/or longer cycle length; significant numbers of vehicles stop at intersection.	20.1 to 35.0
D	Congestion becomes noticeable; individual cycle failures; longer delay from unfavorable progression, long cycle length, or high volume/capacity ratio; most vehicles stop at intersection.	35.1 to 55.0
E	Considered limit of acceptable delay, indicative of poor progression, long cycle length, high volume/capacity ratio; frequent individual cycle failures.	55.1 to 80.0
F	Unacceptable delay, frequently an indication of oversaturation (i.e., arrival flow exceeds available capacity).	greater than 80.0 and/or volume-to-capacity ratio greater than 1.0

It should be noted that the analysis has been completed using Synchro 10 software incorporating the use of certain default values (PennDOT Publication 46 – Traffic Engineering Manual) for base saturation flow rates, start-up lost time and extension of effective green time at signalized intersections, base critical headways at unsignalized intersections, and base follow-up headways at unsignalized intersections.

The resultant levels of service calculated from the volume/capacity analysis of existing peak hour traffic conditions are illustrated in Figure 4 (volume/capacity analysis worksheets attached). The results of the analysis reveal that eastbound through/right turning traffic at the signalized intersection of Valley Forge Road (PA Route 363) and Sumneytown Pike Johnson Highway is currently operating at LOS F during the morning school peak hour and westbound through traffic is operating at LOS E during the afternoon school peak hour. At the signalized intersection of Valley Forge Road (PA Route 363) and NPHS Driveway/McAuliffe Lane, left turn entering traffic and both left turn and right turn exiting traffic is operating at LOS F during the morning school peak hour and both left turn and right turn exiting traffic is operating at LOS E during the afternoon school peak hour. At the unsignalized intersection of Valley Forge Road (PA Route 363) and Snyder Road/McNair Drive, the eastbound Stop-sign controlled approach of Snyder Road is operating at LOS E during the morning school peak hour and at LOS F during the afternoon school peak hour. At the unsignalized intersection of Troxel Road and Snyder Road, the westbound Stop-sign controlled approach of Snyder Road is operating at LOS F during the morning school peak hour.

It should be noted that the results of a Traffic Signal Warrant Analysis reveals that installation of a new traffic control signal is warranted at the intersection of Valley Forge Road (PA Route 363) and Snyder Road /McNair Drive. This is based on compliance with the requirements of Warrant 2, Four-Hour Vehicular Volume. It is likely that the requirements of Warrant 1, Eight-Hour Vehicular Volume, Condition B, Interruption of Continuous Traffic are also satisfied.

Future Conditions

Development generated traffic was then added to existing peak hour traffic volumes. Existing peak hour traffic was first increased to account for background traffic growth and traffic generated by other new development in the vicinity of the site. Background traffic growth of 0.33% per year was applied to existing peak hour traffic volumes in the study area. The background traffic growth rate was obtained for Montgomery County from the Pennsylvania Department of Transportation Bureau of Planning and Research. Accordingly, the opening year traffic volumes were based on projecting traffic for seven years to the year 2029. For the 2029 opening year, background traffic growth of about 2.33% was applied to existing peak hour traffic volumes.

In addition to background traffic growth, the specific traffic generation characteristics for the Towamencin Main Street Development were added to future peak hour traffic volumes. Towamencin Main Street will be developed for 250 apartments, 98,250 square feet of retail floor space, a 5,000 square foot high-turnover sit-down restaurant, a 10,600 square foot office building, and a 33,250 square foot grocery store.

Access to the development will be provided via a driveway that will intersect Sumneytown Pike opposite the Towamencin Corporate Center Driveway, and two driveways that will intersect Forty Foot Road north of Sumneytown Pike. (trip assignment worksheet attached).

Future (2029) peak hour traffic volume without development of the proposed 9th Grade Center is presented in Figures 5 and 6. The resultant levels of service calculated from the volume/capacity analysis of future (2029) peak hour traffic conditions without development of the proposed 9th Grade Center are illustrated in Figure 7 (volume/capacity analysis worksheets attached). The results of the analysis reveal that westbound through traffic and northbound through/right turning traffic at the signalized intersection of Valley Forge Road (PA Route 363) and Sumneytown Pike Johnson Highway will operate at LOS E/F during the afternoon school peak hour. At the signalized intersection of Valley Forge Road (PA Route 363) and NPHS Driveway/McAuliffe Lane, southbound through/right turning traffic, left turn entering traffic, and right turn exiting traffic will operate at LOS F and left turn exiting traffic will operate at LOS E during the morning school peak hour. At the unsignalized intersection of Valley Forge Road (PA Route 363) and Snyder Road/McNair Drive, the eastbound Stop-sign controlled approach of Snyder Road will operate at LOS F during both the morning school and afternoon school peak hour. At the unsignalized intersection of Troxel Road and Snyder Road, the westbound Stop-sign controlled approach of Snyder Road will continue to operate at LOS F during the morning school peak hour.

Future (2029) peak hour traffic volume after development of the proposed 9th Grade Center is presented in Figures 8 and 9. The resultant levels of service calculated from the volume/capacity analysis of future (2029) peak hour traffic conditions after development of the proposed 9th Grade Center are illustrated in Figure 10 (volume/capacity analysis worksheets attached). The results of the analysis assume completion of several improvements:

- Valley Forge Road (PA Route 363) and Sumneytown Pike - Pay Traffic Impact Fee preliminarily calculated to be \$329,634.00 in support of widening Sumneytown Pike to provide two through lanes in both directions through the signalized intersection with Valley Forge Road (PA Route 363).
- Valley Forge Road (PA Route 363) and NPHS Driveway/McAuliffe Lane – Widen Valley Forge Road to lengthen the northbound left turn lane to 325 feet, widen southbound Valley Forge Road (PA Route 363) to provide a separate channelized right turn lane 14 feet wide and 400 feet long with tapers, widen the NPHS driveway to provide a lengthened left turn exit lane 375 feet long plus tapers, as well as to provide to entry lanes the entire length to the parking fields.
- Valley Forge Road (PA Route 363) and Snyder Road/McNair Drive – Install a new two-phased, traffic-actuated traffic control signal interconnected to the Closed Loop Signal System along Valley Forge Road (PA Route 363).

- Troxel Road and Snyder Road – Install All-way Stop-signs. (Consider construction of a roundabout.)

With implementation of these improvements, the results of the analysis reveal that all movements at the signalized intersections along the Valley Forge Road (PA Route 363) Corridor will operate at an acceptable LOS D or better during both the morning school and afternoon school peak hours. All critical movements at the unsignalized intersection of Snyder Road and the NPHS Driveway will operate at an acceptable LOS C or better during both the morning school and afternoon school peak hours. Traffic on the northbound and southbound approaches of Troxel Road will operate at LOS F during the morning school peak hours. Table 5 summarizes the results of the volume/capacity analysis for the existing, future (2029) without development, and future (2029) after development scenarios. Table 6 summarizes the results of the queue analysis for the existing, future (2029) without development, and future (2029) after development scenarios.

Existing peak hour traffic was then further increased to account for an additional five years of background traffic growth. The design year traffic volumes were based on projecting existing peak hour traffic for twelve years to the year 2034. For the 2034 design year, background traffic growth of about 4.03% was applied to existing peak hour traffic volumes. In addition, the specific traffic generation characteristics for the Towamencin Main Street Development, as described previously, were added to future traffic projections.

Future (2030) peak hour traffic volume without development of the proposed 9th Grade Center is presented in Figures 11 and 12. The resultant levels of service calculated from the volume/capacity analysis of future (2034) peak hour traffic conditions without development of the proposed 9th Grade Center are illustrated in Figure 13 (volume/capacity analysis worksheets attached). The results of the analysis reveal that westbound through traffic and northbound through/right turning traffic at the signalized intersection of Valley Forge Road (PA Route 363) and Sumneytown Pike Johnson Highway will operate at LOS E/F during the afternoon school peak hour. At the signalized intersection of Valley Forge Road (PA Route 363) and NPHS Driveway/McAuliffe Lane, southbound through/right turning traffic, left turn entering traffic, and right turn exiting traffic will operate at LOS F and left turn exiting traffic will operate at LOS E during the morning school peak hour. At the unsignalized intersection of Valley Forge Road (PA Route 363) and Snyder Road/McNair Drive, the eastbound Stop-sign controlled approach of Snyder Road will operate at LOS F during both the morning school and afternoon school peak hour. At the unsignalized intersection of Troxel Road and Snyder Road, the westbound Stop-sign controlled approach of Snyder Road will continue to operate at LOS F during the morning school peak hour.

Future (2034) peak hour traffic volume after development of the proposed 9th Grade Center is presented in Figures 14 and 15. The resultant levels of service calculated from the volume/capacity analysis of future (2034) peak hour traffic conditions after development of the proposed 9th Grade Center are illustrated in Figure 16 (volume/capacity analysis worksheets attached). The results of the analysis assume completion of several improvements as described previously.

**TABLE 5
LEVEL OF SERVICE (DELAY) SUMMARY/OPENING YEAR 2029**

Intersection	Approach	AM School Peak Hour LOS (Delay sec./veh.)			PM School Peak Hour LOS (Delay sec./veh.)		
		Existing	2029 W/O Development	2029 After Development	Existing	2029 W/O Development	2029 After Development
Valley Forge Road (PA Route 363) & Summeytown Pike	EB L	C(21.7)	B(17.7)	C(24.8)	C(20.7)	C(20.4)	C(21.6)
	EB T/R	F(93.7)	D(47.0)	C(32.2)	C(31.8)	C(33.9)	C(26.8)
	WB L	C(24.8)	C(21.7)	C(24.3)	B(19.0)	B(18.8)	C(20.3)
	WB T or T/R	C(28.8)	C(23.7)	D(52.9)	F(55.5)	E(65.3)	D(46.5)
	WB R	C(29.5)	C(23.5)	-	C(22.3)	C(21.6)	-
	NB L	B(17.2)	C(21.7)	B(18.0)	B(19.7)	C(21.2)	B(18.7)
	NB T/R	C(30.0)	D(43.8)	D(37.8)	D(45.9)	E(58.9)	D(43.6)
	SB L	B(19.6)	C(26.6)	B(19.5)	C(31.0)	D(37.2)	C(25.2)
	SB T	B(15.1)	C(20.7)	B(14.0)	C(32.2)	C(33.0)	C(26.7)
	SB R	B(13.5)	B(18.7)	B(12.2)	C(24.0)	C(25.1)	C(21.6)
	INTERSECTION	D(42.3)	C(32.5)	C(31.2)	D(36.0)	D(41.1)	C(32.6)
	EB L	F(95.6)	E(78.1)	D(50.3)	F(64.7)	D(35.6)	C(33.4)
	EB T/R	F(205.9)	F(161.6)	D(51.5)	E(69.7)	C(32.8)	C(28.6)
	WB L	D(46.4)	D(46.4)	D(41.9)	D(44.0)	C(34.7)	C(32.3)
WB T/R	D(37.2)	D(36.0)	C(24.5)	C(27.3)	C(22.1)	B(18.0)	
Valley Forge Road (PA Route 363) & NPHS Driveway/ McAuliffe Lane	NB L	F(286.3)	F(92.1)	D(42.7)	B(10.6)	B(16.5)	C(20.8)
	NB T	A(0.3)	A(0.3)	A(0.6)	A(8.5)	B(13.3)	B(18.6)
	NB R	A(0.0)	A(0.0)	A(0.0)	A(4.6)	A(7.2)	A(9.8)
	SB L/T/R or L/T	C(31.3)	F(114.9)	D(48.8)	B(17.6)	C(30.3)	D(39.1)
	SB R	-	-	A(0.0)	-	-	A(0.0)
	INTERSECTION	F(106.1)	F(92.1)	D(39.4)	C(29.7)	C(25.4)	C(28.6)
	EB L/T/R	E(48.5)	F(57.3)	D(39.5)	F(54.3)	F(64.6)	D(33.5)
	WB L/T/R	B(10.9)	B(11.2)	D(36.1)	C(19.6)	C(20.5)	C(33.2)
	NB L or L/T	B(11.4)	B(11.5)	A(0.8)	B(10.2)	B(10.4)	A(6.7)
	NB R	-	-	A(0.0)	-	-	A(2.1)
	SB L OR L/T/R	B(9.6)	A(9.8)	B(13.5)	B(10.7)	B(10.8)	A(4.9)
	INTERSECTION	A(3.7)	A(4.2)	B(11.2)	A(4.2)	A(4.8)	A(8.1)
	WB L	B(11.3)	B(11.3)	B(13.2)	A(8.5)	A(8.5)	A(8.8)
	NB L/R	B(12.0)	B(12.0)	C(22.5)	B(13.8)	B(14.0)	C(18.9)
INTERSECTION	A(2.9)	A(2.9)	A(6.6)	A(8.0)	A(8.0)	B(10.8)	
Troxel Road & Snyder Road/ Municipal Driveway	EB L/T/R	C(20.8)	C(22.5)	B(12.5)	B(12.2)	B(12.5)	A(9.4)
	WB L/T/R	F(59.8)	F(78.5)	C(23.6)	C(16.3)	C(17.4)	C(16.7)
	NB L or L/T/R	A(8.4)	A(8.4)	F(119.4)	A(8.5)	A(8.5)	B(13.4)
	SB L or L/T/R	B(13.1)	B(13.5)	F(145.1)	A(8.8)	A(8.9)	B(14.4)
	INTERSECTION	B(12.2)	B(14.9)	F(108.3)	A(7.3)	A(7.6)	A(14.9)

**TABLE 6
QUEUE ANALYSIS**

Intersection	Movement	Available/Proposed Storage	Existing	2029 w/o Devel.	2029 After Devel.
AM School Peak Hour/PM School Peak Hour					
Valley Forge Road (PA Route 363) & Summneytown Pike	EB L	110'/110'	48'/60'	45'/65'	70'/78'
	EB T/R	1000 ⁺ /1000 ⁺	718'/285'	545'/325'	253'/155'
	WB L	150'/150'	33'/58'	30'/58'	35'/63'
	WB T or T/R	1000 ⁺ /1000 ⁺	208'/433'	208'/505'	303'/293'
	WB R	150'/150'	195'/75'	175'/75'	-/-
	NB L	200'/200'	75'/68'	93'/78'	83'/73'
	NB T/R	1000 ⁺ /1000 ⁺	270'/333'	330'/383'	353'/350'
	SB L	165'/165'	103'/150'	95'/150'	110'/123'
	SB T	350'/350'	95'/235'	93'/223'	103'/205'
	SB R	275'/275'	25'/75'	30'/80'	33'/75'
Valley Forge Road (PA Route 363) & NPHS Driveway/ McAuliffe Lane	EB L	190'/375'	300'/370'	275'/285'	365'/343'
	EB T/R	600'/600'	515'/358'	455'/253'	383'/290'
	WB L	75'/75'	13'/20'	13'/18'	13'/15'
	WB T/R	250'/250'	60'/3'	58'/3'	45'/3'
	NB L	175'/350'	945'/25'	423'/35'	350'/80'
	NB T	650'/650'	5'/190'	5'/260'	8'/318'
	NB R	260'/260'	0'/3'	0'/5'	0'/5'
	SB L/T/R or L/T	1000 ⁺ /1000 ⁺	590'/335'	1222.5'/468'	313'/453'
	SB R	-/400'	-/-	-/-	0'/0'
	EB L/T/R	1000 ⁺ /1000 ⁺	75'/80'	88'/90'	120'/93'
Valley Forge Road (PA Route 363) & Snyder Road/ McNair Drive	WB L/T/R	350'/350'	3'/8'	3'/8'	18'/20'
	NB L or L/T	1000 ⁺ /1000 ⁺	3'/8'	3'/8'	15'/153'
	NB R	425'/425'	-/-	-/-	0'/0'
	SB L or L/T/R	1000 ⁺ /1000 ⁺	5'/3'	5'/3'	365'/103''
	WB L	425'/425'	10'/3'	10'/3'	20'/3'
Snyder Road & NPHD Driveway	NB L/R	600'/600'	28'/70'	28'/70'	123'/130'

Note: The queue lengths represent the 95th% queue length.

TABLE 6 (continued)
QUEUE ANALYSIS

Intersection	Movement	Available/Proposed Storage	Existing	2029 w/o Devel.	2029 After Devel.
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AM Peak Hour/PM Peak Hour

Troxel Road & Snyder Road/ Municipal Driveway	EB L/T/R	575'/575'	5'/3'	5'/3'	3'/3'
	WB L/T/R	1000 ⁺ /1000 ⁺	135'/73'	163'/83'	113'/105'
	NB L or L/T/R	375'/375'	0'/0'	0'/0'	555'/63'
	SB L or L/T/R	600'/600'	55'/3'	60'/3'	583'/60'

Note: The queue lengths represent the 95th% queue length.

With implementation of these improvements, the results of the analysis reveal that, with the exception of southbound through traffic at the NPHS Driveway/McAuliffe Lane (LOS E during the morning school peak hour), all movements at the signalized intersections along the Valley Forge Road (PA Route 363) Corridor will operate at an acceptable LOS D or better during both the morning school and afternoon school peak hours. All critical movements at the unsignalized intersection of Snyder Road and the NPHS Driveway will operate at an acceptable LOS C or better during both the morning school and afternoon school peak hours. Traffic on the northbound and southbound approaches of Troxel Road will operate at LOS F during the morning school peak hours. Table 7 summarizes the results of the volume/capacity analysis for the existing, future (2034) without development, and future (2034) after development scenarios. Table 8 summarizes the results of the queue analysis for the existing, future (2034) without development, and future (2034) after development scenarios.

Conclusions

The foregoing Transportation Impact Study for the proposed 9th Grade Center at North Penn High School situated along Valley Forge Road (PA Route 363) in Towamencin Township, Montgomery County, Pennsylvania, demonstrates that safe and efficient access can be provided for access to/from the campus, subject to implementation of a series of roadway/intersection improvements to accommodate/mitigate both existing and proposed new traffic generated by the High School. Since Valley Forge Road (PA Route 363) and Troxel Road are State highways, an Application for Highway Occupancy Permit must be submitted to the Pennsylvania Department of Transportation for approval of the design and construction of the recommended improvements along the State highways

Andreas Heinrich, P.E., P.T.O.E.
Principal

AH:rh

cc: Christopher W. Jensen, P.E.

**TABLE 7
LEVEL OF SERVICE (DELAY) SUMMARY/OPENING YEAR 2034**

Intersection	Approach	AM School Peak Hour LOS (Delay sec./veh.)			PM School Peak Hour LOS (Delay sec./veh.)		
		Existing	2034 W/O Development	2034 After Development	Existing	2034 W/O Development	2034 After Development
Valley Forge Road (PA Route 363) & Summeytown Pike	EB L	C(21.7)	B(17.5)	C(24.6)	C(20.7)	C(20.4)	C(21.6)
	EB T/R	F(93.7)	D(47.3)	C(32.1)	C(31.8)	D(35.2)	C(27.0)
	WB L	C(24.8)	C(21.6)	C(24.2)	B(19.0)	B(18.9)	C(20.3)
	WB T or T/R	C(28.8)	C(23.5)	D(53.3)	E(55.5)	F(69.6)	D(48.4)
	WB R	C(29.5)	C(23.2)	-	C(22.3)	C(21.6)	-
	NB L	B(17.2)	C(22.2)	B(18.2)	B(19.7)	C(21.4)	B(18.8)
	NB T/R	C(30.0)	D(46.8)	D(39.4)	D(45.9)	E(62.9)	D(45.6)
	SB L	B(19.6)	C(28.0)	B(19.4)	C(31.0)	D(41.4)	C(26.0)
	SB T	B(15.1)	C(21.3)	B(13.9)	C(32.2)	C(33.0)	C(26.6)
	SB R	B(13.5)	B(19.2)	B(12.3)	C(24.0)	C(25.1)	C(21.6)
	INTERSECTION	D(42.3)	C(33.2)	C(31.6)	D(36.0)	D(43.2)	C(33.5)
	EB L	F(95.6)	E(78.1)	D(50.3)	E(64.7)	D(35.6)	C(33.4)
	EB T/R	F(205.9)	F(161.6)	D(51.5)	E(69.7)	C(32.8)	C(28.6)
	WB L	D(46.4)	D(46.4)	D(41.9)	D(44.0)	C(34.7)	C(32.3)
WB T/R	D(37.2)	D(36.0)	C(24.5)	C(27.3)	C(22.1)	B(18.0)	
Valley Forge Road (PA Route 363) & NPHS Driveway/ McAuliffe Lane	NB L	F(286.3)	F(90.9)	D(42.2)	B(10.6)	B(17.0)	C(21.5)
	NB T	A(0.3)	A(0.3)	A(0.6)	A(8.5)	B(13.5)	B(19.1)
	NB R	A(0.0)	A(0.0)	A(0.0)	A(4.6)	A(7.2)	A(9.8)
	SB L/T/R or L/T	C(31.3)	F(120.19)	E(57.6)	B(17.6)	C(31.7)	D(41.2)
	SB R	-	-	A(0.0)	-	-	A(0.0)
	INTERSECTION	F(106.1)	F(93.6)	D(40.7)	C(29.7)	C(25.8)	C(29.4)
	EB L/T/R	E(48.5)	F(58.6)	D(39.5)	F(54.3)	F(74.4)	D(35.3)
	WB L/T/R	B(10.9)	B(11.2)	D(36.1)	C(19.6)	C(21.1)	C(33.1)
	NB L or L/T	B(11.4)	B(11.5)	B(11.4)	B(10.2)	B(10.5)	A(7.6)
	NB R	-	-	A(0.0)	-	-	A(2.1)
	SB L OR L/T/R	B(9.6)	A(9.7)	B(14.1)	B(10.7)	B(10.9)	A(5.1)
	INTERSECTION	A(3.7)	A(4.2)	B(15.0)	A(4.2)	A(5.4)	A(8.6)
	WB L	B(11.3)	B(11.3)	B(13.2)	A(8.5)	A(8.5)	A(8.8)
	NB L/R	B(12.0)	B(12.1)	C(22.7)	B(13.8)	B(14.1)	C(19.1)
Troxel Road & Snyder Road/ Municipal Driveway	INTERSECTION	A(2.9)	A(2.9)	A(6.7)	A(8.0)	A(8.1)	B(10.8)
	EB L/T/R	C(20.8)	C(23.5)	B(12.6)	B(12.2)	B(12.7)	A(9.5)
	WB L/T/R	F(59.8)	F(91.9)	C(23.9)	C(16.3)	C(18.1)	C(17.3)
	NB L or L/T/R	A(8.4)	A(8.5)	F(125.1)	A(8.5)	A(8.5)	B(13.7)
	SB L or L/T/R	B(13.1)	B(13.8)	F(153.0)	A(8.8)	A(8.9)	B(14.7)
	INTERSECTION	B(12.2)	B(16.7)	F(113.9)	A(7.3)	A(7.9)	A(15.4)

**TABLE 8
QUEUE ANALYSIS**

Intersection	Movement	Available/Proposed Storage	Existing	2034 w/o Devel.	2034 After Devel.
AM School Peak Hour/PM School Peak Hour					
Valley Forge Road (PA Route 363) & Sumneytown Pike	EB L	110'/110'	48'/60'	45'/65'	70'/78'
	EB T/R	1000 ⁺ /1000 ⁺	718'/285'	555'/335'	258'/160'
	WB L	150'/150'	33'/58'	30'/58'	35'/65'
	WB T or T/R	1000 ⁺ /1000 ⁺	208'/433'	200'/530'	308'/303'
	WB R	150'/150'	195'/75'	178'/78'	-/-
	NB L	200'/200'	75'/68'	95'/80'	85'/73'
	NB T/R	1000 ⁺ /1000 ⁺	270'/333'	345'/403'	365'/363'
	SB L	165'/165'	103'/150'	100'/155'	100'/123'
	SB T	350'/350'	95'/235'	98'/220'	90'/203'
	SB R	275'/275'	25'/75'	30'/80'	30'/73'
Valley Forge Road (PA Route 363) & NPHS Driveway/ McAuliffe Lane	EB L	190'/375'	300'/370'	275'/285'	365'/343'
	EB T/R	600'/600'	515'/358'	455'/253'	383'/290'
	WB L	75'/75'	13'/20'	13'/18'	13'/15'
	WB T/R	250'/250'	60'/3'	58'/3'	45'/3'
	NB L	175'/350'	945'/25'	413'/35'	348'/80'
	NB T	650'/650'	5'/190'	5'/265'	8'/330'
	NB R	260'/260'	0'/3'	0'/5'	0'/5'
	SB L/T/R or L/T	1000 ⁺ /1000 ⁺	590'/335'	1270.0'/488'	343'/473'
	SB R	-/400'	-/-	-/-	0'/0'
	EB L/T/R	1000 ⁺ /1000 ⁺	75'/80'	88'/100'	123'/95'
Valley Forge Road (PA Route 363) & Snyder Road/ McNair Drive	WB L/T/R	350'/350'	3'/8'	3'/8'	18'/20'
	NB L or L/T	1000 ⁺ /1000 ⁺	3'/8'	3'/8'	333'/173'
	NB R	425'/425'	-/-	-/-	0'/0'
	SB L or L/T/R	1000 ⁺ /1000 ⁺	5'/3'	5'/3'	380'/110'
Snyder Road & NPHD Driveway	WB L	425'/425'	10'/3'	10'/3'	20'/3'
	NB L/R	600'/600'	28'/70'	28'/73'	123'/133'

Note: The queue lengths represent the 95th% queue length.

**TABLE 8 (continued)
QUEUE ANALYSIS**

Intersection	Movement	Available/Proposed Storage	Existing	2034 w/o Devel.	2034 After Devel.
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AM Peak Hour/PM Peak Hour

Troxel Road & Snyder Road/ Municipal Driveway	EB L/T/R	575'/575'	5'/3'	5'/3'	3'/3'
	WB L/T/R	1000 ⁺ /1000 ⁺	135'/73'	178'/88'	115'/110'
	NB L or L/T/R	375'/375'	0'/0'	0'/0'	573'/65'
	SB L or L/T/R	600'/600'	55'/3'	63'/5'	605'/63'

Note: The queue lengths represent the 95th% queue length.

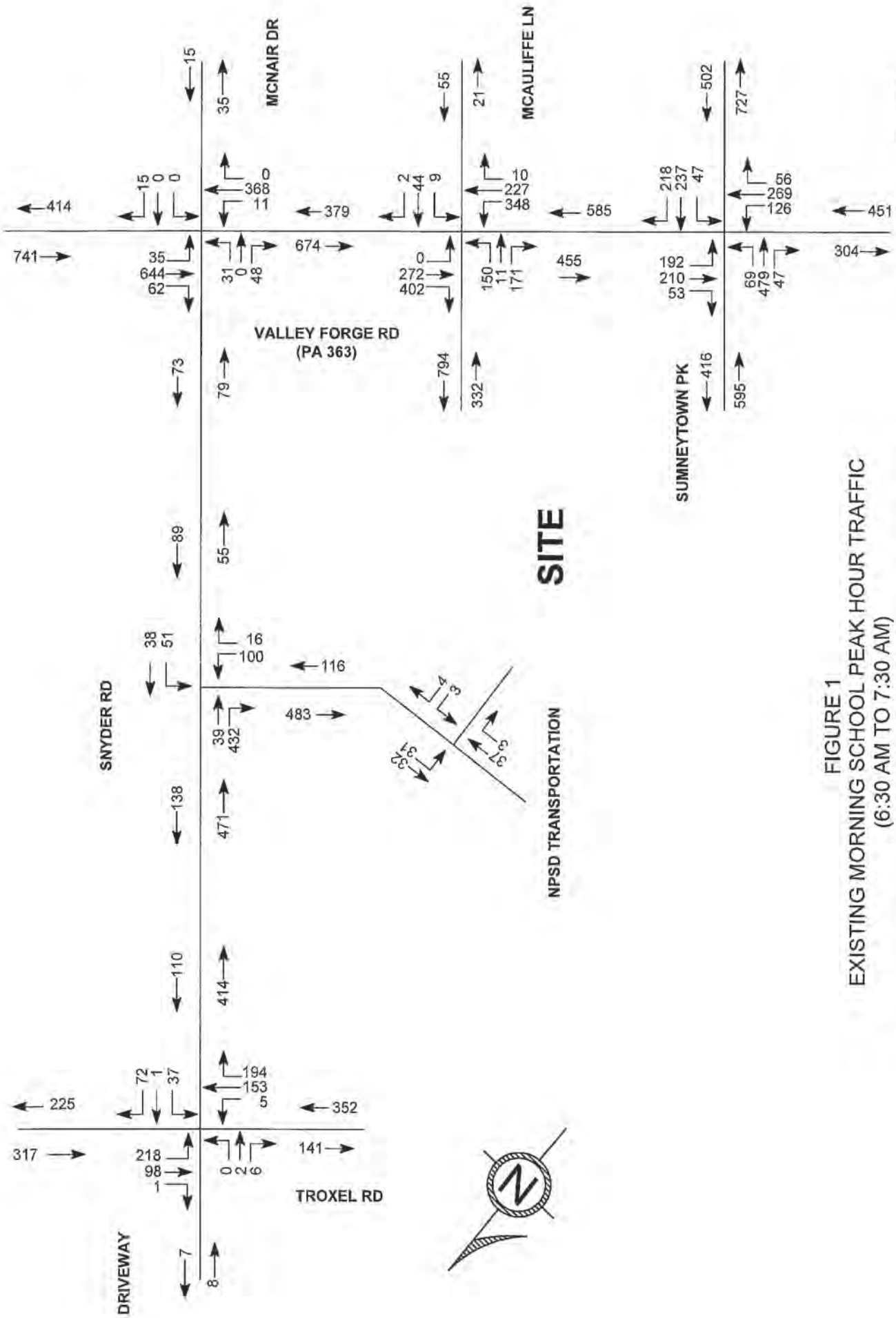


FIGURE 1
EXISTING MORNING SCHOOL PEAK HOUR TRAFFIC
(6:30 AM TO 7:30 AM)
9TH GRADE CENTER - NORTH PENN HIGH SCHOOL
TOWAMENCIN TOWNSHIP, PA

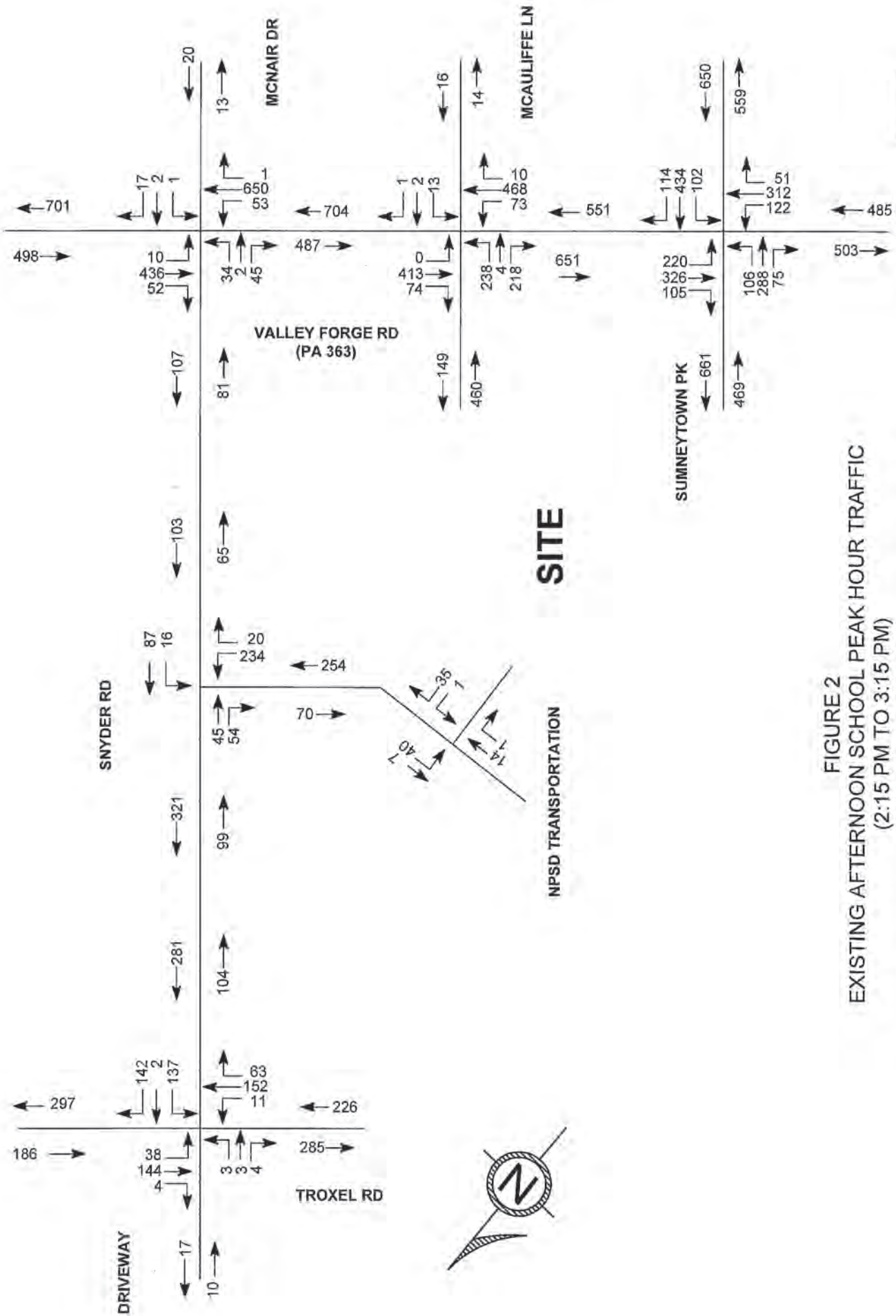


FIGURE 2
EXISTING AFTERNOON SCHOOL PEAK HOUR TRAFFIC
(2:15 PM TO 3:15 PM)
9TH GRADE CENTER - NORTH PENN HIGH SCHOOL
TOWAMENCIN TOWNSHIP, PA

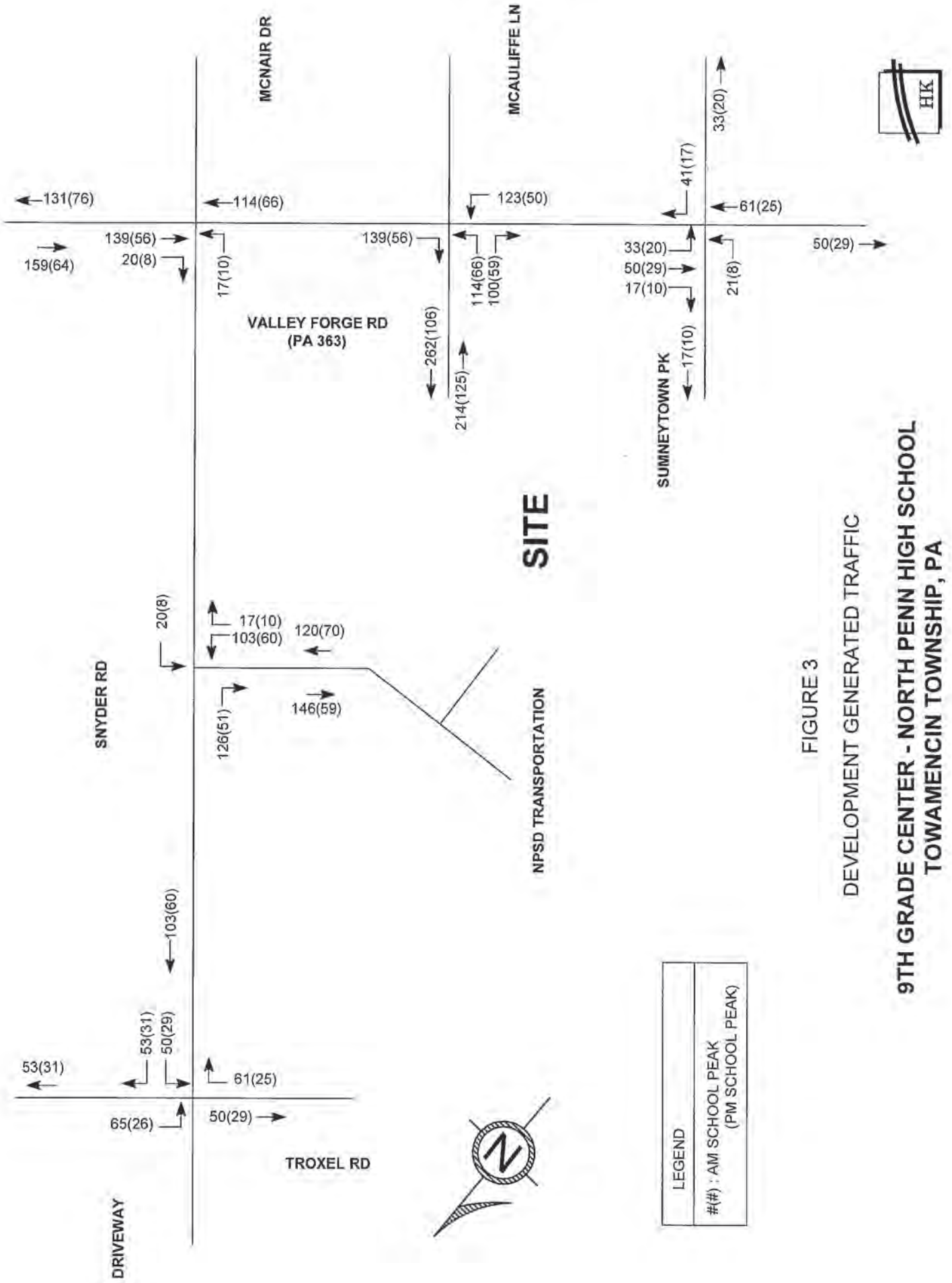


FIGURE 3
DEVELOPMENT GENERATED TRAFFIC
9TH GRADE CENTER - NORTH PENN HIGH SCHOOL
TOWAMENCIN TOWNSHIP, PA

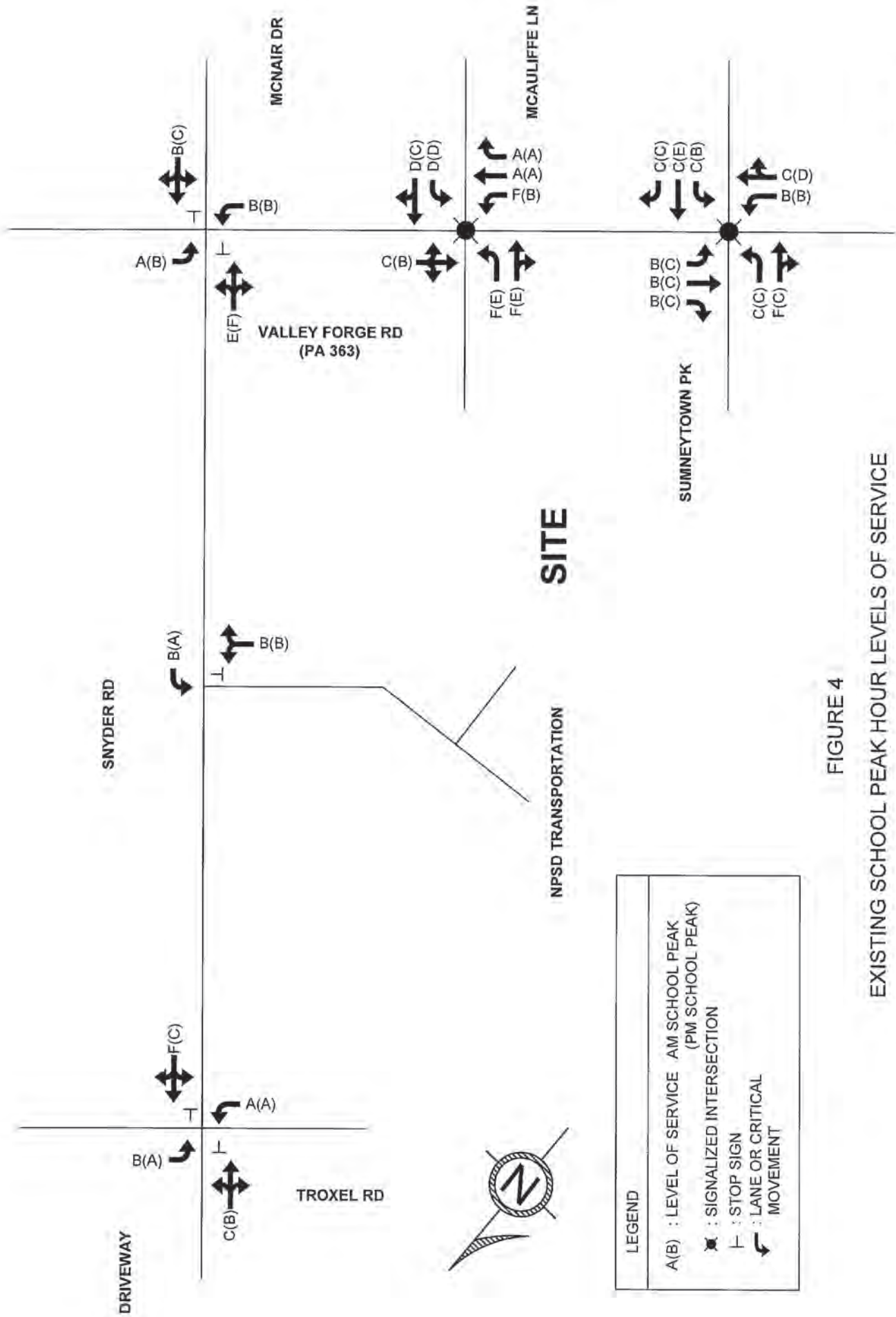


FIGURE 4
 EXISTING SCHOOL PEAK HOUR LEVELS OF SERVICE
 9TH GRADE CENTER- NORTH PENN HIGH SCHOOL
 TOWAMENCIN TOWNSHIP, PA

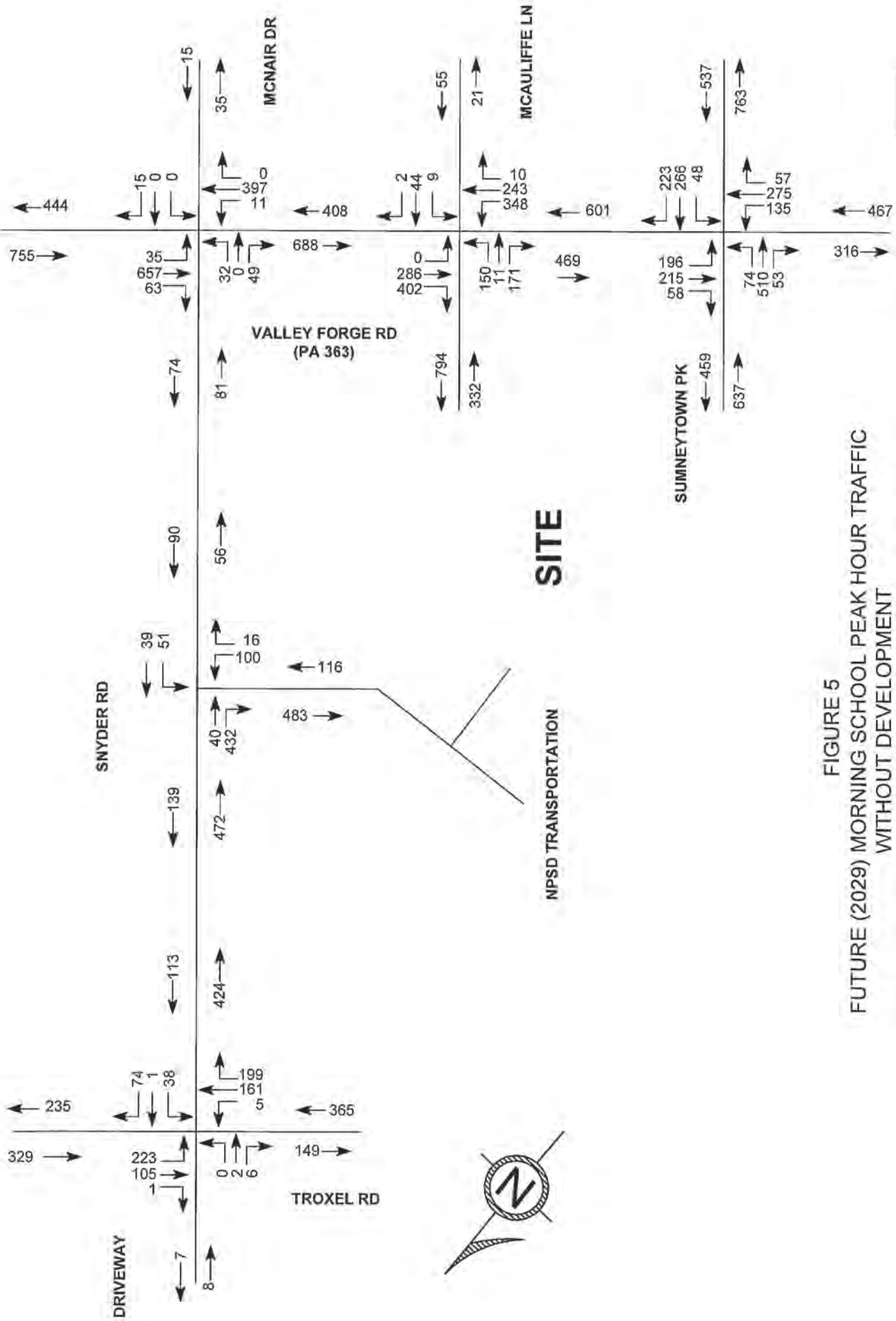


FIGURE 5
 FUTURE (2029) MORNING SCHOOL PEAK HOUR TRAFFIC
 WITHOUT DEVELOPMENT
 9TH GRADE CENTER - NORTH PENN HIGH SCHOOL
 TOWAMENCIN TOWNSHIP, PA

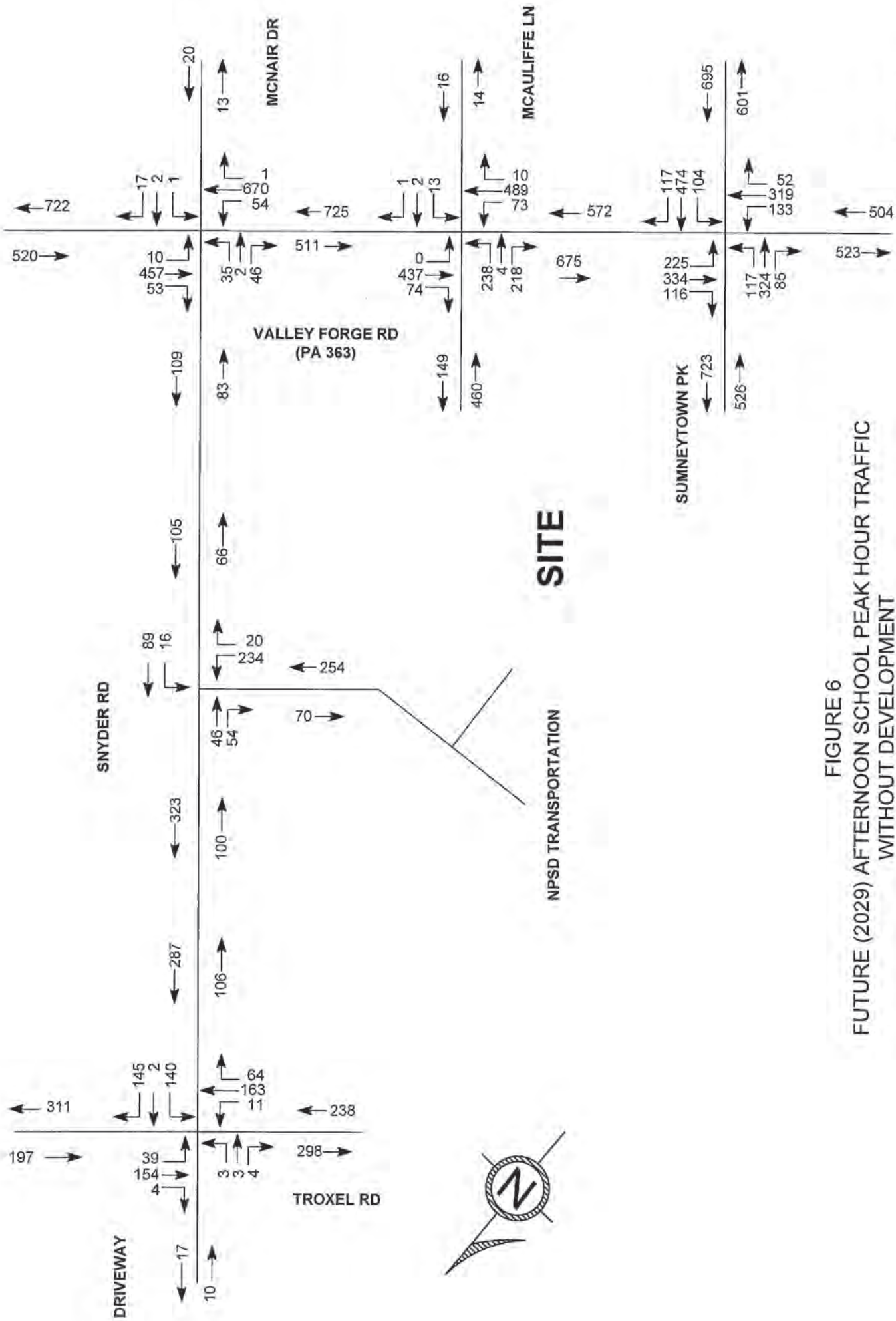


FIGURE 6
 FUTURE (2029) AFTERNOON SCHOOL PEAK HOUR TRAFFIC
 WITHOUT DEVELOPMENT
 9TH GRADE CENTER - NORTH PENN HIGH SCHOOL
 TOWAMENCIN TOWNSHIP, PA

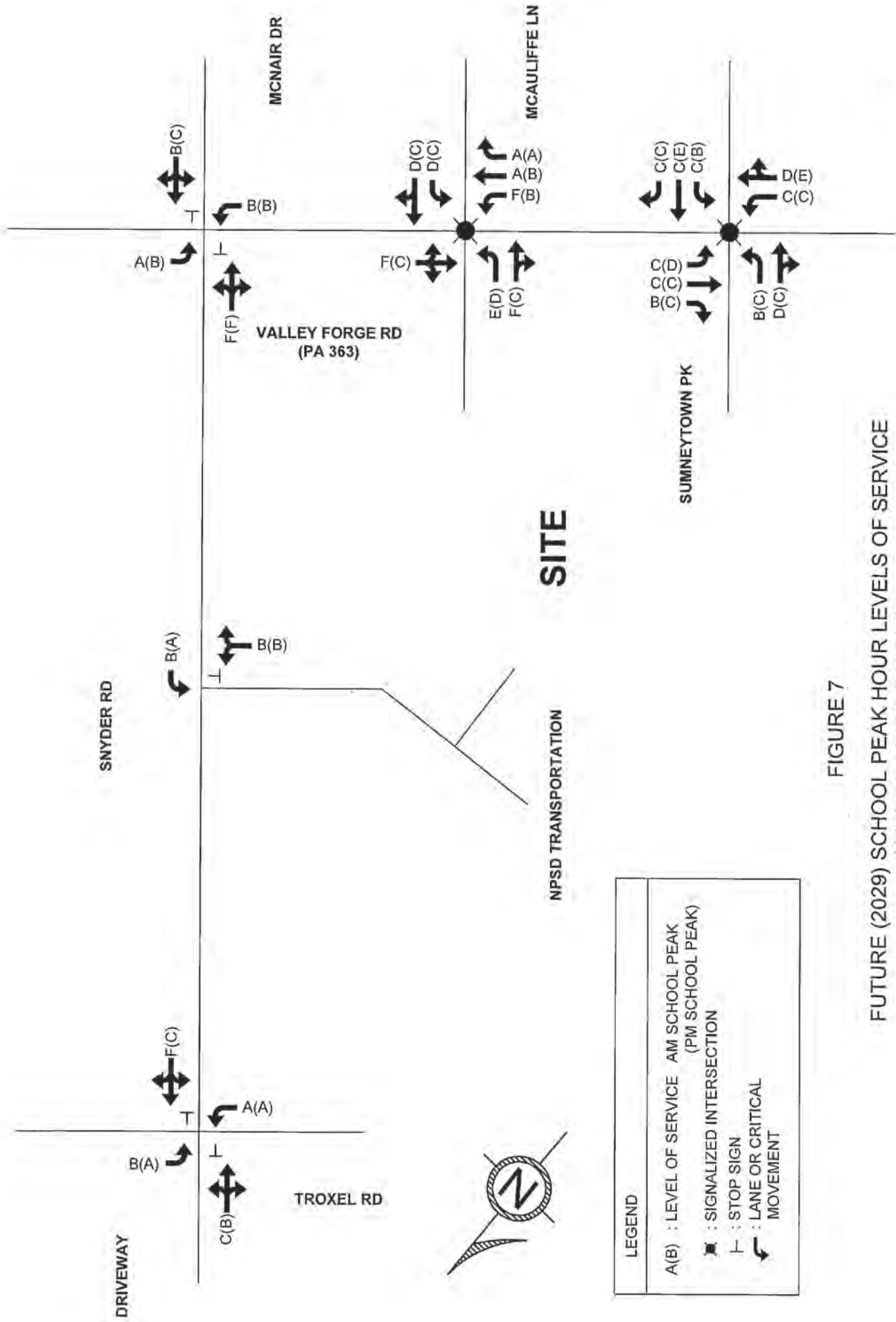


FIGURE 7
 FUTURE (2029) SCHOOL PEAK HOUR LEVELS OF SERVICE
 WITHOUT DEVELOPMENT
9TH GRADE CENTER - NORTH PENN HIGH SCHOOL
 TOWAMENCIN TOWNSHIP, PA

LEGEND	
A(B)	: LEVEL OF SERVICE AM SCHOOL PEAK (PM SCHOOL PEAK)
⚡	: SIGNALIZED INTERSECTION
⊥	: STOP SIGN
↔	: LANE OR CRITICAL MOVEMENT

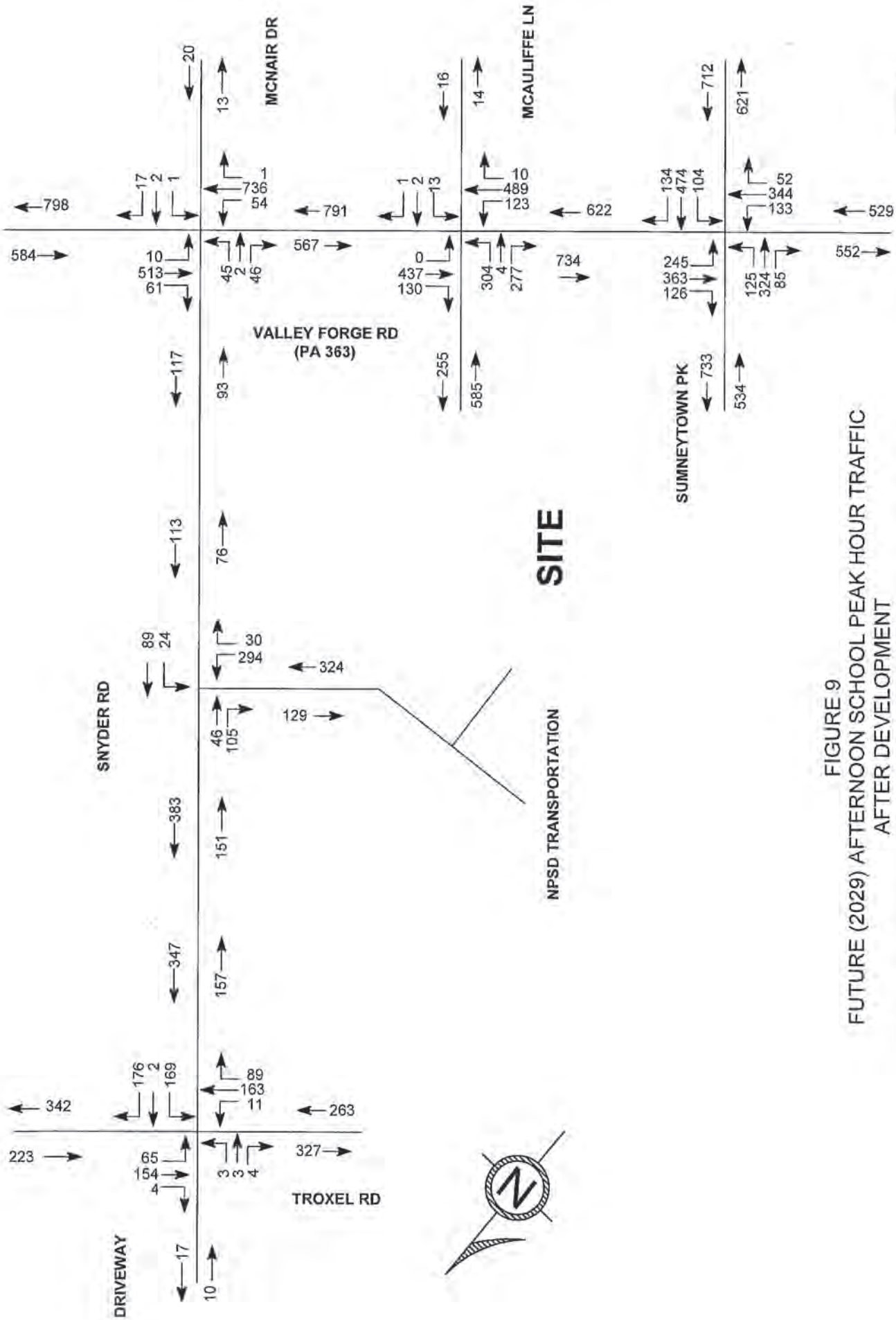


FIGURE 9
 FUTURE (2029) AFTERNOON SCHOOL PEAK HOUR TRAFFIC
 AFTER DEVELOPMENT
 9TH GRADE CENTER - NORTH PENN HIGH SCHOOL
 TOWAMENCIN TOWNSHIP, PA

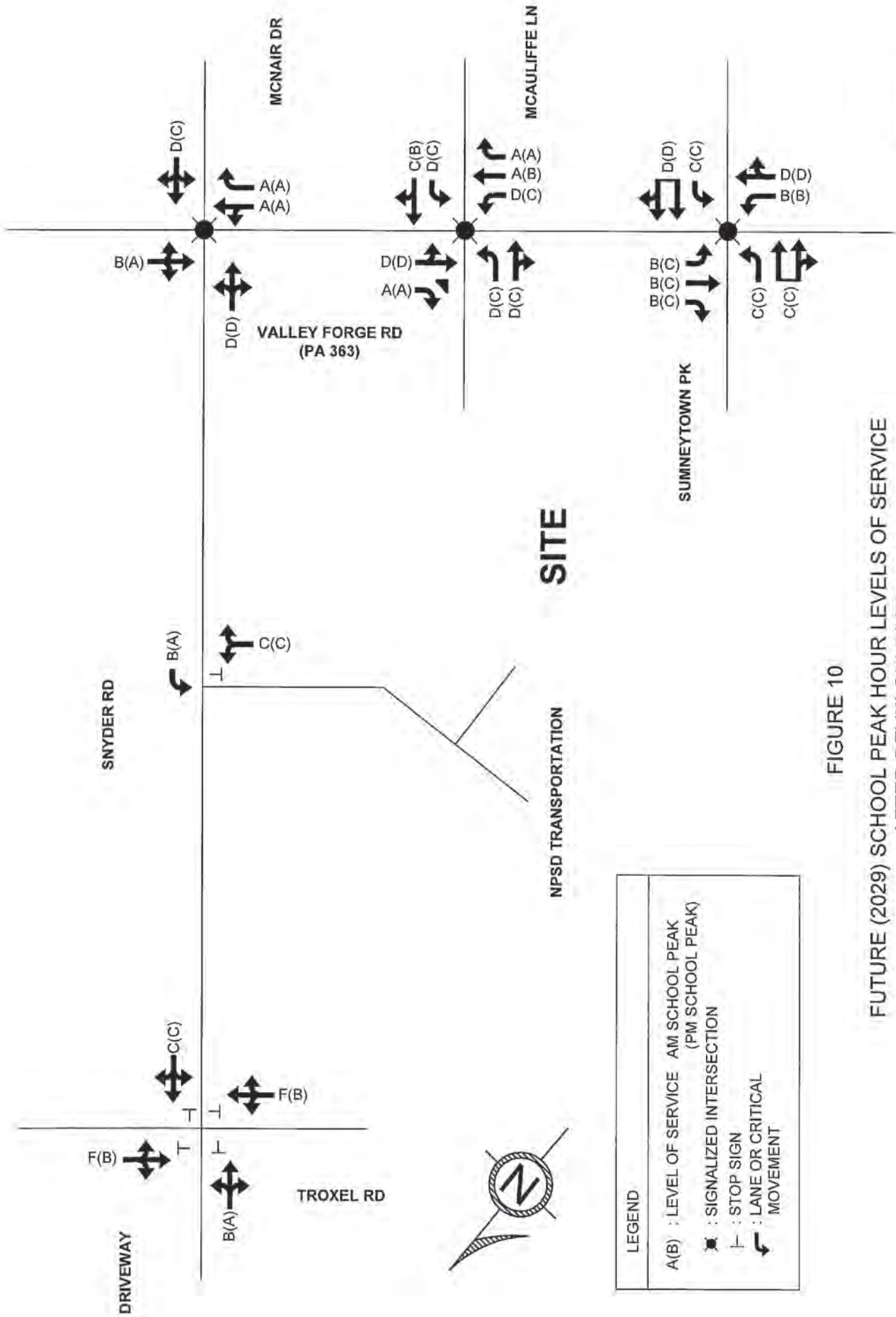


FIGURE 10

FUTURE (2029) SCHOOL PEAK HOUR LEVELS OF SERVICE
 AFTER DEVELOPMENT
9TH GRADE CENTER - NORTH PENN HIGH SCHOOL
 TOWAMENCIN TOWNSHIP, PA

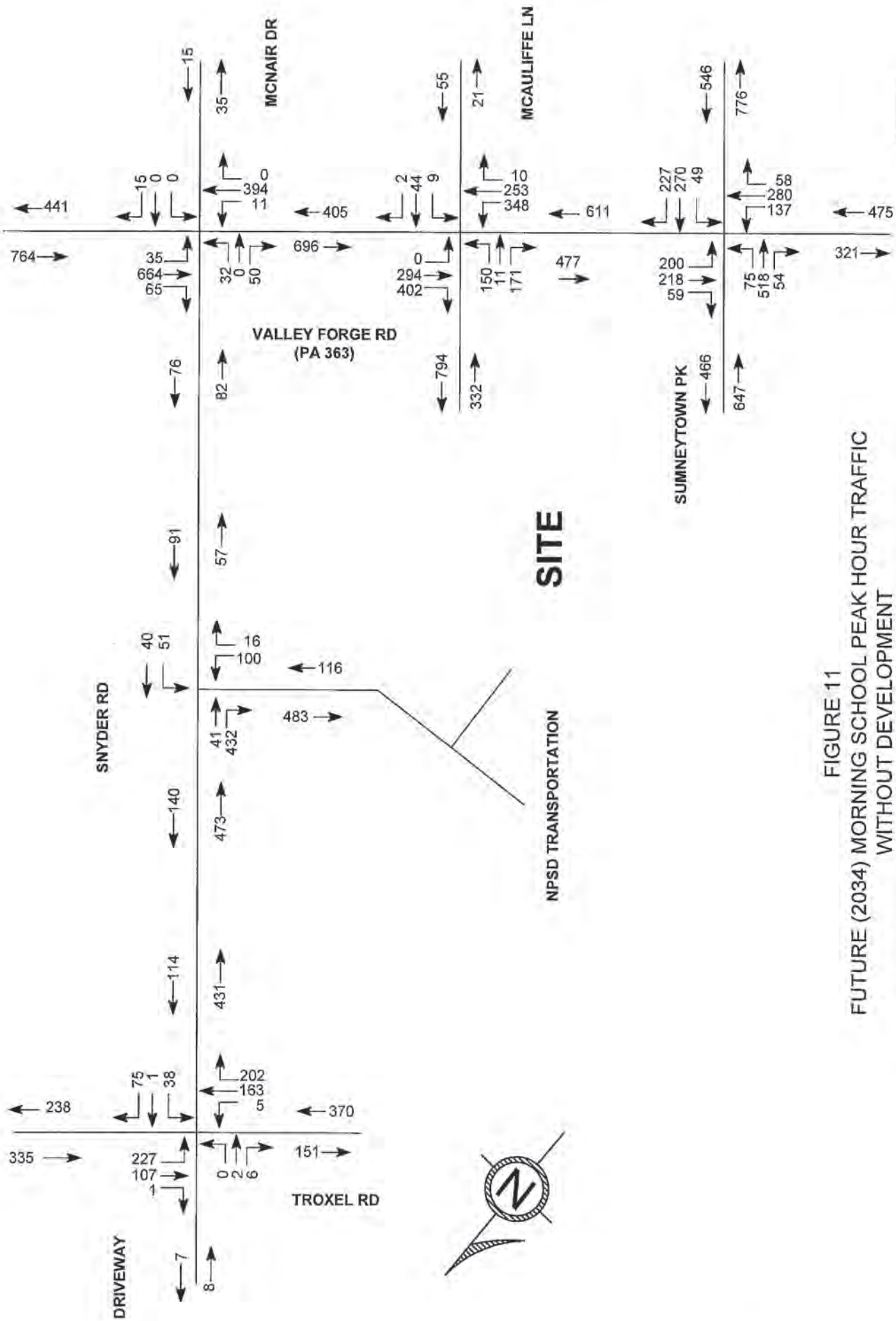


FIGURE 11
 FUTURE (2034) MORNING SCHOOL PEAK HOUR TRAFFIC
 WITHOUT DEVELOPMENT
 9TH GRADE CENTER - NORTH PENN HIGH SCHOOL
 TOWAMENCIN TOWNSHIP, PA

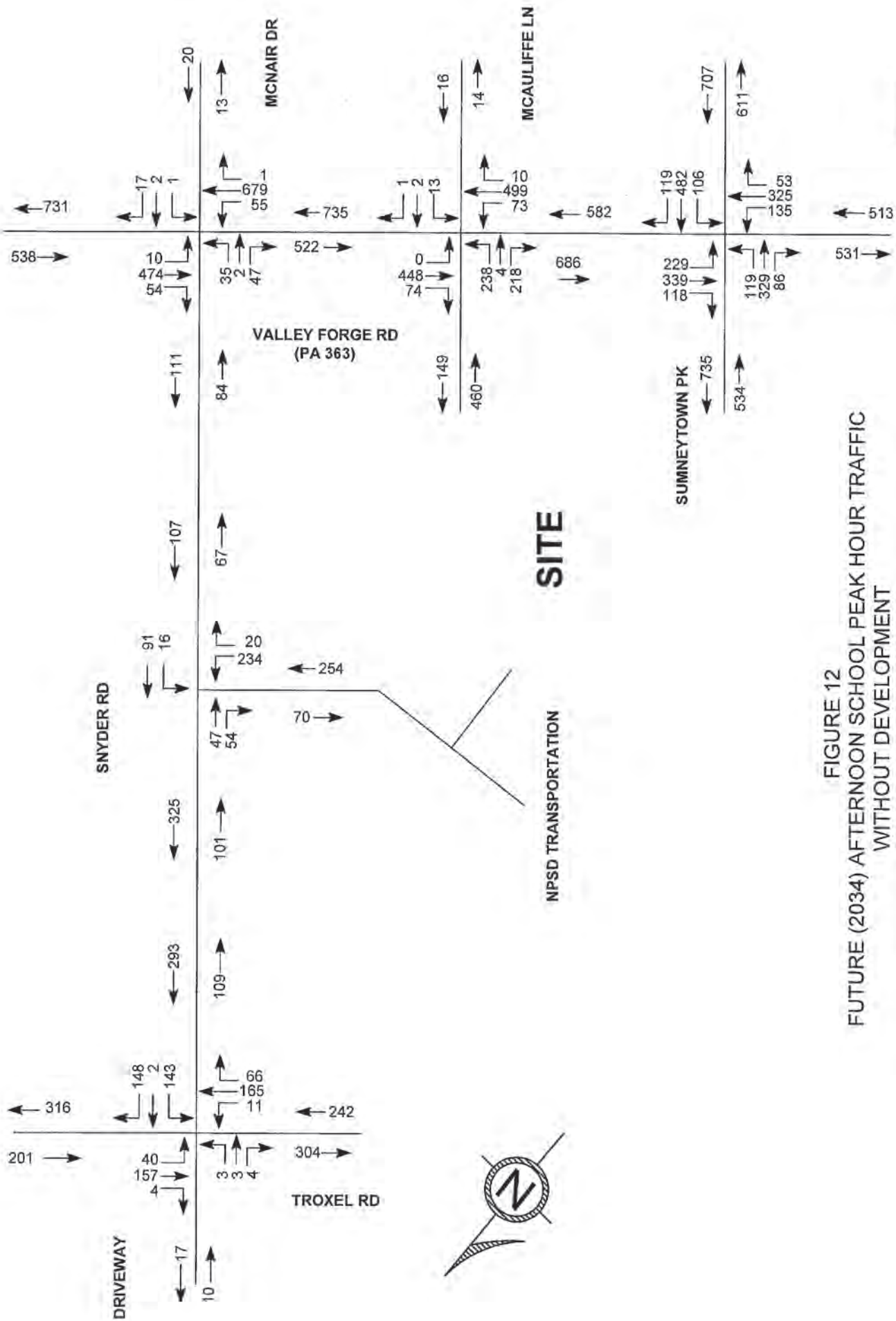


FIGURE 12
 FUTURE (2034) AFTERNOON SCHOOL PEAK HOUR TRAFFIC
 WITHOUT DEVELOPMENT

**9TH GRADE CENTER - NORTH PENN HIGH SCHOOL
 TOWAMENCIN TOWNSHIP, PA**

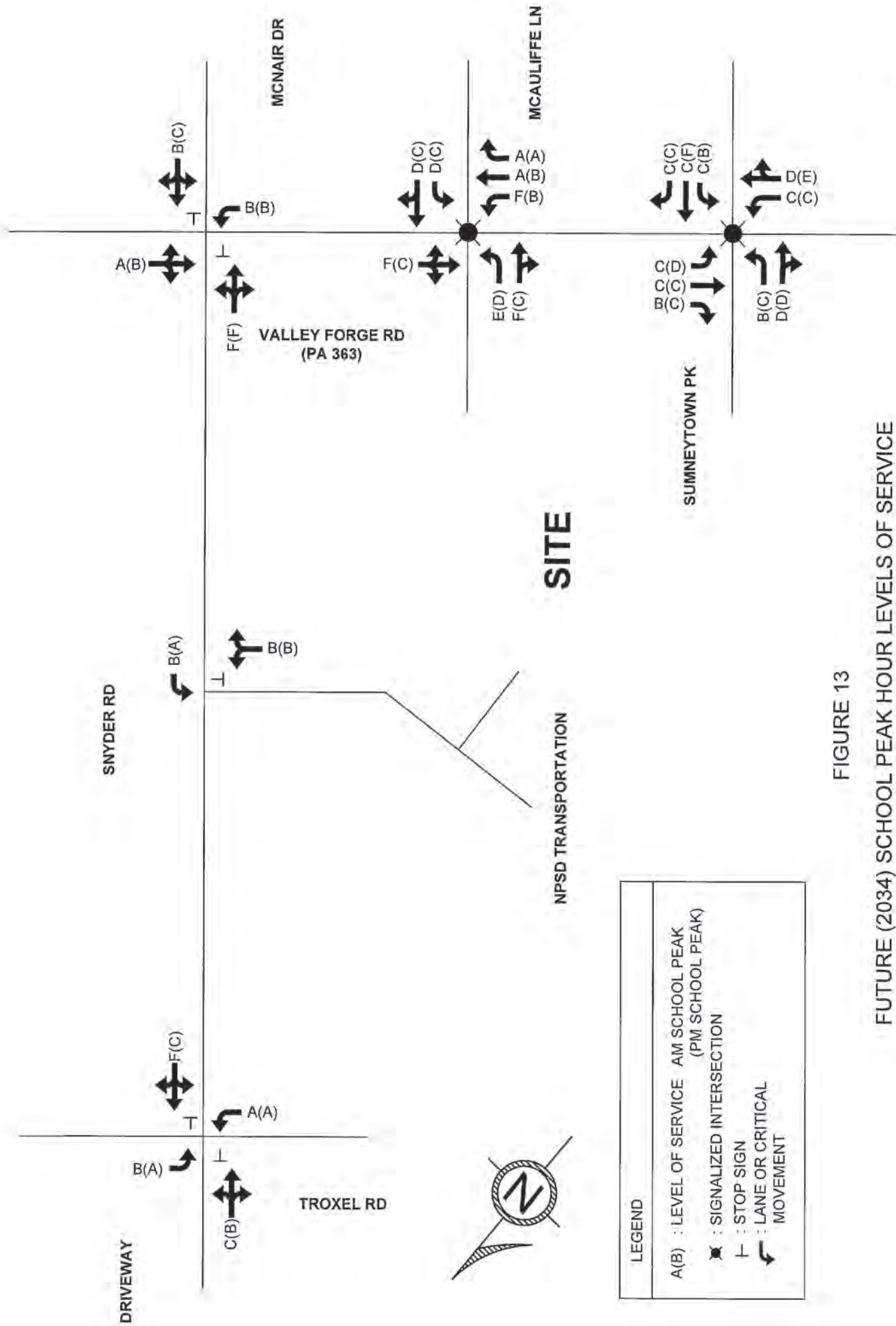


FIGURE 13
 FUTURE (2034) SCHOOL PEAK HOUR LEVELS OF SERVICE
 WITHOUT DEVELOPMENT
 9TH GRADE CENTER - NORTH PENN HIGH SCHOOL
 TOWAMENCIN TOWNSHIP, PA

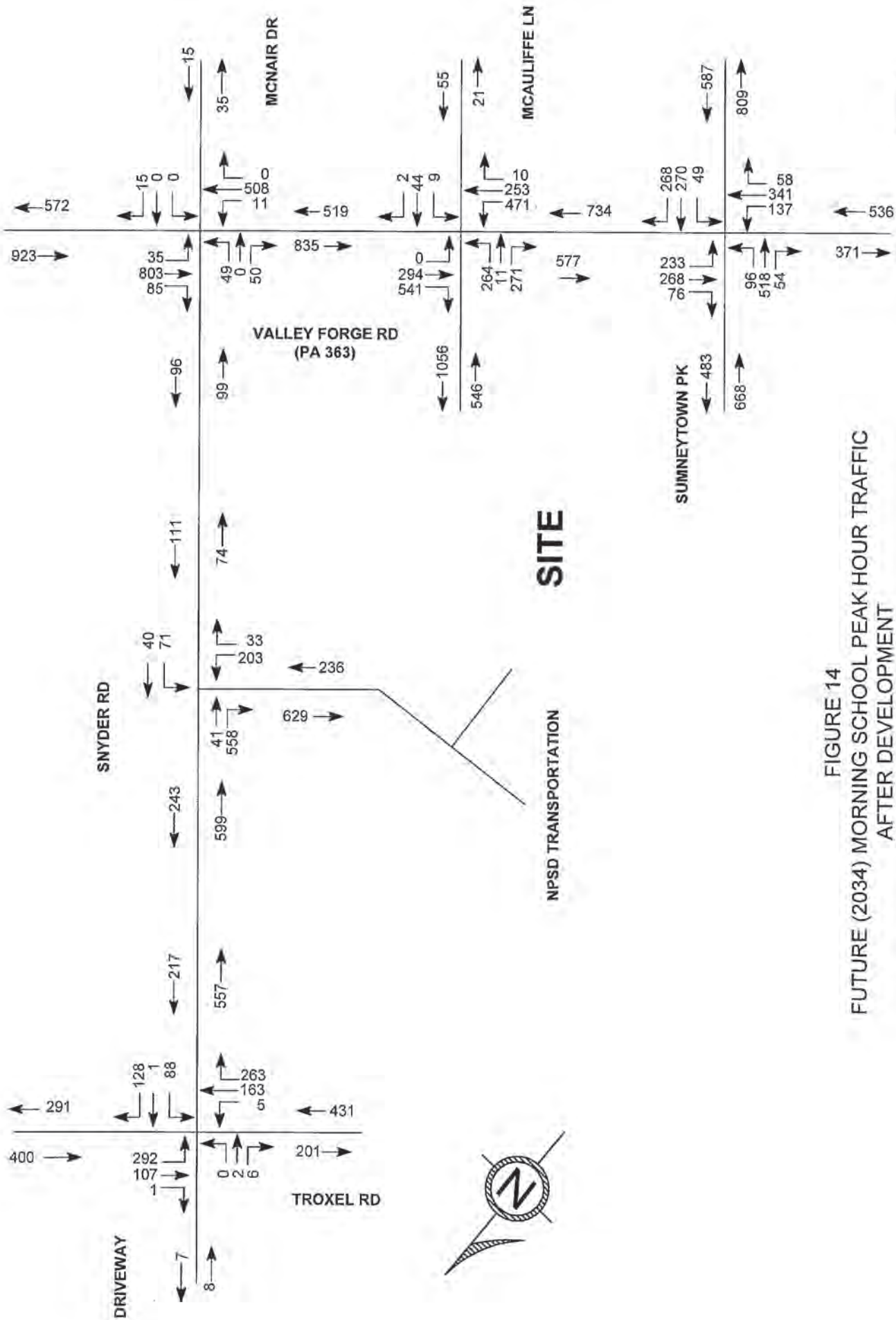


FIGURE 14
 FUTURE (2034) MORNING SCHOOL PEAK HOUR TRAFFIC
 AFTER DEVELOPMENT
 9TH GRADE CENTER - NORTH PENN HIGH SCHOOL
 TOWAMENCIN TOWNSHIP, PA



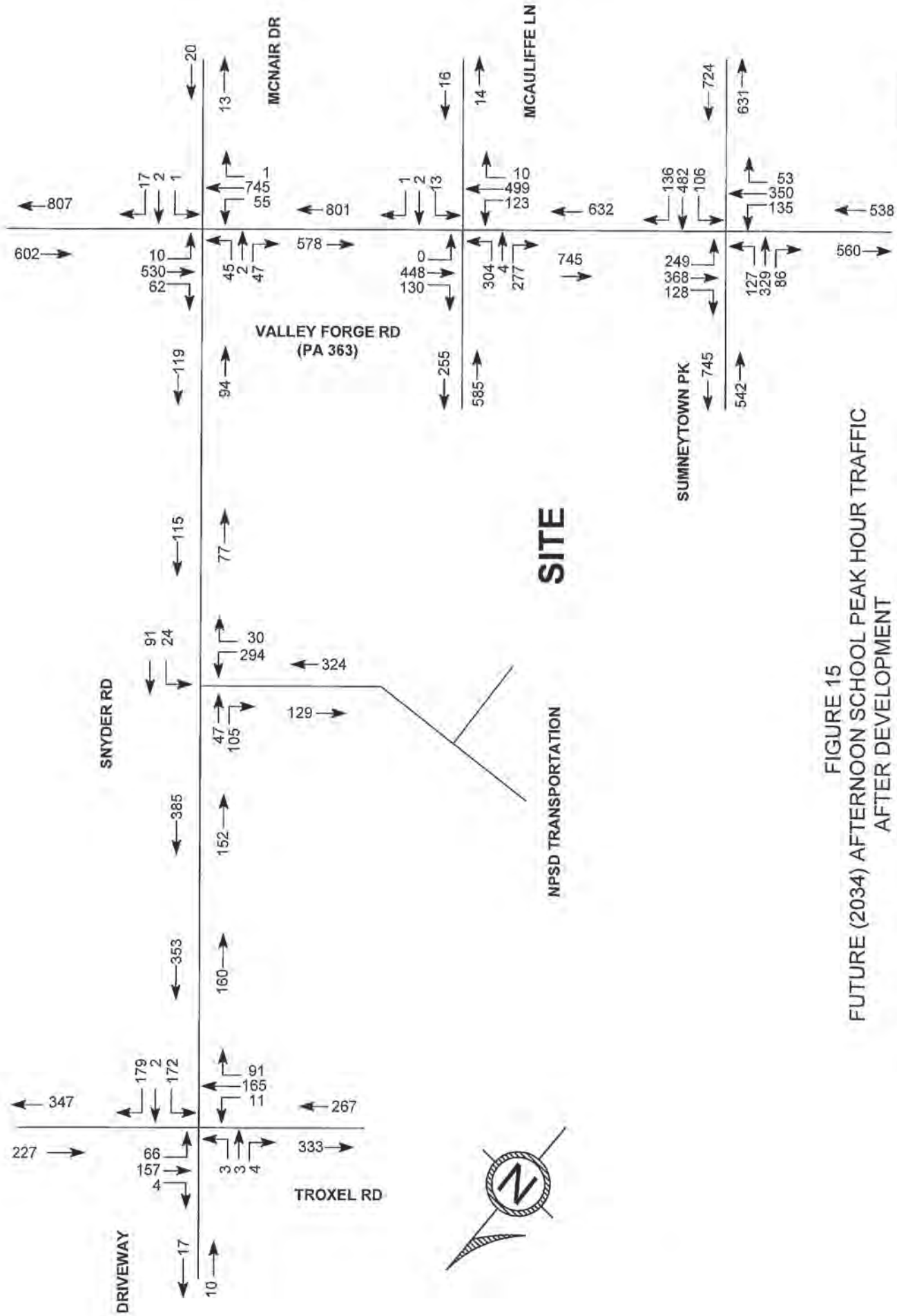


FIGURE 15
 FUTURE (2034) AFTERNOON SCHOOL PEAK HOUR TRAFFIC
 AFTER DEVELOPMENT

9TH GRADE CENTER - NORTH PENN HIGH SCHOOL
 TOWAMENCIN TOWNSHIP, PA

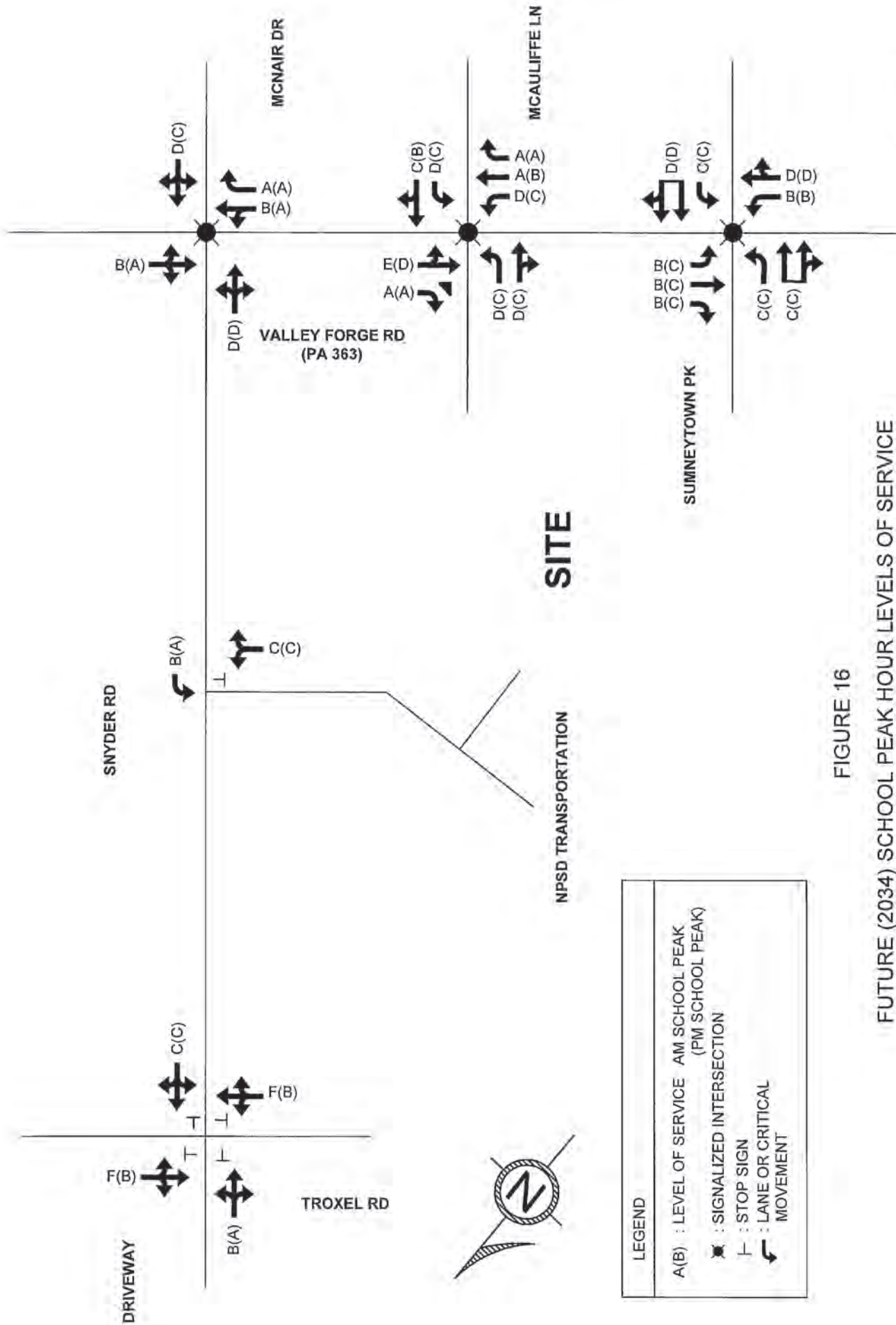


FIGURE 16

FUTURE (2034) SCHOOL PEAK HOUR LEVELS OF SERVICE
 AFTER DEVELOPMENT
9TH GRADE CENTER- NORTH PENN HIGH SCHOOL
TOWAMENCIN TOWNSHIP, PA

LEGEND	
A(B)	: LEVEL OF SERVICE AM SCHOOL PEAK (PM SCHOOL PEAK)
ⓧ	: SIGNALIZED INTERSECTION
⊥	: STOP SIGN
↔	: LANE OR CRITICAL MOVEMENT

DISTRICT	COUNTY	TOWNSHIP	BOARDSHIP	ROUTE	SECTION	TOTAL SHEETS
	MONTGOMERY	TOWAMENCIN		0000	KR	
6-0						17

EDMS NO. 111494

ALSO INCLUDED:

- BRIDGE L-327 PLAN & PROFILE SHEETS 4
- TRAFFIC CONTROL PLAN SHEET 2
- SIGNING AND PAVEMENT MARKING PLAN SHEETS 5
- STORMBORN AND SEDIMENT POLLUTION CONTROL PLAN SHEETS 12
- CROSS SECTIONS SHEETS 28
- ADA PLANS SHEETS 5

TOWAMENCIN TOWNSHIP
DRAWINGS
FOR
CONSTRUCTION
OF
KRIEBEL ROAD MULTI-USE TRAIL
IN MONTGOMERY COUNTY
FROM STA _00+50.00_ TO STA _39+87.00_
LENGTH _4,025_ FT _0.752_ MI



PLANS PREPARED BY:
GLMORT & ASSOCIATES, INC.
100 WEST WASHINGTON STREET, SUITE 100
NEW BRITAIN, CT 06051



RECOMMENDED DATE: 5/5/2021

Michael W. Babine

DESIGNED & DRAWN BY: MICHAEL W. BABINE

APPROVED: *[Signature]*

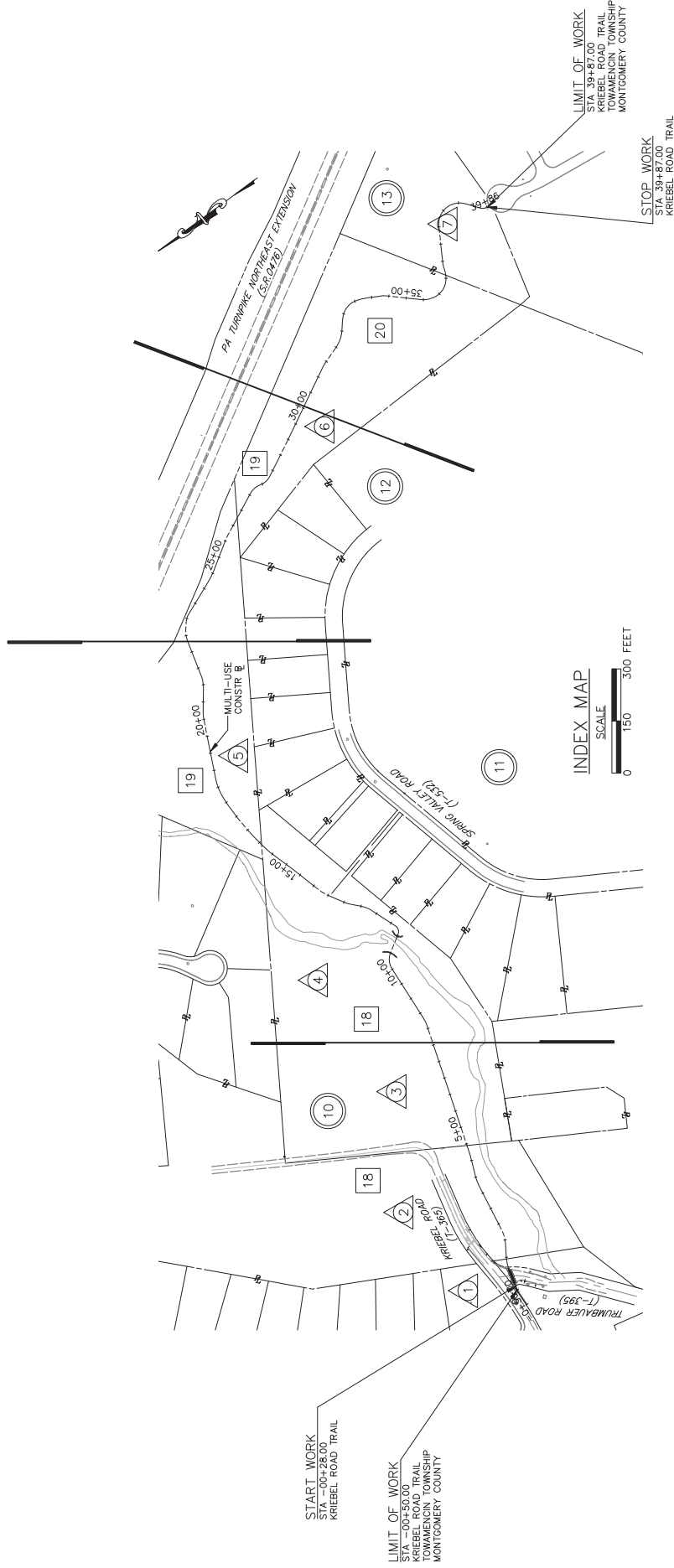
DATE: 5/19/2021

DATE: 5/5/2021

TOWNSHIP MANAGER

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	MONTGOMERY	0000	KRT	2 OF 17
TOWAMENCIN TOWNSHIP				
PROVISION NUMBER	REVISIONS			
DATE	BY			

SHEET INDEX BLOCK	
DESCRIPTION	SHEET
TITLE SHEET	1
INDEX SHEET	2
TYPICAL SECTION AND DETAIL SHEETS	3 - 4
GEOMETRY SHEETS	5-8
SUMMARY SHEET	9
TABULATION SHEET	10
PLAN SHEETS	11-14
PROFILE SHEETS	15-17



INDEX MAP

SCALE



LEGEND

- PLAN SHEET
- PARCEL IDENTIFICATION NUMBER - NO TAKE
- PROFILE SHEET

LIST OF PROPERTY OWNERS

PARCEL NO	OWNER	PARCEL NO	OWNER
1	TOWAMENCIN TOWNSHIP	5	PENNSYLVANIA TURNPIKE COMMISSION
2	TOWAMENCIN TOWNSHIP	6	TOWAMENCIN TOWNSHIP
3	TOWAMENCIN TOWNSHIP	7	TOWAMENCIN TOWNSHIP
4	TOWAMENCIN TOWNSHIP		

PREPARED BY:
GILMORE & ASSOCIATES, INC.
65 E. BUTLER AVE
NEW BRITAIN, PA 18901



5/5/2021

LIST OF PUBLIC UTILITIES

VERIZON PENNSYLVANIA, LLC
 1050 W. SWEDENFORD ROAD
 FLOOR 4
 LEVITTOWN, PA 19056
 CONTACT: LAURA LIPPINCOTT

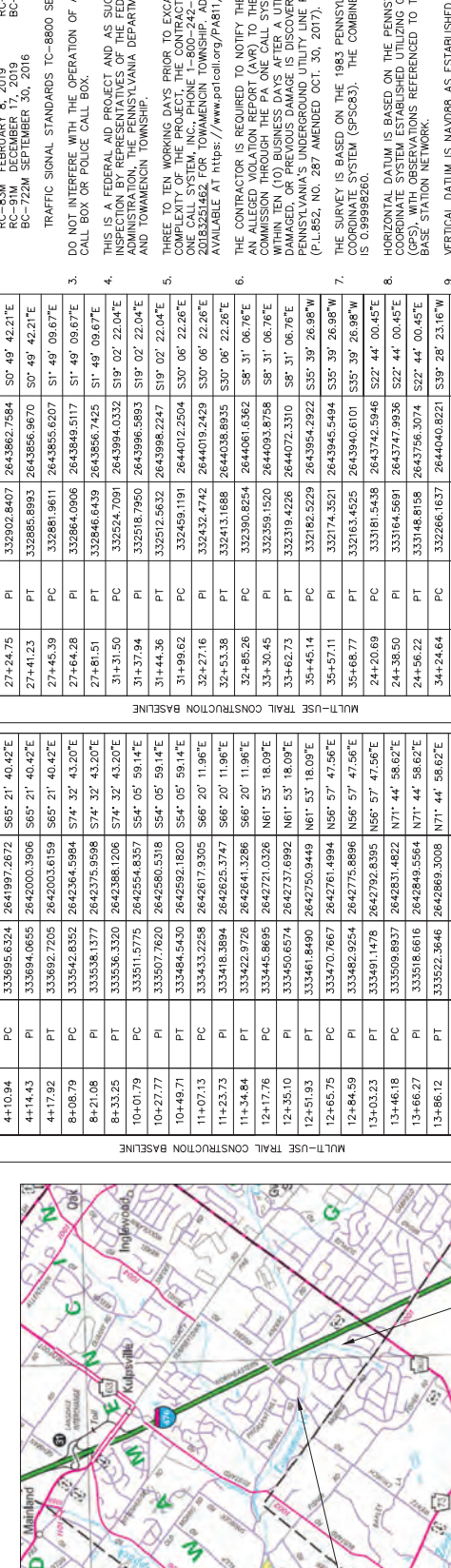
COMCAST CABLE COMMUNICATIONS, INC
 LEVITTOWN, PA 19056
 CONTACT: JOHN DOHALICK

PECO ENERGY COMPANY
 1950 W. SWEDENFORD ROAD
 FLOOR 4
 LEVITTOWN, PA 19056
 CONTACT: BILL HENSIL

TOWAMENCIN TOWNSHIP
 KULPSVILLE, PA 19443
 CONTACT: DAVID HILLMANTSEL

NORTH PENN. WATER AUTHORITY
 300 FORT FOOT ROAD
 LANSDALE, PA 19446
 CONTACT: DAN PRESTON

PA-ONE CALL SERIAL NUMBER: 20183251462



LEGEND

- TRAFFIC ROUTE TOWNSHIP ROAD
- REMAINING STATE ROAD AND IDENTIFIER
- TOWNSHIP ROAD
- (PRIMITIVE / UNIMPROVED)
- OTHER ROAD
- PENNSYLVANIA TRAFFIC ROUTE
- RAILROAD (IN SERVICE)
- TOWNSHIP LINE
- INCORPORATED BOROUGH
- COLLEGE OR UNIVERSITY
- CEMETERY

SUMMARY OF PROJECT COORDINATES

BASED ON 1983 STATE PLANE COORDINATE SYSTEM

RT	STATION	POINT	NORTHING	EASTING	BEARING
0+00.00	BEGIN STA	333945.9680	2641619.0490		
0+66.77	PC	333923.6782	2641681.9930	S81° 41' 51.72"E	
0+82.44	PI	333918.4752	2641696.7682	S81° 41' 51.72"E	
0+97.85	PT	333809.0033	2641709.2446	S81° 41' 51.72"E	
1+40.10	PC	333783.4591	2641742.8917	S64° 27' 59.44"E	
1+60.75	PI	333770.9683	2641759.3448	S64° 27' 59.44"E	
1+80.84	PT	333766.0191	2641779.4004	S64° 27' 59.44"E	
3+26.86	PC	333731.0345	2641921.1708	S69° 44' 56.33"E	
3+38.06	PI	333728.3518	2641932.0422	S69° 44' 56.33"E	
3+49.16	PT	333723.3310	2641942.0511	S69° 44' 56.33"E	
4+10.84	PC	333695.6324	2641987.2672	S65° 21' 40.42"E	
4+14.43	PI	333694.0655	2642000.3906	S65° 21' 40.42"E	
4+17.92	PT	333692.7205	2642003.6159	S65° 21' 40.42"E	
8+08.79	PC	333542.8352	2642364.9984	S74° 32' 43.20"E	
8+21.08	PI	333536.1377	2642375.9598	S74° 32' 43.20"E	
8+32.25	PT	333536.3320	2642388.1206	S74° 32' 43.20"E	
10+01.79	PC	333511.5775	2642554.8357	S54° 05' 59.14"E	
10+27.77	PI	333507.7620	2642580.5318	S54° 05' 59.14"E	
10+49.71	PT	333464.6430	2642592.1820	S54° 05' 59.14"E	
11+07.13	PC	333433.2258	2642617.9305	S66° 20' 11.96"E	
11+23.73	PI	333418.3894	2642625.3747	S66° 20' 11.96"E	
11+34.84	PT	333422.9728	2642641.3286	S66° 20' 11.96"E	
12+17.76	PC	333445.8695	2642721.0326	N61° 53' 18.09"E	
12+35.10	PI	333450.6574	2642737.6992	N61° 53' 18.09"E	
12+51.93	PT	333461.8490	2642750.9449	N61° 53' 18.09"E	
12+65.75	PC	333470.7887	2642781.4984	N56° 57' 47.56"E	
12+84.59	PI	333482.9254	2642775.8896	N56° 57' 47.56"E	
13+03.23	PT	333491.1478	2642792.8395	N56° 57' 47.56"E	
13+46.18	PC	333509.8937	2642831.4822	N71° 44' 58.62"E	
13+66.27	PI	333518.6616	2642849.5564	N71° 44' 58.62"E	
13+86.12	PT	333522.3646	2642869.3008	N71° 44' 58.62"E	
15+54.15	PC	333555.8534	2643033.9407	N81° 17' 25.35"E	
15+64.20	PI	333558.0346	2643043.7464	N81° 17' 25.35"E	
15+74.21	PT	333556.8888	2643053.7553	N81° 17' 25.35"E	
15+91.53	PC	333560.3617	2643071.0123	S88° 28' 10.82"E	
16+76.98	PI	333567.6283	2643156.1519	S88° 28' 10.82"E	
17+61.72	PT	333555.8262	2643240.7820	S88° 28' 10.82"E	
17+65.43	PC	333555.3129	2643244.4630	S71° 15' 22.26"E	
17+94.06	PI	333551.3589	2643272.8159	S71° 15' 22.26"E	
18+22.01	PT	333537.2411	2643297.7197	S71° 15' 22.26"E	
20+00.92	PC	333449.0065	2643453.3650	S54° 28' 00.66"E	
20+09.83	PI	333444.6122	2643461.1167	S54° 28' 00.66"E	
20+18.68	PT	333438.7058	2643467.7885	S54° 28' 00.66"E	

NOTE: FOUR (4) PLACE COORDINATES ARE FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO (2) PLACES.

TABULATION OF CONSTRUCTION LENGTH
 KRIEBEL TRAIL STA 0+0+12 TO STA 39+87 = 3,975 FT = 0.753 MI

TABULATION OF OVERALL LENGTH
 KRIEBEL TRAIL STA -0+0+50 TO STA 39+87 = 4,025 FT = 0.762 MI

LIST OF STATION EQUALITIES
 NONE

GENERAL NOTES

- THE DEPARTMENT RESERVES THE RIGHT TO ELIMINATE ANY OR ALL OF THIS WORK, DO NOT PERFORM WORK EXCEPT THAT WHICH IS SPECIFICALLY IDENTIFIED IN THIS PLAN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE ENGINEER.
- DETAILS, OTHER THAN THOSE INDICATED, ARE ON THE FOLLOWING STANDARD DRAWINGS:
 RC-30M DECEMBER 17, 2019
 RC-46M SEPTEMBER 15, 2016
 RC-45M JUNE 1, 2010
 RC-64M FEBRUARY 8, 2019
 RC-72M FEBRUARY 8, 2019
 RC-77M FEBRUARY 8, 2019
 RC-81M JUNE 1, 2010
 RC-83M FEBRUARY 8, 2019
 RC-84M JUNE 1, 2010
 RC-91M DECEMBER 17, 2019
 RC-722M SEPTEMBER 30, 2016
- TRAFFIC SIGNAL STANDARDS TO-8800 SERIES DECEMBER 12, 2011
 DO NOT INTERFERE WITH THE OPERATION OF ANY FIRE HYDRANT, FIRE CALL BOX OR POLICE CALL BOX.
- THIS IS A FEDERAL AID PROJECT AND AS SUCH IS SUBJECT TO INSPECTION BY REPRESENTATIVES OF THE FEDERAL HIGHWAY ADMINISTRATION, THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION AND TOWAMENCIN TOWNSHIP.
- THREE TO TEN WORKING DAYS PRIOR TO EXCAVATION BASED ON THE COMPLETION OF THE PROJECT, THE CONTRACTOR MUST CONTACT THE PA TOWNSHIP ENGINEER, TOWAMENCIN TOWNSHIP, AT THE FOLLOWING ADDRESS: 20183251462 FOR TOWAMENCIN TOWNSHIP. ADDITIONAL INFORMATION IS AVAILABLE AT: <http://www.pcdoll.org/PA181/PA181/Pub/nc/>
- THE CONTRACTOR IS REQUIRED TO NOTIFY THE DEPARTMENT AND SUBMIT THROUGH THE PA ONE CALL SYSTEM, WWW.PA1CALL.ORG, WITHIN TEN (10) BUSINESS DAYS AFTER A UTILITY LINE IS STRUCK, DAMAGED, OR PREVIOUS DAMAGE IS DISCOVERED AS REQUIRED BY PENNSYLVANIA'S UNDERGROUND UTILITY LINE PROTECTION LAW ACT 50 (P.L.852, NO. 287 AMENDED OCT. 30, 2017).
- THE SURVEY IS BASED ON THE 1983 PENNSYLVANIA STATE PLANE COORDINATE SYSTEM (SPSC83). THE COMBINED AVERAGE SCALE FACTOR IS 0.999982660.
- HORIZONTAL DATUM IS BASED ON THE PENNSYLVANIA STATE PLANE COORDINATE SYSTEM ESTABLISHED UTILIZING GLOBAL POSITIONING SYSTEM (GPS), WITH OBSERVATIONS REFERENCED TO THE TOPCON TOPSURV GPS BASE STATION NETWORK.
- VERTICAL DATUM IS NAVD83 AS ESTABLISHED BY GLOBAL POSITIONING SYSTEM (GPS) WITH OBSERVATIONS REFERENCED TO THE TOPCON TOPSURV GPS BASE STATION NETWORK.
- LOCATIONS OF EXISTING UNDERGROUND UTILITIES/FACILITIES SHOWN BY UTILITY OWNERS, AND/OR ABOVE-GROUND OBSERVATION OF THE SITE. NO EXCAVATIONS WERE PERFORMED IN THE PREPARATION OF THESE DRAWINGS; THEREFORE ALL UTILITIES SHOWN SHOULD BE CONSIDERED APPROXIMATE IN LOCATION, DEPTH, AND SIZE. THE POTENTIAL EXISTS THAT UTILITIES NOT SHOWN ON THE DRAWINGS MAY BE PRESENT. ONLY THE VISIBLE LOCATIONS OF UNDERGROUND UTILITIES/FACILITIES AT THE TIME OF FIELD SURVEY SHALL BE CONSIDERED TRUE AND ACCURATE. COMPLETENESS OR ACCURACY OF UNDERGROUND UTILITIES/FACILITIES ARE NOT GUARANTEED BY GILMORE & ASSOCIATES, INC.
- ALL CONTRACTORS WORKING ON THIS PROJECT SHALL VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES/FACILITIES PRIOR TO START OF WORK AND SHALL COMPLY WITH THE REQUIREMENTS OF P.L. 852, NO. 287 (AS AMENDED) OF THE PENNSYLVANIA UNDERGROUND UTILITY LINE PROTECTION LAW ACT 50, PENNSYLVANIA ACT 181. GILMORE & ASSOCIATES, INC. HAS OBTAINED A PA-ONE CALL FOR DESIGN PURPOSES ONLY.

PREPARED BY:
 GILMORE & ASSOCIATES, INC.
 NEW BRITAIN, PA 18001

3/19/2021

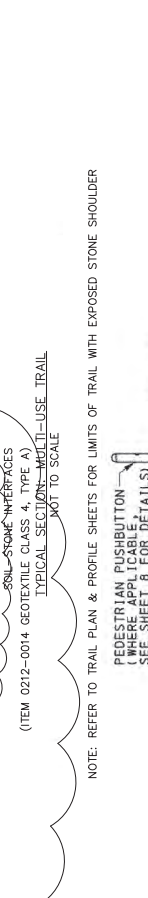
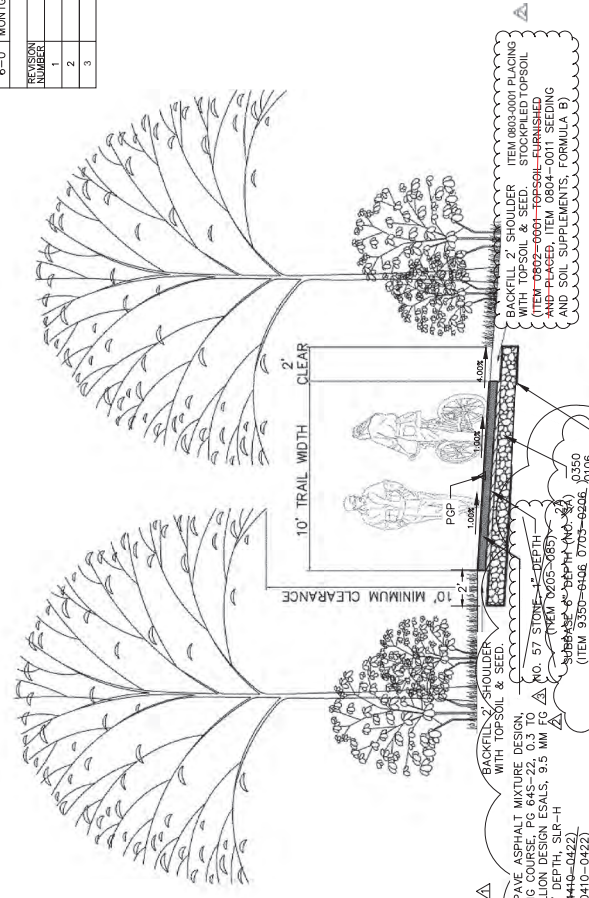
EARTHWORK SUMMARY ENTIRE PROJECT

THE INFORMATION ON ESTIMATED AMOUNTS OF EARTHWORK HAS BEEN USED IN THE PRELIMINARY ESTIMATE. DO NOT USE AS A WAIVER OF ANY PROVISIONS OF THE SPECIFICATIONS AND CONTRACTS.

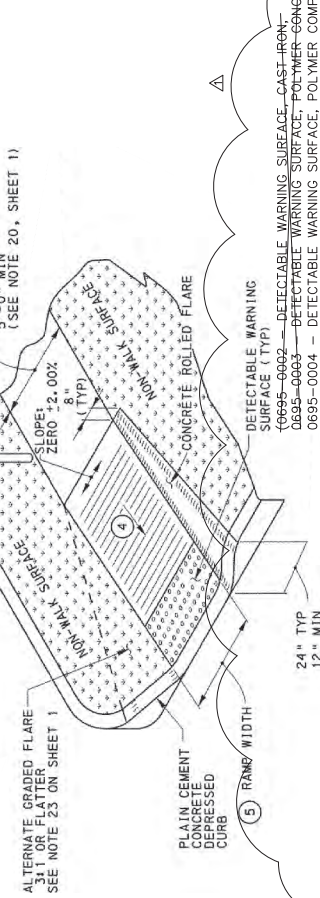
CLASS	1	2	3	4	TOTAL
CLASS 1	1944E	0	0	0	1944E
CLASS 2	0	0	0	0	0
CLASS 3	0	0	0	0	0
CLASS 4	0	0	0	0	0
TOTAL	1944E	0	0	0	1944E

* INCLUDES ALL BORROW ITEMS

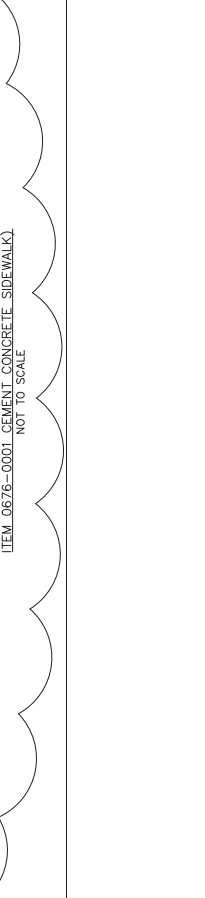
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	MONTGOMERY	0000	KRT	4 OF 17
TOWAMENCIN TOWNSHIP				
REVISION NUMBER	DATE	BY		
1	8/16/21	JFC		
2	7/29/24	JFC		
3	8/08/21	JFC		



NOTE: REFER TO TRAIL PLAN & PROFILE SHEETS FOR LIMITS OF TRAIL WITH EXPOSED STONE SHOULDER (WHERE APPLICABLE, SEE SHEET 23 FOR DETAILS)

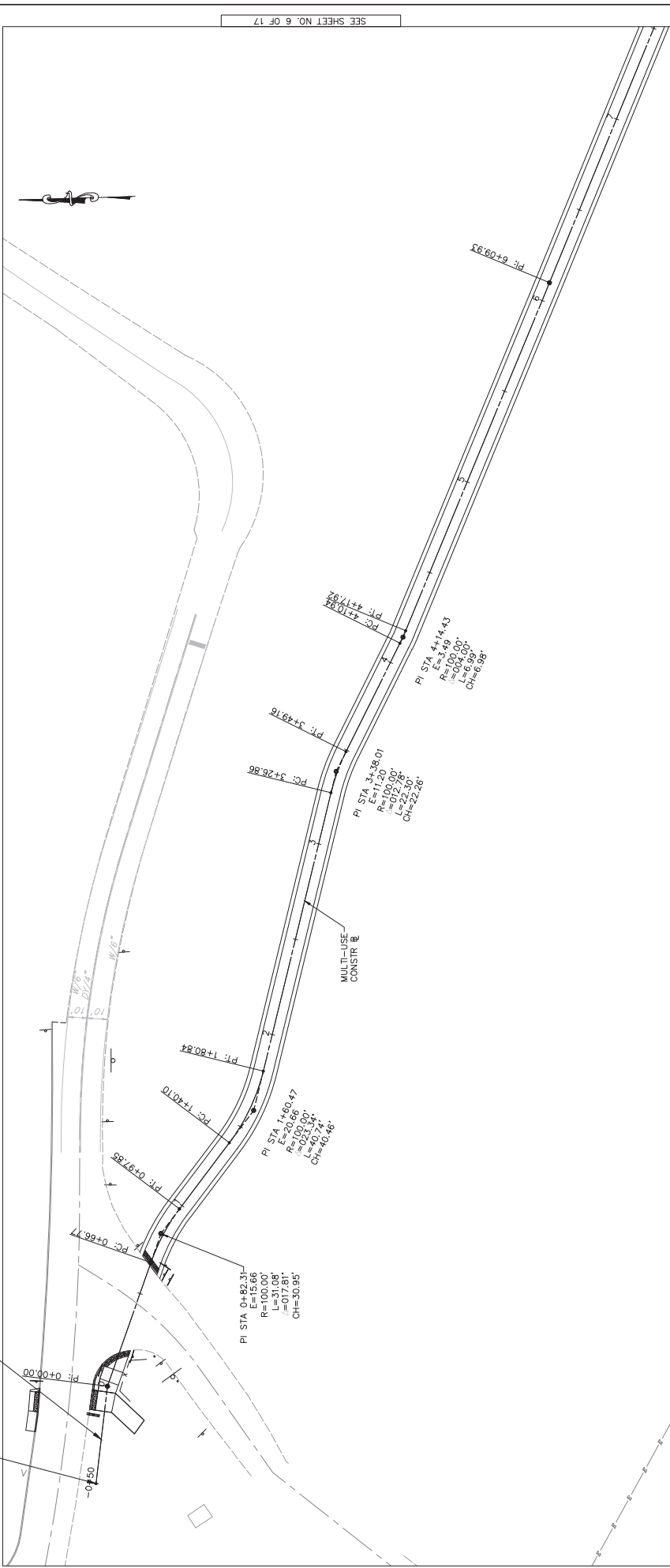


NOTE: REFER TO TRAIL PLAN & PROFILE SHEETS FOR LIMITS OF TRAIL WITH EXPOSED STONE SHOULDER (WHERE APPLICABLE, SEE SHEET 23 FOR DETAILS)



NOTE: REFER TO TRAIL PLAN & PROFILE SHEETS FOR LIMITS OF TRAIL WITH EXPOSED STONE SHOULDER (WHERE APPLICABLE, SEE SHEET 23 FOR DETAILS)

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	MONTGOMERY	0000	KRTT	5 OF 17
REVISION NUMBER	TOWAMENCIN TOWNSHIP REVISIONS		DATE	BT

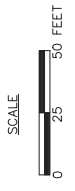


SEE SHEET NO. 6 OF 17

START WORK
 - STA 00+28.00
 KRIEBEL ROAD TRAIL

LIMIT OF WORK
 STA 00+50.00
 KRIEBEL ROAD TRAIL
 TOWAMENCIN TOWNSHIP
 MONTGOMERY COUNTY

GEOMETRY PLAN

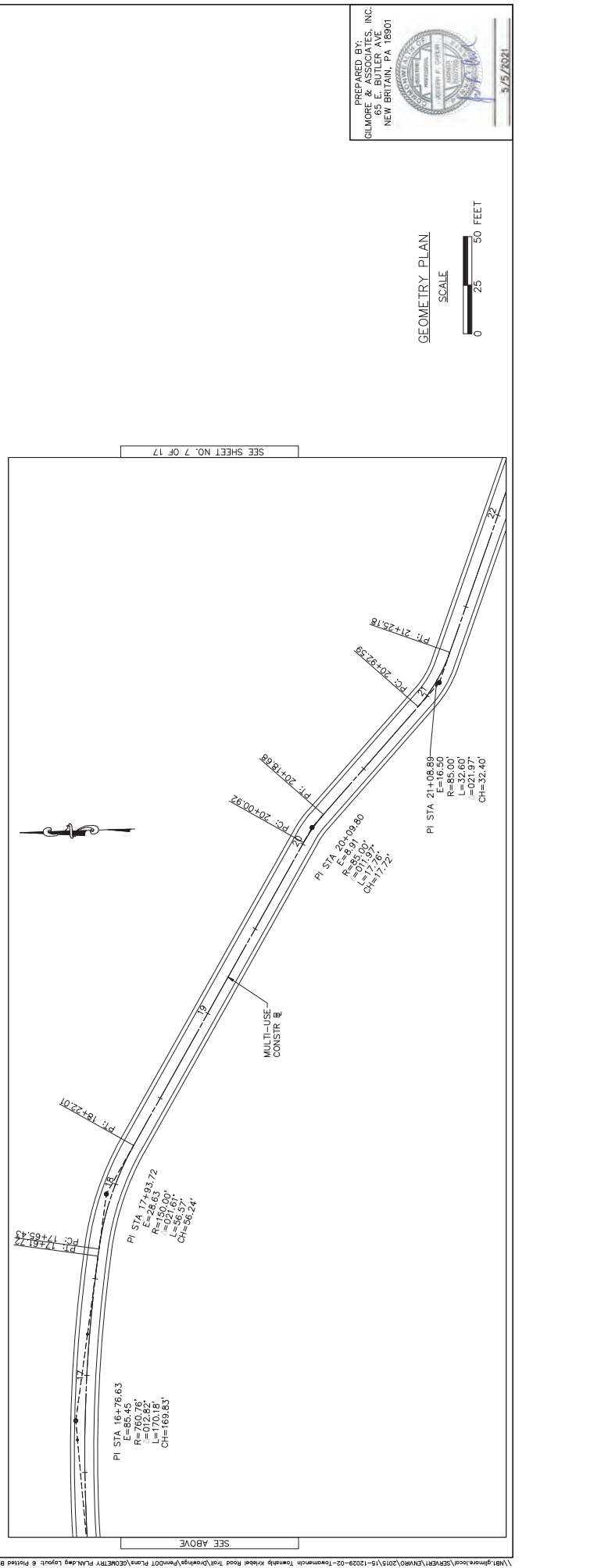
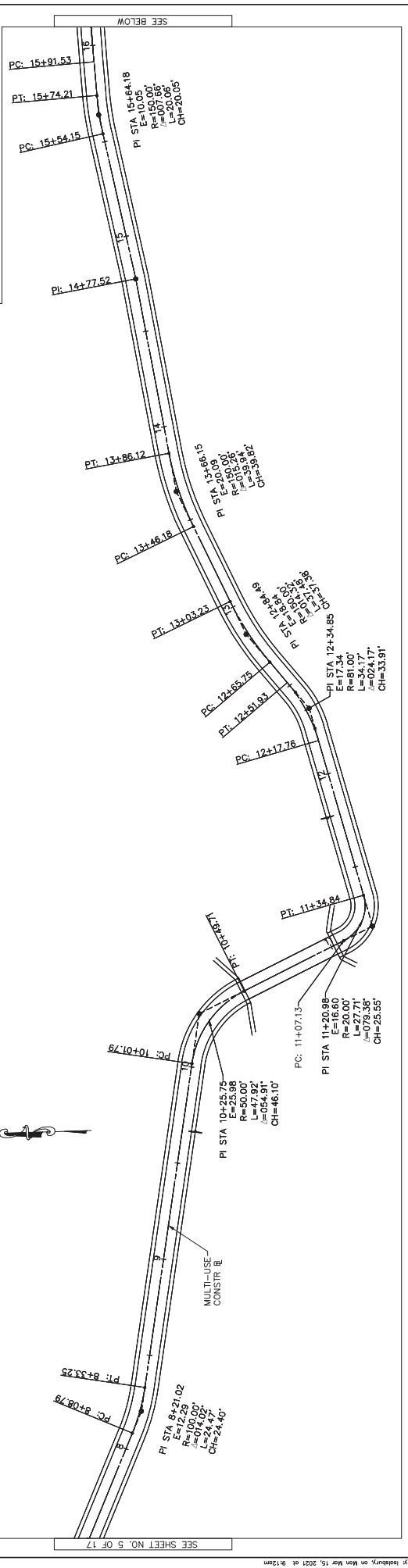


PREPARED BY:
 GILMORE & ASSOCIATES, INC.
 65 E. BUTLER AVE.
 NEW BRITAIN, PA 18901



5/5/2021

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
8-CO	MONTGOMERY	0000	KRTT	6 OF 17
TOWAMENCIN TOWNSHIP			REVISIONS	DATE
			REVISION NUMBER	BT



GEOMETRY PLAN

SCALE

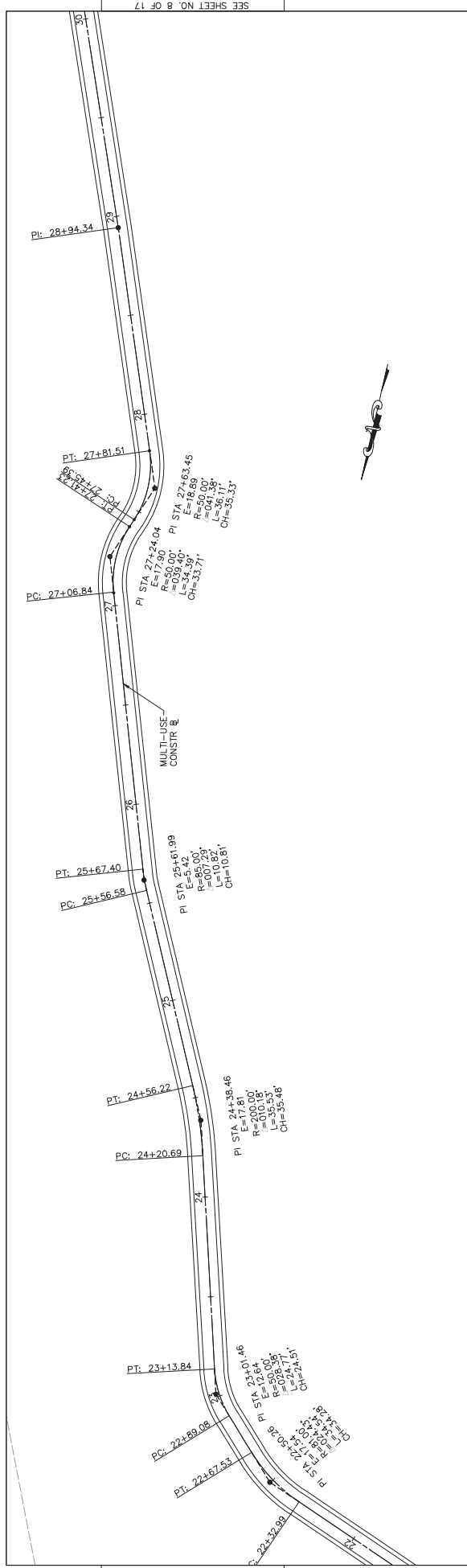


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NEW BRITAIN, PA 18901

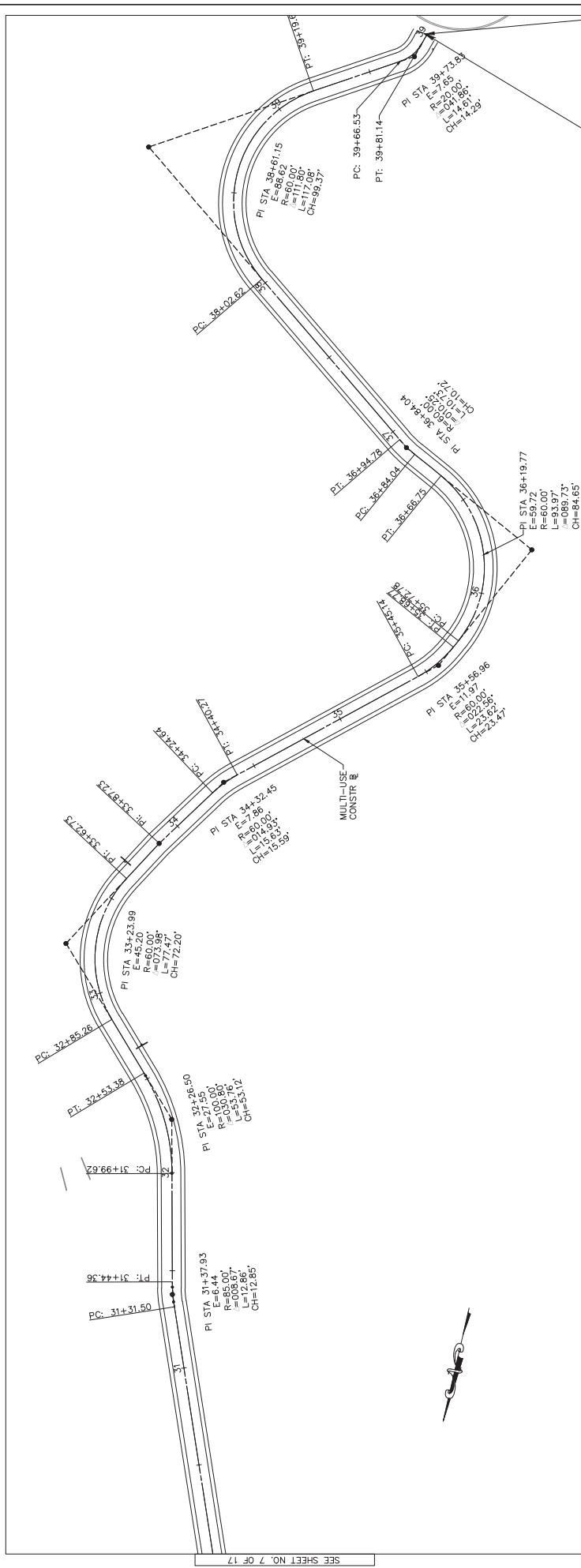


5/5/2021

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-CO	MONTGOMERY	0000	KRT	7 OF 17
REVISION NUMBER	TOWAMENCIN TOWNSHIP		REVISIONS	
DATE	BT			



DISTRICT	COUNTY	ROUTE	SECTION	SHEET
8-0	MONTGOMERY	0000	KRT	8 OF 17
REVISION NUMBER	TOWAMENCIN TOWNSHIP REVISIONS			DATE
BT				



SEE SHEET NO. 7 OF 17

STOP WORK
 STA 39+87.00
 KRIEBEL ROAD TRAIL
 TOWAMENCIN TOWNSHIP
 MONTGOMERY COUNTY

LIMIT OF WORK
 STA 39+87.00
 KRIEBEL ROAD TRAIL
 TOWAMENCIN TOWNSHIP
 MONTGOMERY COUNTY

PREPARED BY:
 GILMORE & ASSOCIATES, INC.
 65 E. BUTLER AVE.
 NEW BRITAIN, PA 18901

5/5/2021

GEOMETRY PLAN
 SCALE
 0 25 50 FEET

\\01-jimkirk\kld\GPR\KRT\2015\15-1209-02-Towamencin-Kriebel-Road-Trail\Drawings\Plan\DOT Plans\GEOMETRY\Plan\Layout & Plotted By: jimbury on Mon Mar 15, 2021 at 9:11am

REVISION NO		REVISIONS		DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
1		REVISE ITEMS PER ADDENDUM #1		6/16/21	JFC	6-0	MONTGOMERY	0000	KRT	9 OF 17
2		ADDENDUM #4		7/20/21	JFC		TOWAMENCIN TOWNSHIP			
3		ADDENDUM #5		8/03/21	JFC					
ITEM NO	UNIT	DESCRIPTION	DESIGN NO	FOR TAB SEE SHEET	QUANTITY	ITEM NO	UNIT	DESCRIPTION	DESIGN NO	FOR TAB SEE SHEET
0201	LS	CLEARING AND GRUBBING		10-11	103	0950	LF	4" YELLOW HOT THERMOPLASTIC PAVEMENT MARKINGS		SPMP
0202	LS	CLASS 1 EXCAVATION		10-11	150	0960	LF	6" WHITE HOT THERMOPLASTIC PAVEMENT MARKINGS		SPMP
0203	LS	CLASS 2 EXCAVATION		10-11	207	0950	LF	24" WHITE HOT THERMOPLASTIC PAVEMENT MARKINGS		SPMP
0204	LS	CLASS 3 EXCAVATION		10-11	6	0960	LF	WHITE HOT THERMOPLASTIC LEGENDS, SLOW CURVE ARROW, LEFT INCLUDES ARROW, THE WORD SLOW AND 2 TRANSVERSE BARNS		SPMP
0205	LS	CLASS 4 EXCAVATION		10-11	121	0960	LF	SELECTED BORROW EXCAVATION, RIVER STONE 1" DEPTH		SPMP
0206	LS	CLASS 5 EXCAVATION		10-11	130	0960	LF	REINFORCED CONCRETE STRUCTURE		SPMP
0207	LS	CLASS 6 EXCAVATION		10-11	130	0960	LF	BRIDGE ABUTMENT STONE TOP PROTECTION		SPMP
0208	LS	CLASS 7 EXCAVATION		10-11	130	0960	LF	TRAIL FENCE COMPLETE WITH POSTS AND HARDWARE		SPMP
0209	LS	CLASS 8 EXCAVATION		10-11	130	0960	LF	MAINTENANCE HOLES PLACED COMPOST FILTER		SPMP
0210	LS	CLASS 9 EXCAVATION		10-11	130	0960	LF	SANDBAG COFFER DAM		SPMP
0211	LS	CLASS 10 EXCAVATION		10-11	130	0960	LF	CONSTRUCTION SURVEYING, TYPE A		SPMP
0212	LS	CLASS 11 EXCAVATION		10-11	130	0960	LF	CONSTRUCTION SURVEYING, TYPE D		SPMP
0213	LS	CLASS 12 EXCAVATION		10-11	130	0960	LF	FOREIGN BORROW EXCAVATION		SPMP
0214	LS	CLASS 13 EXCAVATION		10-11	130	0960	LF	DESIGN OF BRIDGE STRUCTURE (NO AS-DESIGNED FOUNDATION PROVIDED)		SPMP
0215	LS	CLASS 14 EXCAVATION		10-11	130	0960	LF	CONSTRUCTION OF PREFABRICATED PEDESTRIAN BRIDGE		SPMP
0216	LS	CLASS 15 EXCAVATION		10-11	130	0960	LF			
0217	LS	CLASS 16 EXCAVATION		10-11	130	0960	LF			
0218	LS	CLASS 17 EXCAVATION		10-11	130	0960	LF			
0219	LS	CLASS 18 EXCAVATION		10-11	130	0960	LF			
0220	LS	CLASS 19 EXCAVATION		10-11	130	0960	LF			
0221	LS	CLASS 20 EXCAVATION		10-11	130	0960	LF			
0222	LS	CLASS 21 EXCAVATION		10-11	130	0960	LF			
0223	LS	CLASS 22 EXCAVATION		10-11	130	0960	LF			
0224	LS	CLASS 23 EXCAVATION		10-11	130	0960	LF			
0225	LS	CLASS 24 EXCAVATION		10-11	130	0960	LF			
0226	LS	CLASS 25 EXCAVATION		10-11	130	0960	LF			
0227	LS	CLASS 26 EXCAVATION		10-11	130	0960	LF			
0228	LS	CLASS 27 EXCAVATION		10-11	130	0960	LF			
0229	LS	CLASS 28 EXCAVATION		10-11	130	0960	LF			
0230	LS	CLASS 29 EXCAVATION		10-11	130	0960	LF			
0231	LS	CLASS 30 EXCAVATION		10-11	130	0960	LF			
0232	LS	CLASS 31 EXCAVATION		10-11	130	0960	LF			
0233	LS	CLASS 32 EXCAVATION		10-11	130	0960	LF			
0234	LS	CLASS 33 EXCAVATION		10-11	130	0960	LF			
0235	LS	CLASS 34 EXCAVATION		10-11	130	0960	LF			
0236	LS	CLASS 35 EXCAVATION		10-11	130	0960	LF			
0237	LS	CLASS 36 EXCAVATION		10-11	130	0960	LF			
0238	LS	CLASS 37 EXCAVATION		10-11	130	0960	LF			
0239	LS	CLASS 38 EXCAVATION		10-11	130	0960	LF			
0240	LS	CLASS 39 EXCAVATION		10-11	130	0960	LF			
0241	LS	CLASS 40 EXCAVATION		10-11	130	0960	LF			
0242	LS	CLASS 41 EXCAVATION		10-11	130	0960	LF			
0243	LS	CLASS 42 EXCAVATION		10-11	130	0960	LF			
0244	LS	CLASS 43 EXCAVATION		10-11	130	0960	LF			
0245	LS	CLASS 44 EXCAVATION		10-11	130	0960	LF			
0246	LS	CLASS 45 EXCAVATION		10-11	130	0960	LF			
0247	LS	CLASS 46 EXCAVATION		10-11	130	0960	LF			
0248	LS	CLASS 47 EXCAVATION		10-11	130	0960	LF			
0249	LS	CLASS 48 EXCAVATION		10-11	130	0960	LF			
0250	LS	CLASS 49 EXCAVATION		10-11	130	0960	LF			
0251	LS	CLASS 50 EXCAVATION		10-11	130	0960	LF			
0252	LS	CLASS 51 EXCAVATION		10-11	130	0960	LF			
0253	LS	CLASS 52 EXCAVATION		10-11	130	0960	LF			
0254	LS	CLASS 53 EXCAVATION		10-11	130	0960	LF			
0255	LS	CLASS 54 EXCAVATION		10-11	130	0960	LF			
0256	LS	CLASS 55 EXCAVATION		10-11	130	0960	LF			
0257	LS	CLASS 56 EXCAVATION		10-11	130	0960	LF			
0258	LS	CLASS 57 EXCAVATION		10-11	130	0960	LF			
0259	LS	CLASS 58 EXCAVATION		10-11	130	0960	LF			
0260	LS	CLASS 59 EXCAVATION		10-11	130	0960	LF			
0261	LS	CLASS 60 EXCAVATION		10-11	130	0960	LF			
0262	LS	CLASS 61 EXCAVATION		10-11	130	0960	LF			
0263	LS	CLASS 62 EXCAVATION		10-11	130	0960	LF			
0264	LS	CLASS 63 EXCAVATION		10-11	130	0960	LF			
0265	LS	CLASS 64 EXCAVATION		10-11	130	0960	LF			
0266	LS	CLASS 65 EXCAVATION		10-11	130	0960	LF			
0267	LS	CLASS 66 EXCAVATION		10-11	130	0960	LF			
0268	LS	CLASS 67 EXCAVATION		10-11	130	0960	LF			
0269	LS	CLASS 68 EXCAVATION		10-11	130	0960	LF			
0270	LS	CLASS 69 EXCAVATION		10-11	130	0960	LF			
0271	LS	CLASS 70 EXCAVATION		10-11	130	0960	LF			
0272	LS	CLASS 71 EXCAVATION		10-11	130	0960	LF			
0273	LS	CLASS 72 EXCAVATION		10-11	130	0960	LF			
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0275	LS	CLASS 74 EXCAVATION		10-11	130	0960	LF			
0276	LS	CLASS 75 EXCAVATION		10-11	130	0960	LF			
0277	LS	CLASS 76 EXCAVATION		10-11	130	0960	LF			
0278	LS	CLASS 77 EXCAVATION		10-11	130	0960	LF			
0279	LS	CLASS 78 EXCAVATION		10-11	130	0960	LF			
0280	LS	CLASS 79 EXCAVATION		10-11	130	0960	LF			
0281	LS	CLASS 80 EXCAVATION		10-11	130	0960	LF			
0282	LS	CLASS 81 EXCAVATION		10-11	130	0960	LF			
0283	LS	CLASS 82 EXCAVATION		10-11	130	0960	LF			
0284	LS	CLASS 83 EXCAVATION		10-11	130	0960	LF			
0285	LS	CLASS 84 EXCAVATION		10-11	130	0960	LF			
0286	LS	CLASS 85 EXCAVATION		10-11	130	0960	LF			
0287	LS	CLASS 86 EXCAVATION		10-11	130	0960	LF			
0288	LS	CLASS 87 EXCAVATION		10-11	130	0960	LF			
0289	LS	CLASS 88 EXCAVATION		10-11	130	0960	LF			
0290	LS	CLASS 89 EXCAVATION		10-11	130	0960	LF			
0291	LS	CLASS 90 EXCAVATION		10-11	130	0960	LF			
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0293	LS	CLASS 92 EXCAVATION		10-11	130	0960	LF			
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0295	LS	CLASS 94 EXCAVATION		10-11	130	0960	LF			
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0297	LS	CLASS 96 EXCAVATION		10-11	130	0960	LF			
0298	LS	CLASS 97 EXCAVATION		10-11	130	0960	LF			
0299	LS	CLASS 98 EXCAVATION		10-11	130	0960	LF			
0300	LS	CLASS 99 EXCAVATION		10-11	130	0960	LF			
0301	LS	CLASS 100 EXCAVATION		10-11	130	0960	LF			



TABULATION OF QUANTITIES

TRAIL

REVISION NO		REVISIONS		DATE		BY		DISTRICT		COUNTY		ROUTE		SECTION		SHEET	
1		ADDENDUM 1		6/16/21		JFC		6-0		MONTGOMERY		-				10 OF 17	
2		ADDENDUM 4		7/20/21		JFC											
3		ADDENDUM 5		8/22/21		JFC				TOWAMENCIN							

ITEM	UNIT	ENTIRE PROJECT	REMARKS	SIDE	STATIONS
0201	LS	1	CLEARING AND GRUBBING		0+00.00
0203	LS	1	CLASS 1 EXCAVATION		0+00.00
0205	LS	1	SELECTED BORROW EXCAVATION, COARSE		0+00.00
0212	TON	1	GEOTEXTILE, CLASS 4, TYPE A		0+00.00
0410	SV	4035	SUPERPAVE ASPHALT MIXTURE DESIGN, WEARING COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 9.5 MM FG MIX, 2" DEPTH, SRL-H		0+00.00
0608	LS	1	MOBILIZATION		0+00.00
0609	LS	1	INSPECTOR'S FIELD OFFICE AND INSPECTION FACILITIES, TYPE C		0+00.00
0609	LS	1	EQUIPMENT PACKAGE		0+00.00
0639	LS	1	PLAIN CEMENT CONCRETE CURB		0+00.00
0676	LF	17	CEMENT CONCRETE SIDEWALK		0+00.00
0688	SV	1	MACROCOMPUTER WITH BATTERY BACKUP SYSTEM, TYPE A		0+00.00
0689	LS	1	NARRATIVE SCHEDULE		0+00.00
0696	LS	1	DETECTABLE WARNING SURFACE POLYMER COMPOSITE		0+00.00
0703	SF	20	NO. 3 COARSE AGGREGATE		0+00.00
0706	SV	20	SUBBASE 6" DEPTH (NO. 2A)		0+00.00
0802	CY	120	TOPSOIL FURNISHED AND PLACED		0+00.00
0804	LB	10	SEEDING AND SOIL SUPPLEMENTS - FORMULA B		0+00.00
0805	TON	10	MULCHING - HAY		0+00.00
0845	DOLLA	5000	UNFORESEEN WATER POLLUTION CONTROL		0+00.00
0949	EACH	5	ROCK CONSTRUCTION ENTRANCE		0+00.00
0955	EACH	3	PUMPED WATER FILTER BAG		0+00.00
0967	EACH	3	COMPOST FILTER SOCK, 18" DIAMETER		0+00.00
0967	EACH	3	COMPOST FILTER SOCK, 24" DIAMETER		0+00.00
0972	LF	150	MANTENANCE AND PROTECTION OF TRAFFIC DURING CONSTRUCTION MODIFIED		0+00.00
0973	LS	1	SELECTED BORROW EXCAVATION, RIVER STONE		0+00.00
0974	SV	1	1" DEPTH		0+00.00
0975	LF	1	TRAIL FENCE COMPLETE WITH POSTS AND HARDWARE		0+00.00
0976	LF	1	TRAIL FENCE PREVIOUSLY PLACED COMPOST FILTER SOCK		0+00.00
0977	EACH	2	SANDBAG COFFER DAM		0+00.00
0985	EACH	2	ADA CURB RAMP		0+00.00
0986	EACH	2	ADA CURB RAMP		0+00.00
0987	EACH	2	ADA CURB RAMP		0+00.00
0988	EACH	2	MULTI-USE TRAIL		0+00.00
0989	EACH	2	ADA CURB RAMP		0+00.00
0990	EACH	2	ADA CURB RAMP		0+00.00
0991	EACH	2	ADA CURB RAMP		0+00.00
0992	EACH	2	ADA CURB RAMP		0+00.00
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0996	EACH	2	ADA CURB RAMP		0+00.00
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1000	EACH	2	ADA CURB RAMP		0+00.00
1001	EACH	2	ADA CURB RAMP		0+00.00
1002	EACH	2	ADA CURB RAMP		0+00.00
1003	EACH	2	ADA CURB RAMP		0+00.00
1004	EACH	2	ADA CURB RAMP		0+00.00
1005	EACH	2	ADA CURB RAMP		0+00.00
1006	EACH	2	ADA CURB RAMP		0+00.00
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1010	EACH	2	ADA CURB RAMP		0+00.00
1011	EACH	2	ADA CURB RAMP		0+00.00
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1144	EACH	2	ADA CURB RAMP		0+00.00
1145	EACH	2	ADA CURB RAMP		0+00.00
1146	EACH	2	ADA CURB RAMP		0+00.00
1147	EACH	2	ADA CURB RAMP		0

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
8-0	MONTGOMERY	0000	KRTT	11 OF 17
REVISION NUMBER	TOWAMENCIN TOWNSHIP		REVISIONS	DATE
				BT

START WORK
 - STA 00+28.00
 KRIEBEL ROAD TRAIL

LIMIT OF WORK
 STA -00+50.00
 KRIEBEL ROAD TRAIL
 TOWAMENCIN TOWNSHIP
 MONTGOMERY COUNTY

PROPOSED ADA ACCESSIBLE CURB RAMP

PROPOSED ADA ACCESSIBLE CURB RAMP

LEGAL RIGHT-OF-WAY LINE

KRIEBEL ROAD

LEGAL RIGHT-OF-WAY LINE

PROPOSED 10' ASPHALT TRAIL

2' TRAIL SHOULDER

BT 30

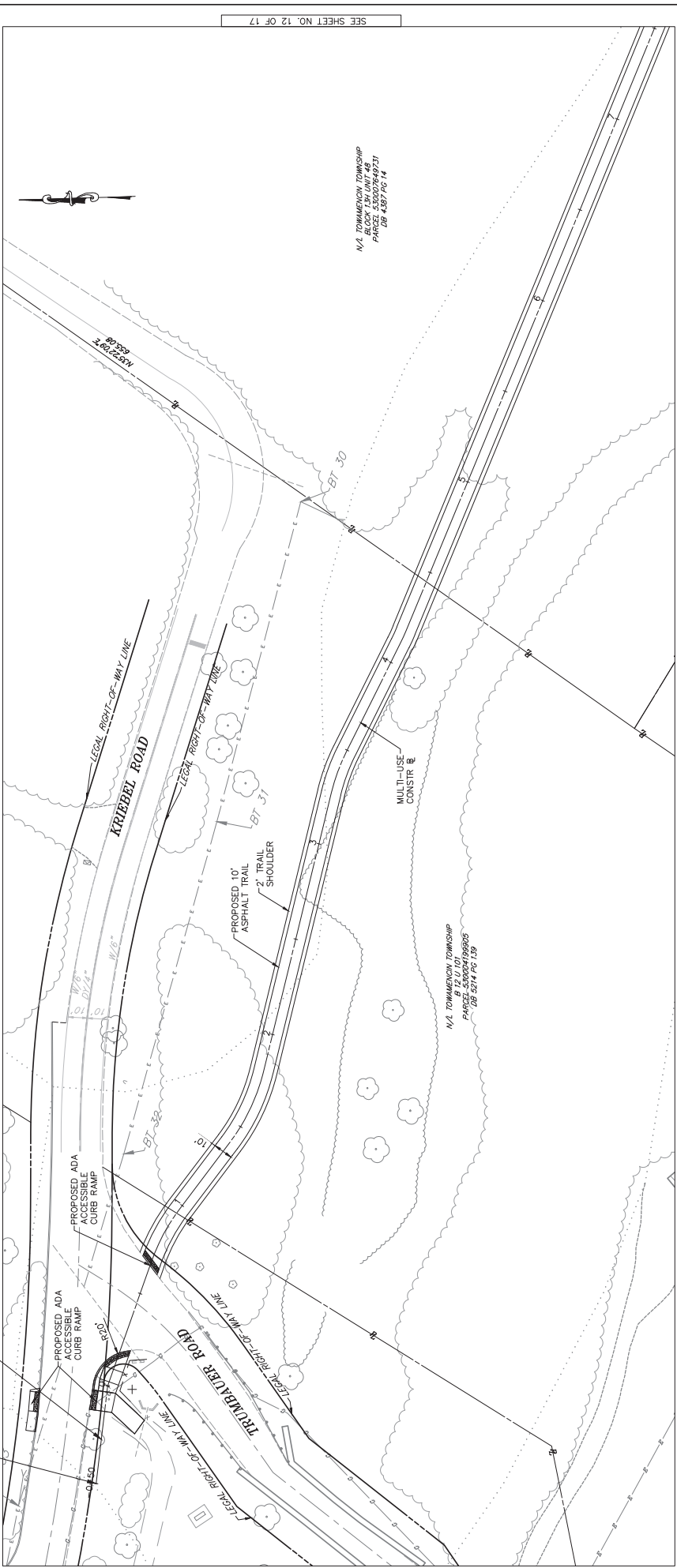
BT 31

BT 32

MULTI-USE CONSTR 8

N/A TOWAMENCIN TOWNSHIP
 BLOCK 12 U.I. 01
 PARCELS 524.PG.005
 JOB 524.PG.138

N/A TOWAMENCIN TOWNSHIP
 BLOCK 12H UNIT 4B
 PARCELS 437.PG.051
 JOB 437.PG.14



LEGEND

- PROPOSED TRAIL
- PROPERTY / DEED LINE
- EXISTING LEGAL RIGHT-OF-WAY
- EXISTING ELECTRIC LINE
- EXISTING TREE
- TREE TO BE REMOVED

CONSTRUCTION PLAN

SCALE

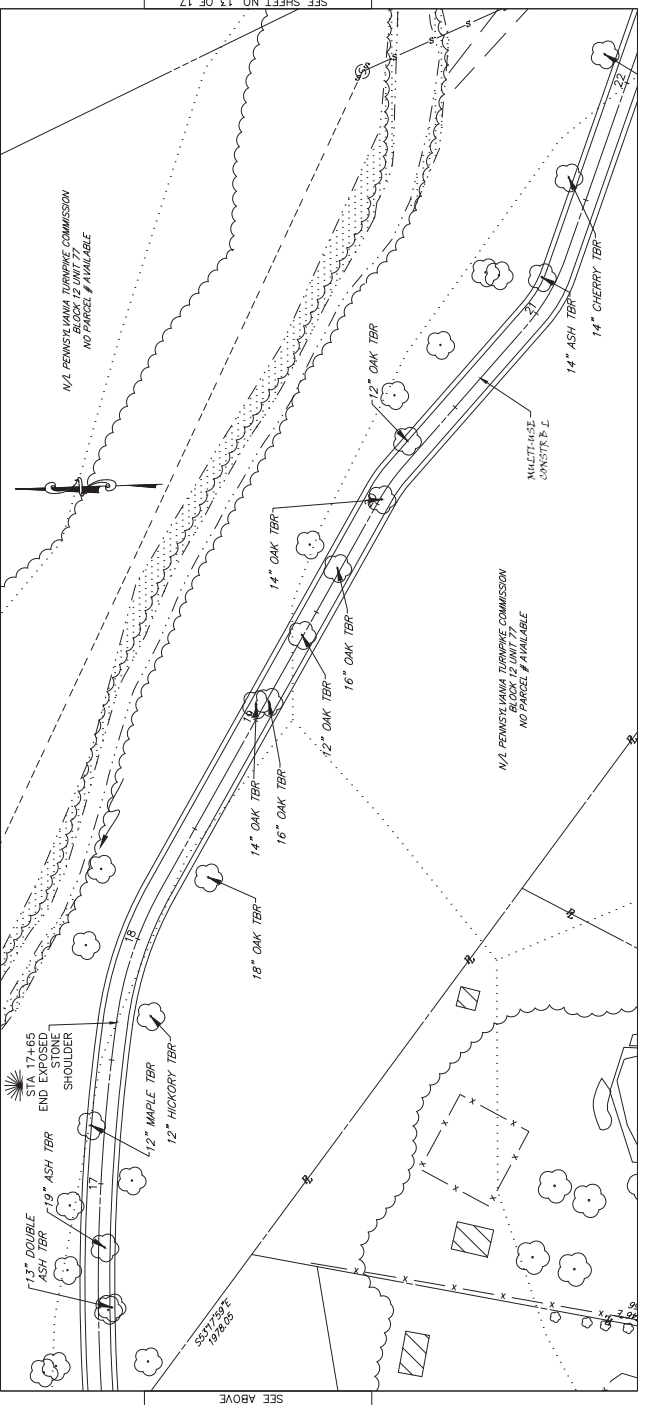
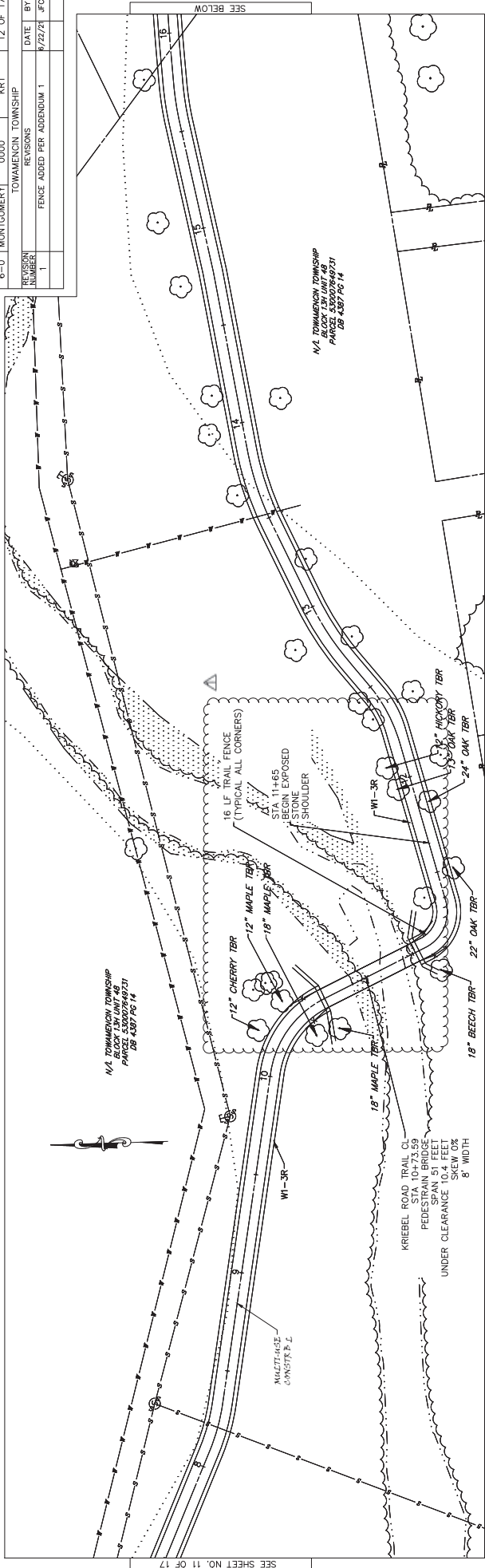
0 25 50 FEET

FOR PROFILE SEE SHEET 15

PREPARED BY:
 GILMORE & ASSOCIATES, INC.
 65 E. BUTLER AVE.
 NEW BRITAIN, PA 18901

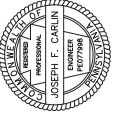
5/5/2021

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
8-0	MONTGOMERY	000	RR1	12 OF 17
TOWNSHIP				
MONTGOMERY TOWNSHIP				
REVISION NUMBER	BY	DATE		
1		9/22/21	JFC	
FENCE ADDED PER ADDENDUM 1				



- LEGEND**
- PROPOSED TRAIL
 - PROPERTY / DEED LINE
 - EXISTING LEGAL RIGHT-OF-WAY
 - EXISTING WATER MAIN
 - EXISTING COMBINED SANITARY & STORM SEWER
 - EXISTING TREE
 - TREE TO BE REMOVED

PREPARED BY:
 GILMORE & ASSOCIATES, INC.
 65 E. BUTLER AVE
 NEW BRITAIN, PA 18901



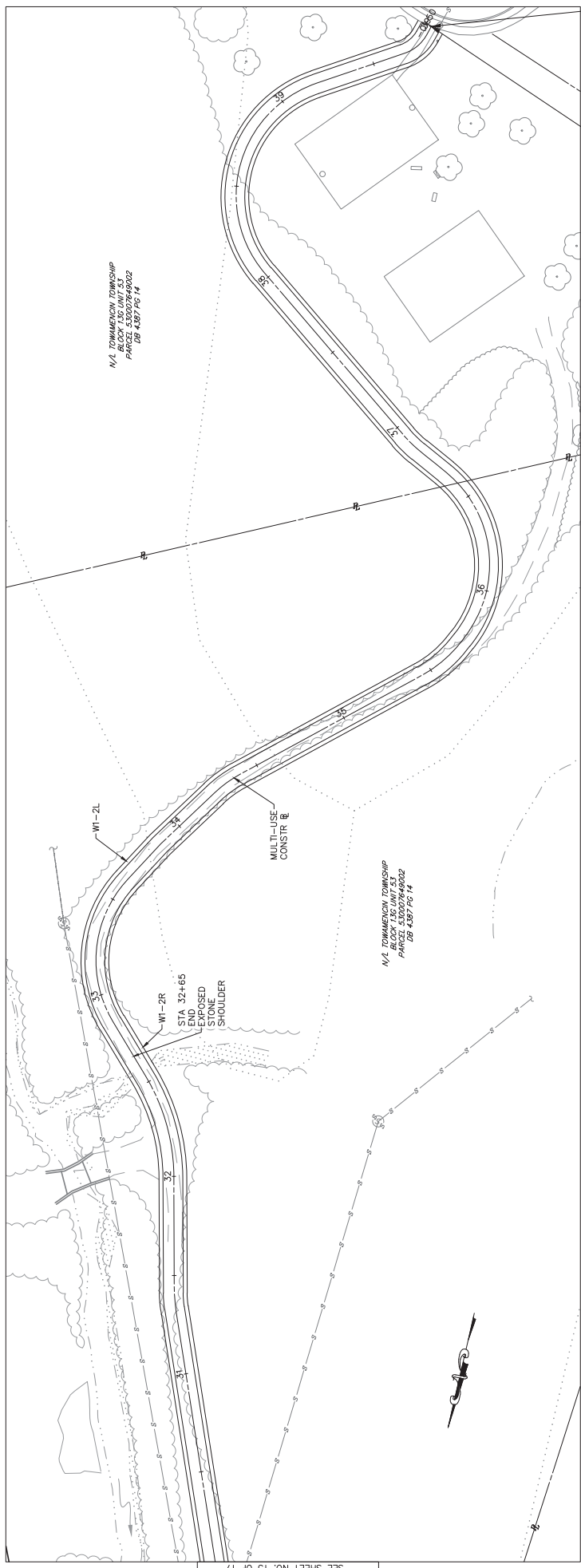
03/19/2021

CONSTRUCTION PLAN



FOR PROFILE SEE SHEETS 15-16

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-C	MONTGOMERY	0000	KRT	14 OF 17
REVISION NUMBER	TOWAMENCIN TOWNSHIP		DATE	BT

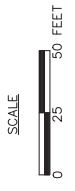


STOP WORK
 STA 39+87.00
 KRIEBEL ROAD TRAIL
 TOWAMENCIN TOWNSHIP
 MONTGOMERY COUNTY

LIMIT OF WORK
 STA 39+87.00
 KRIEBEL ROAD TRAIL
 TOWAMENCIN TOWNSHIP
 MONTGOMERY COUNTY

- LEGEND**
- PROPOSED TRAIL
 - PROPERTY / DEED LINE
 - EXISTING LEGAL RIGHT-OF-WAY
 - EXISTING COMBINED SANITARY & STORM SEWER
 - EXISTING TREE
 - TREE TO BE REMOVED

CONSTRUCTION PLAN

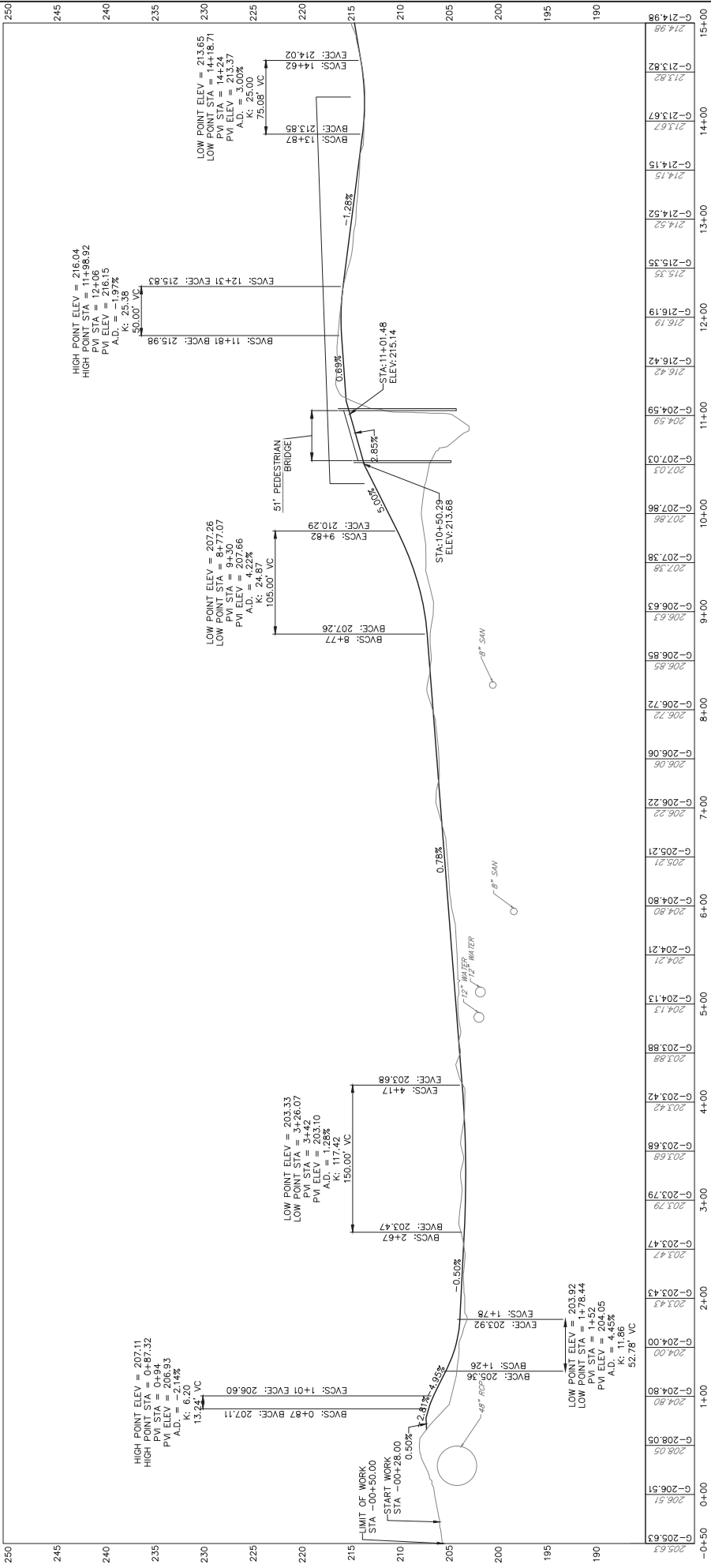


FOR PROFILE SEE SHEET 17

PREPARED BY:
 GILMORE & ASSOCIATES, INC.
 65 E. BUTLER AVE.
 NEW BRITAIN, PA 18901



DISTRICT	COUNTY	ROUTE	SECTION	SHEET
8-CO	MONTGOMERY	0000	KRT	15 OF 17
REVISION NUMBER	TOWAMENCIN TOWNSHIP			DATE
BT				



KRIEBEL ROAD MULTI-USE TRAIL CL
STATION -0+50.00 TO 15+00.00

SCALE


VERT: 0 TO 5 TO 10 FEET

HORIZ: 0 50 100 FEET

FOR PLAN SEE SHEETS 11-12

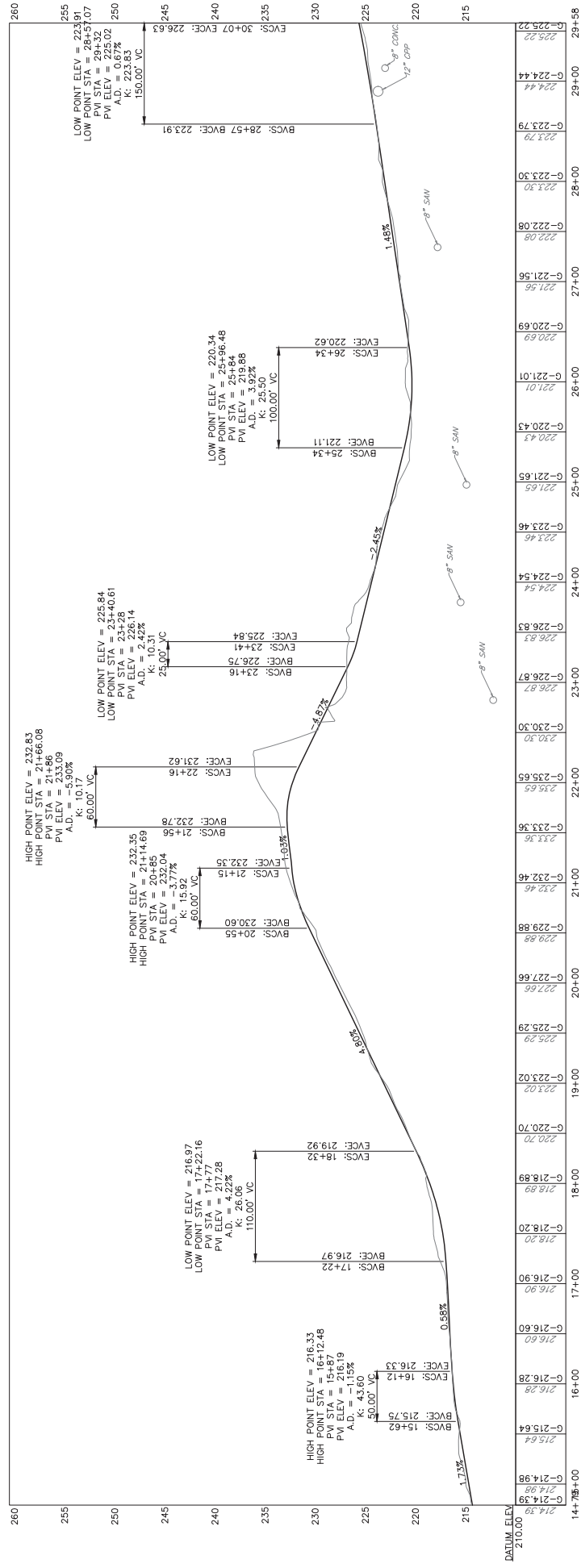
PROFILE

PREPARED BY:
GILMORE & ASSOCIATES, INC.
65 E. BUTLER AVE.
NEW BRITAIN, PA 18901



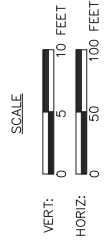
5/5/2021

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-CO	MONTGOMERY	0000	KRTT	16 OF 17
TOWAMENCIN TOWNSHIP				
REVISION NUMBER	DATE	BY		



STATION	ELEVATION	STATION	ELEVATION
14+75+00	214.39	24+00	224.54
15+00	214.98	24+25	226.83
15+25	215.64	24+50	226.87
15+50	216.28	25+00	221.65
16+00	216.60	25+25	223.46
16+25	216.90	25+50	223.46
16+50	216.90	26+00	220.43
17+00	216.60	26+25	221.01
17+25	216.60	26+50	220.69
17+50	216.90	27+00	221.56
18+00	218.20	27+25	222.08
18+25	218.89	27+50	222.08
18+50	218.90	28+00	223.30
19+00	223.02	28+25	223.79
19+25	225.29	28+50	224.44
19+50	225.29	29+00	225.22
20+00	227.66		
20+25	227.66		
20+50	229.88		
21+00	232.46		
21+25	233.36		
21+50	233.65		
22+00	235.65		
22+25	235.65		
22+50	230.30		
23+00	226.87		
23+25	226.87		
23+50	224.54		
24+00	224.54		
24+25	220.69		
24+50	221.56		
25+00	221.01		
25+25	220.43		
25+50	220.69		
26+00	222.08		
26+25	222.08		
26+50	223.30		
27+00	223.79		
27+25	224.44		
27+50	225.22		

KRIEBEL ROAD MULTI-USE TRAIL CL
STATION 14+79.00 TO 29+58.00

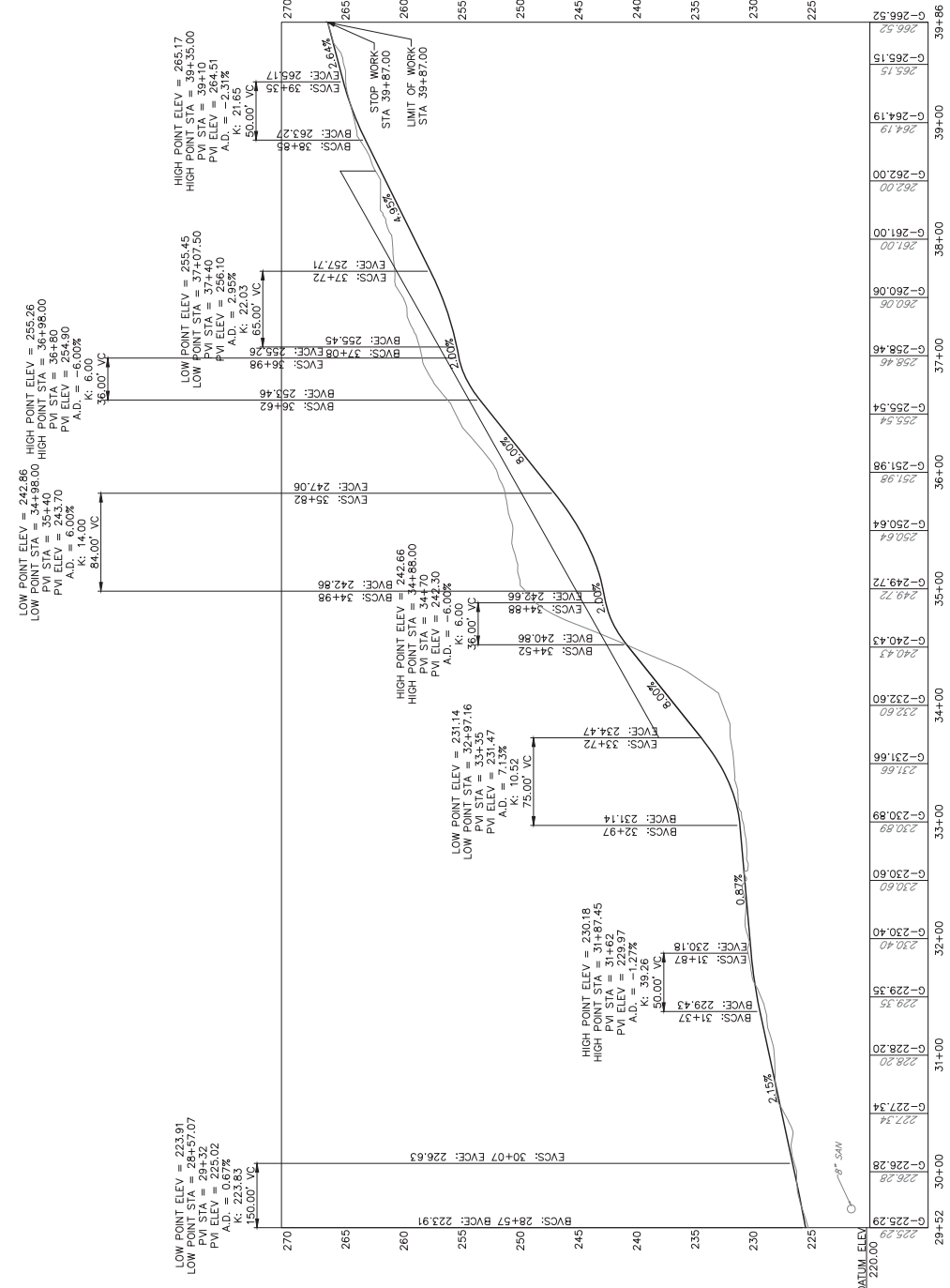


FOR PLAN SEE SHEETS 12-13

PREPARED BY:
GILMORE & ASSOCIATES, INC.
65 E. BUTLER AVE.
NEW BRITAIN, PA 18901

5/5/2021

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-C	MONTGOMERY	000	KRT	17 OF 17
REVISION NUMBER	TOWAMENCIN TOWNSHIP		REVISIONS	DATE



KRIEBEL ROAD MULTI-USE TRAIL CL
STATION 29+52.00 TO 39+86.17

FOR PLAN SEE SHEETS 13-14

VERT: 0 5 10 FEET

HORIZ: 0 50 100 FEET

SCALE

PROFILE

PREPARED BY:
GILMORE & ASSOCIATES, INC.
65 E. BUTLER AVE.
NEW BRITAIN, PA 18901

5/5/2021



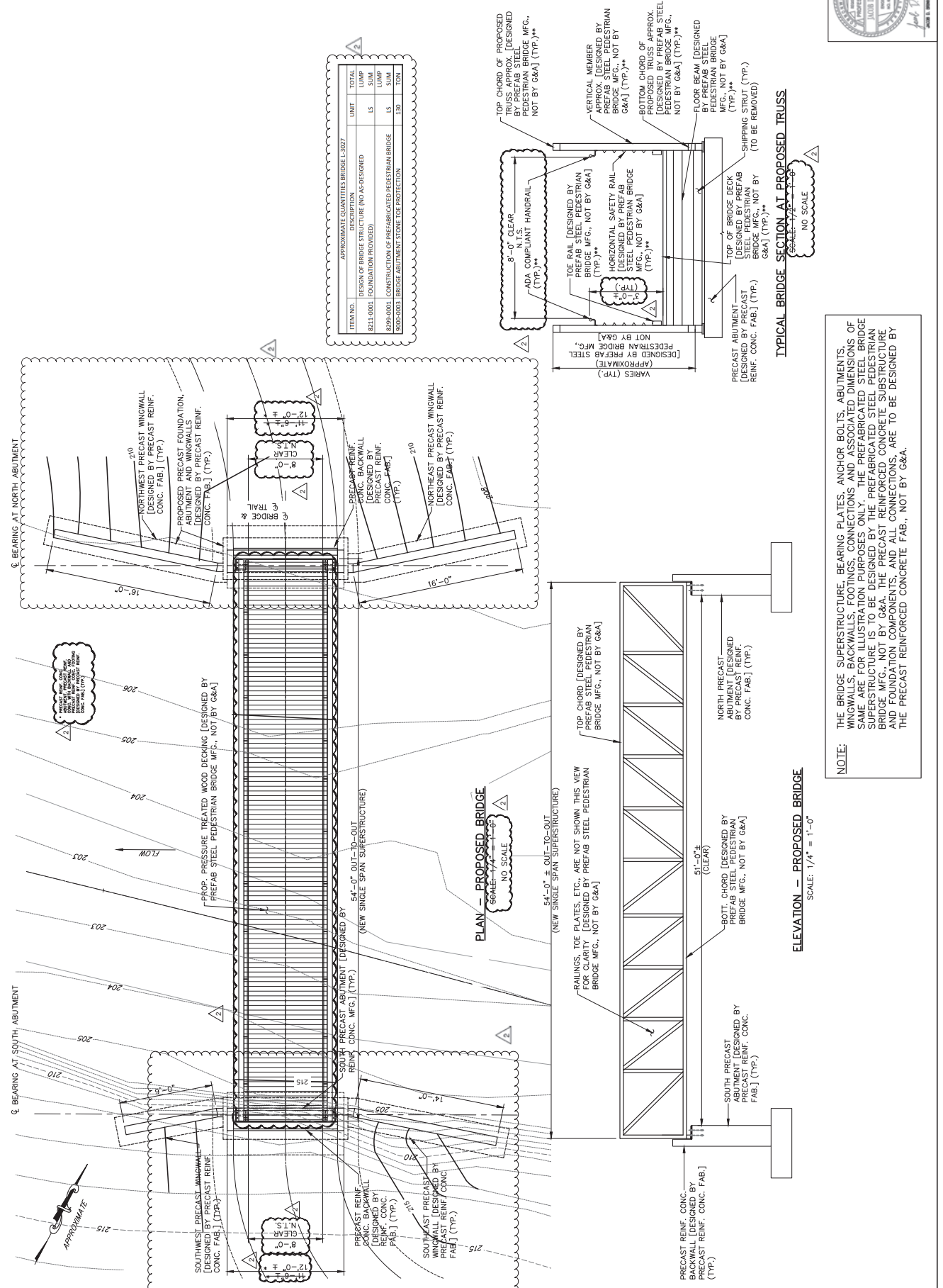
REV.	DESCRIPTION	DATE	BY
2		08/23/21	SKM
1			

PROJECT: KRIEBEL ROAD TRAIL
CONCEPTUAL PLAN, ELEVATION AND SECTION
OWNER: TOMAHAMON TOWNSHIP
TOWNSHIP: TOMAHAMON TOWNSHIP, PENNSYLVANIA

DATE:	07/30/2020
TOTAL AREA:	
TOTAL LOTS:	
DESIGNED BY:	DRAM BY
CHECKED BY:	RCU
TAX MAP PARCEL NO.:	
MUNICIPAL FILE NO.:	
OWNER:	TOMAHAMON TOWNSHIP
JOB NO.:	20180291T

GLUMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES
1000 W. 10TH STREET, SUITE 100, WILKES BARRE, PA 18201
TEL: 570-834-4333 WWW.GLUMORE.COM

ONLY THOSE PLANS INCORPORATING THE PROFESSIONAL SEAL SHOULD BE USED FOR CONSTRUCTION.
CONTRACTOR RESPONSIBILITY
CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS ON SITE BEFORE BEGINNING WORK.
CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES.
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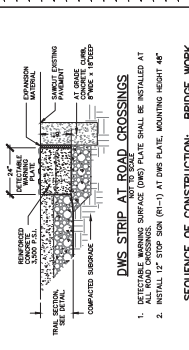
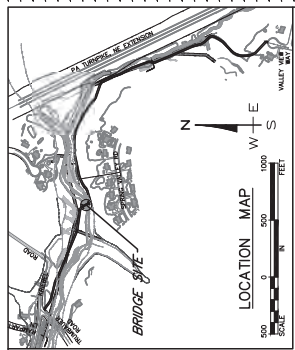


NOTE: THE BRIDGE SUPERSTRUCTURE, BEARING PLATES, ANCHOR BOLTS, ABUTMENTS, WINGWALLS, BACKWALLS, FOOTINGS, CONNECTIONS AND ASSOCIATED DIMENSIONS OF SAME ARE FOR ILLUSTRATION PURPOSES ONLY. THE PREFABRICATED STEEL BRIDGE MFG. SHALL BE DESIGNED BY G&A. THE PRECAST REINFORCED CONCRETE SUBSTRUCTURE AND FOUNDATION COMPONENTS, AND ALL CONNECTIONS, ARE TO BE DESIGNED BY THE PRECAST REINFORCED CONCRETE FAB., NOT BY G&A.

PLAN - PROPOSED BRIDGE
SCALE: 1/4" = 1'-0"
NO SCALE

ELEVATION - PROPOSED BRIDGE
SCALE: 1/4" = 1'-0"

TYPICAL BRIDGE SECTION AT PROPOSED TRUSS
SCALE: 1/2" = 1'-0"
NO SCALE



DMS STRIP AT ROAD CROSSINGS

1. DETECTABLE WARNING SURFACE (DMS) PLATE SHALL BE INSTALLED AT ALL ROAD CROSSINGS.
2. INITIAL 1/2" STOP (R-1) AT DMS PLATE, MOUNTING HEIGHT 4"

SEQUENCE OF CONSTRUCTION: BRIDGE WORK

BRIDGE INSTALLATION ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE THE NEXT STAGE IS INITIATED, UNLESS NOTED OTHERWISE.

AT LEAST 7 DAYS PRIOR TO START OF WORK ON THE BRIDGE, A PRELIMINARY CONSTRUCTION PLAN SHALL BE SUBMITTED TO THE SITE DESIGNER, MULTICOUNTY COUNTY CONSERVATION DISTRICT, AND THE PLAN DESIGNER.

1. APPROXIMATE BRIDGE PLAN APPROVED BY COUNTY CONSERVATION DISTRICT.
2. APPROXIMATE BRIDGE PLAN APPROVED BY MULTICOUNTY COUNTY CONSERVATION DISTRICT.
3. APPROXIMATE BRIDGE PLAN APPROVED BY MULTICOUNTY COUNTY CONSERVATION DISTRICT.
4. APPROXIMATE BRIDGE PLAN APPROVED BY MULTICOUNTY COUNTY CONSERVATION DISTRICT.
5. APPROXIMATE BRIDGE PLAN APPROVED BY MULTICOUNTY COUNTY CONSERVATION DISTRICT.
6. APPROXIMATE BRIDGE PLAN APPROVED BY MULTICOUNTY COUNTY CONSERVATION DISTRICT.
7. APPROXIMATE BRIDGE PLAN APPROVED BY MULTICOUNTY COUNTY CONSERVATION DISTRICT.
8. APPROXIMATE BRIDGE PLAN APPROVED BY MULTICOUNTY COUNTY CONSERVATION DISTRICT.
9. APPROXIMATE BRIDGE PLAN APPROVED BY MULTICOUNTY COUNTY CONSERVATION DISTRICT.
10. APPROXIMATE BRIDGE PLAN APPROVED BY MULTICOUNTY COUNTY CONSERVATION DISTRICT.

PROJECT IDENTIFICATION:

PROJECT NO. 24-001-001-001
 PROJECT NAME: BRIDGE WORK
 PROJECT LOCATION: TRAIL CL. STATION 94+50.00 TO 104+50.00
 PROJECT DATE: 6/19/16

LIST TITLE OF PROJECT, NAMES OF OWNER, ENGINEER, AND CONTRACTOR.

1. CONTRACTOR: GILKMORE & ASSOCIATES, INC.

2. OWNER: TOWNSHIP OF PENNSYLVANIA

3. SOIL SHALL BE TESTED AND REPORTED ON PART BY MULTICOUNTY COUNTY PROGRAM.

NO.	DESCRIPTION	DATE	BY
1	ISSUED FOR PERMITS	6/19/16	JD
2	ISSUED FOR PERMITS	6/19/16	JD
3	ISSUED FOR PERMITS	6/19/16	JD
4	ISSUED FOR PERMITS	6/19/16	JD
5	ISSUED FOR PERMITS	6/19/16	JD
6	ISSUED FOR PERMITS	6/19/16	JD
7	ISSUED FOR PERMITS	6/19/16	JD
8	ISSUED FOR PERMITS	6/19/16	JD
9	ISSUED FOR PERMITS	6/19/16	JD
10	ISSUED FOR PERMITS	6/19/16	JD

NO.	DESCRIPTION	DATE	BY
1	ISSUED FOR PERMITS	6/19/16	JD
2	ISSUED FOR PERMITS	6/19/16	JD
3	ISSUED FOR PERMITS	6/19/16	JD
4	ISSUED FOR PERMITS	6/19/16	JD
5	ISSUED FOR PERMITS	6/19/16	JD
6	ISSUED FOR PERMITS	6/19/16	JD
7	ISSUED FOR PERMITS	6/19/16	JD
8	ISSUED FOR PERMITS	6/19/16	JD
9	ISSUED FOR PERMITS	6/19/16	JD
10	ISSUED FOR PERMITS	6/19/16	JD

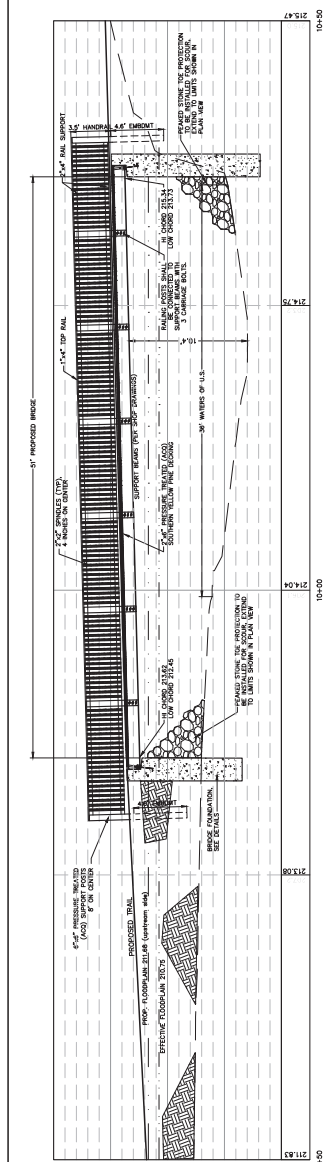
CONCEPTUAL PERMIT PLANS
 TRAIL CL. STATION 94+50 TO 104+50
 BRIDGE PLAN AND DETAILS
KRIEBEL ROAD TRAIL
 TOWNSHIP OF PENNSYLVANIA, BARTHOLOMEW COUNTY, PENNSYLVANIA

GILKMORE & ASSOCIATES, INC.
 ENGINEERING & CONSULTING SERVICES

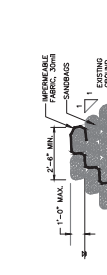
DATE: 6/19/16
 SCALE: 1" = 10'
 TOTAL AREA: TOTAL LOTS
 TAX MAP PARCEL NO.: 60

OWNER: TOWNSHIP OF PENNSYLVANIA
 MUNICIPAL FILE NO.: 19438

PROJECT NO.: 24-001-001-001
 JOB NO.: 15-10028-00
 SHEET NO.: 4 OF 4



TRAIL CL. STATION 94+50.00 TO 104+50.00: Bridge Profile
 SCALE: 1" = 5'



SECTION A-A: SANDRAG COFFERDAM DETAIL

NOTE: SANDRAGS SHALL BE USED IN A MANNER OF 1/2" ABOVE THE NORMAL WATER SURFACE ELEVATION.

NOTE: SANDRAGS SHALL BE USED IN A MANNER OF 1/2" ABOVE THE NORMAL WATER SURFACE ELEVATION.

COMMERCIALLY AVAILABLE SANDRAGS SUCH AS TYPICAL SANDRAGS OR SANDRAGS SHALL BE ACCEPTABLE ALTERNATIVE TO SANDRAGS. SANDRAGS SHALL BE USED IN A MANNER OF 1/2" ABOVE THE NORMAL WATER SURFACE ELEVATION. PRODUCT DATA SHEETS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.

LEGEND

EXISTING

- 1-FT CONTOURS
- 5-FT CONTOURS
- WATERS OF U.S.
- WATERS/WETLANDS CLASS
- 100% FLOOD WAY
- 100% FLOOD FRINGE
- SAFARIWAY SWAMP
- STONE SCOUR PROTECTION

PROPOSED

- 1-FT CONTOURS
- 5-FT CONTOURS
- WATERS OF U.S.
- WATERS/WETLANDS CLASS
- 100% FLOOD WAY
- 100% FLOOD FRINGE
- SAFARIWAY SWAMP
- STONE SCOUR PROTECTION

PLAN SURVEY DATA:

HORIZONTAL DATUM: NAD 83 PA SOUTH ZONE
 VERTICAL DATUM: NAVD 83
 OBSERVATIONS MADE FROM POINTS ELEVATED USING DIFFERENTIAL LEVELS
 USEN 1011 AS BENCH MARK ELEVATION 191.07'

NO.	DESCRIPTION	DATE	BY
1	ISSUED FOR PERMITS	6/19/16	JD
2	ISSUED FOR PERMITS	6/19/16	JD
3	ISSUED FOR PERMITS	6/19/16	JD
4	ISSUED FOR PERMITS	6/19/16	JD
5	ISSUED FOR PERMITS	6/19/16	JD
6	ISSUED FOR PERMITS	6/19/16	JD
7	ISSUED FOR PERMITS	6/19/16	JD
8	ISSUED FOR PERMITS	6/19/16	JD
9	ISSUED FOR PERMITS	6/19/16	JD
10	ISSUED FOR PERMITS	6/19/16	JD

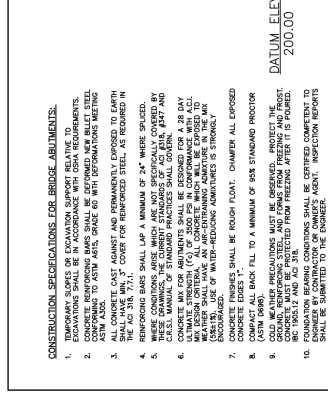
CONCEPTUAL PERMIT PLANS
 TRAIL CL. STATION 94+50 TO 104+50
 BRIDGE PLAN AND DETAILS
KRIEBEL ROAD TRAIL
 TOWNSHIP OF PENNSYLVANIA, BARTHOLOMEW COUNTY, PENNSYLVANIA

GILKMORE & ASSOCIATES, INC.
 ENGINEERING & CONSULTING SERVICES

DATE: 6/19/16
 SCALE: 1" = 10'
 TOTAL AREA: TOTAL LOTS
 TAX MAP PARCEL NO.: 60

OWNER: TOWNSHIP OF PENNSYLVANIA
 MUNICIPAL FILE NO.: 19438

PROJECT NO.: 24-001-001-001
 JOB NO.: 15-10028-00
 SHEET NO.: 4 OF 4



CONSTRUCTION SPECIFICATIONS FOR BRIDGE ABUTMENTS.

1. DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE NOTED.

2. CONCRETE REINFORCING BARS SHALL BE DEFORMED NEW RIBBET STEEL, ASTM A603.

3. ALL REINFORCING BARS SHALL BE LAPPED WITH LAP LENGTHS AS SHOWN IN THE DRAWINGS.

4. ALL REINFORCING BARS SHALL BE COVERED WITH 2" MINIMUM OF CONCRETE.

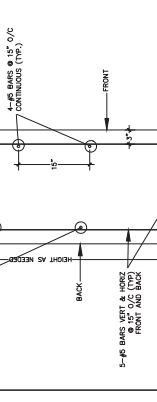
5. WHERE CONDITIONS PERMIT, ALL REINFORCING BARS SHALL BE LAPPED WITH LAP LENGTHS AS SHOWN IN THE DRAWINGS.

6. CONCRETE MIX FOR ABUTMENTS SHALL BE DESIGNED FOR A 28 DAY COMPRESSIVE STRENGTH OF NOT LESS THAN 4000 PSI. ALL CONCRETE SHALL BE PLACED IN THE ABUTMENT WITHIN 90 DAYS OF THE DATE OF POURING.

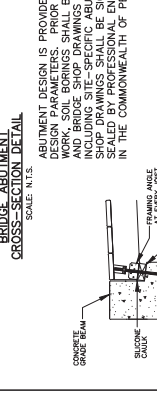
7. CONCRETE FINISHES SHALL BE ROUGH FLOAT. CHAMFER ALL EXPOSED CORNERS AND EDGES.

8. ALL REINFORCING BARS SHALL BE CEILING CONCRETE TO THE BOTTOM OF THE ABUTMENT.

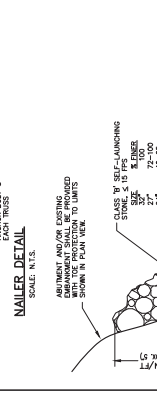
9. FOUNDATION BEARING CAPACITY SHALL BE DETERMINED BY TESTS TO BE SUBMITTED TO THE ENGINEER.



BRIDGE ABUTMENT CROSS-SECTION DETAIL
 SCALE: N.T.S.



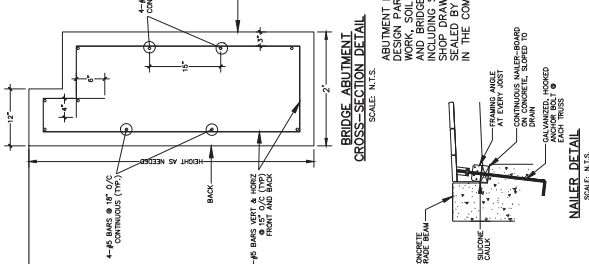
MAILER DETAIL
 SCALE: N.T.S.



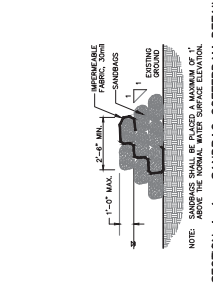
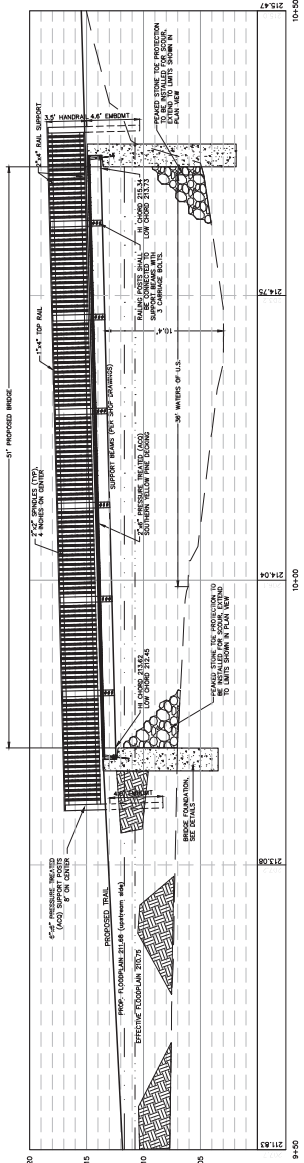
LONGITUDINAL PEAKED STONE TOE PROTECTION (CPSTIP) DETAIL
 SCALE: 1" = 10'

ONLY THOSE PLANS INCORPORATING THE RASSED PROFESSIONAL SEAL AND SIGNATURE OF THE ENGINEER SHALL BE VALID. ANY OTHER PLANS OR DRAWINGS SHALL BE VOID. THE CLIENT AND PROJECT CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THIS DRAWING FROM UNAUTHORIZED REPRODUCTION OR ALTERATION. WITHOUT THE CONSENT OF GILKMORE & ASSOCIATES, INC. IT IS PROHIBITED TO REPRODUCE OR TRANSMIT THIS DRAWING IN ANY MANNER. © COPYRIGHT 2014, GILKMORE & ASSOCIATES, INC. ALL RIGHTS RESERVED.

- CONSTRUCTION SPECIFICATIONS FOR BRIDGE ABUTMENTS.**
1. DIMENSIONS SHALL BE EXAMINED AND FOUND TO BE ACCURATE.
 2. CONCRETE REINFORCING BARS SHALL BE DEFORMED NEW RIB TYPE.
 3. REINFORCING BARS SHALL BE PLACED AT THE CORNER OF ALL ANGLES AND AT THE POINTS OF ALL CURVES. ALL BARS SHALL HAVE MIN. 3" COVER FOR EXPOSED STEEL AS REQUIRED IN THE ACI 318, 7.3.1.
 4. ALL BARS SHALL LAP A MINIMUM OF 34" WELDED BRIDGES.
 5. WELDED JOINTS SHALL BE DESIGNED FOR A 20 BAR WELDED JOINT. ALL CONCRETE SHALL BE PROTECTED TO THE MAXIMUM EXTENT POSSIBLE FROM FREEZING AFTER IT IS PLACED. BRIDGE BARS AND JOINTS SHALL BE PROTECTED WITH AN ANTI-ICE CHEMICAL AS SPECIFIED IN THE CONTRACT DOCUMENTS.
 6. CONCRETE FINISHES SHALL BE ROUGH FLOAT. CHAMFER ALL EXPOSED CORNERS AND EDGES TO A MINIMUM OF ONE STANDARD RADIUS (ASTM FORM).
 7. ALL EXPOSED SURFACES SHALL BE PROTECTED WITH AN ANTI-ICE CHEMICAL AS SPECIFIED IN THE CONTRACT DOCUMENTS.
 8. ALL EXPOSED SURFACES SHALL BE PROTECTED WITH AN ANTI-ICE CHEMICAL AS SPECIFIED IN THE CONTRACT DOCUMENTS.
 9. ALL EXPOSED SURFACES SHALL BE PROTECTED WITH AN ANTI-ICE CHEMICAL AS SPECIFIED IN THE CONTRACT DOCUMENTS.
 10. FOUNDATION BEARING CAPACITY SHALL BE DETERMINED BY A REGISTERED PROFESSIONAL ENGINEER AND THE RESULTS OF THE ANALYSIS REPORTS SHALL BE SUBMITTED TO THE ENGINEER.



ONLY THOSE PLANS INCORPORATING THE RASD PROFESSIONAL SEAL AND SIGNATURE SHALL BE CONSIDERED VALID. THE CLIENT AND PROJECT ENGINEER SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THE PROJECT. WITHOUT THE CONSENT OF GILMORE & ASSOCIATES, INC. IT IS PROHIBITED TO REPRODUCE OR TRANSMIT THIS DRAWING OR ANY PART THEREOF IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. © COPYRIGHT 2014, GILMORE & ASSOCIATES, INC. ALL RIGHTS RESERVED.



LEGEND

EXISTING

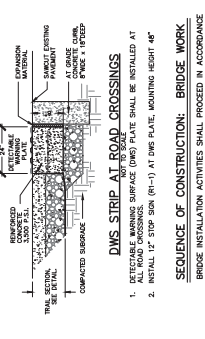
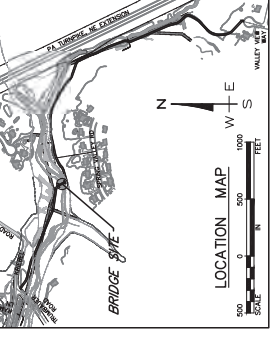
- 1-FT CONTOURS
- 5-FT CONTOURS
- WELDS OF ULS
- WATERS/WELDS PLAS
- 100% FLOOD WAY
- SAFETY SEWER
- STONE SCOUR PROTECTION

PROPOSED

- 1-FT CONTOURS
- 5-FT CONTOURS
- WELDS OF ULS
- WATERS/WELDS PLAS
- 100% FLOOD WAY
- SAFETY SEWER
- STONE SCOUR PROTECTION

PLAN SURVEY DATA:

HORIZONTAL DATUM: MGS 84 PA SOUTH ZONE
VERTICAL DATUM: MGS 84 PA SOUTH ZONE
OBSERVATIONS MADE FROM POINTS ELEVATED USING DIFFERENTIAL LEVELS
USE NPT AS BENCH MARK ELEVATION 191.07'



SEQUENCE OF CONSTRUCTION: BRIDGE WORK

BRIDGE INSTALLATION ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE THE NEXT STAGE IS INITIATED, UNLESS NOTED OTHERWISE.

AT LEAST 7 DAYS PRIOR TO START OF WORK ON THE BRIDGE, A CONSTRUCTION SCHEDULE SHALL BE SUBMITTED TO THE ENGINEER AND THE PLAN DESIGNER.

1. DETECTABLE WARNING SURFACE (DMS) PLATE SHALL BE INSTALLED AT ALL ROAD CROSSINGS.
2. INITIAL 12" TOP SOIL (R-1) AT DMS PLATE MOUNTING HEIGHT 4"

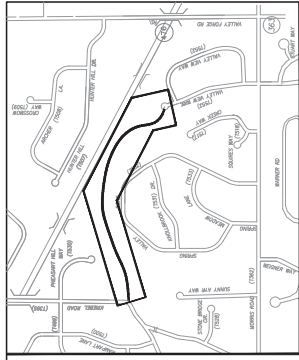
PROJECT IDENTIFICATION:

1. PROJECT NAME: BRIDGE PROJECT
2. PROJECT NUMBER: 100-100-00
3. PROJECT LOCATION: BRIDGE PROJECT
4. PROJECT DATE: 10/15/14
5. PROJECT DRAWN BY: GILMORE & ASSOCIATES, INC.
6. PROJECT CHECKED BY: GILMORE & ASSOCIATES, INC.
7. PROJECT SCALE: 1" = 10'

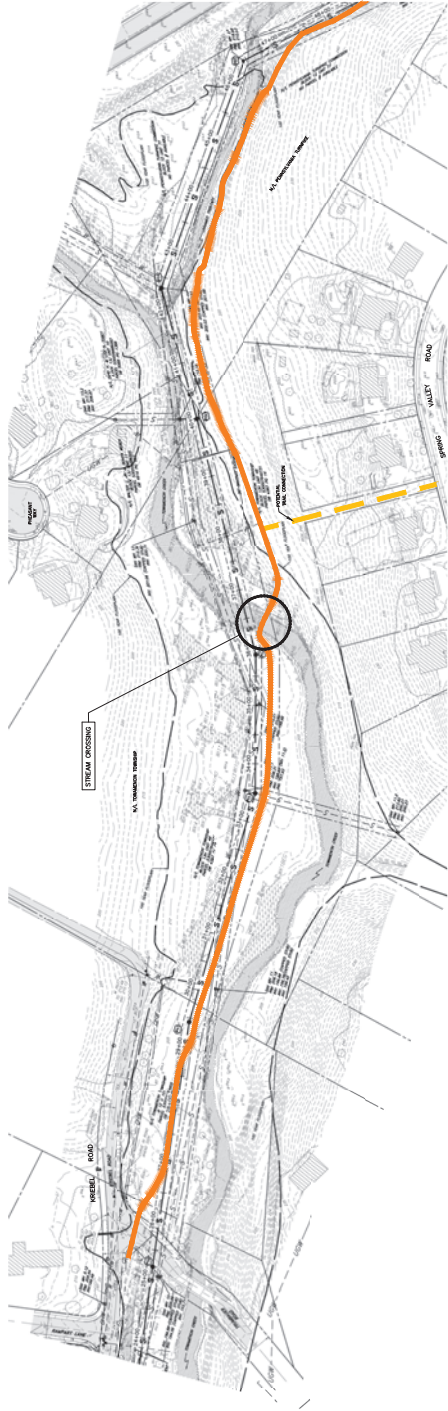
NO.	DESCRIPTION	DATE	BY
1	CONCEPTUAL PERMIT PLANS		
2	BRIDGE DESIGN		
3	BRIDGE DESIGN		
4	BRIDGE DESIGN		
5	BRIDGE DESIGN		
6	BRIDGE DESIGN		
7	BRIDGE DESIGN		
8	BRIDGE DESIGN		
9	BRIDGE DESIGN		
10	BRIDGE DESIGN		

GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

GA



LOCATION MAP

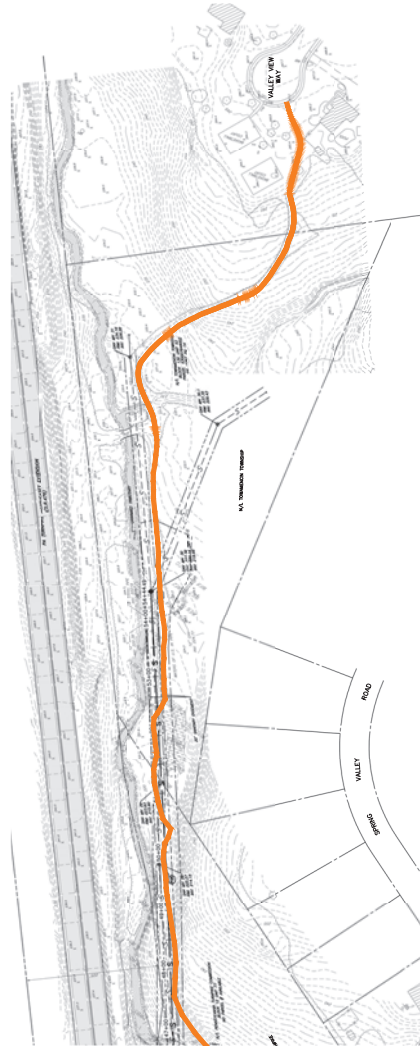


PLAN
STA. 25+00 TO 48+00

LEGEND:

- KRIEBEL ROAD TO VALLEY VIEW WAY TRAIL ROUTE
- POTENTIAL TRAIL CONNECTION

TRAIL INFORMATION
 APPROXIMATELY 4,000 L.F.
 ONE (1) SIGNIFICANT STREAM CROSSING
 ONE (1) MINOR WETLAND CROSSING



PLAN
STA. 48+00 TO VALLEY VIEW WAY

LOCATIONS OF EXISTING UNDERGROUND UTILITIES/FACILITIES ARE SHOWN BY SYMBOLS AND/OR APPROXIMATE DEPTHS. THE LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES/FACILITIES WERE DETERMINED BY GILMORE & ASSOCIATES, INC. AS PART OF THE PRELIMINARY DESIGN. THE PRELIMINARY DESIGN IS FOR INFORMATIONAL PURPOSES ONLY. THE PRELIMINARY DESIGN IS NOT TO BE USED FOR CONSTRUCTION. THE PRELIMINARY DESIGN IS NOT TO BE USED FOR CONSTRUCTION. THE PRELIMINARY DESIGN IS NOT TO BE USED FOR CONSTRUCTION.

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REV.	DESCRIPTION	DATE	BY
01	PRELIMINARY KRIEBEL ROAD TO VALLEY VIEW WAY TRAIL ROUTE		
TAX MAP PARCEL NO.: TOTAL AREA: TOTAL LOTS: DATE: SCALE: SELECT SCALE:			
OWNER: GILMORE & ASSOCIATES, INC. PROJECT: KRIEBEL ROAD TO VALLEY VIEW WAY TRAIL ROUTE			
MUNICIPAL FILE NO.: 180301 DATE: 11/6/15 SCALE: SELECT SCALE			
TOWNSHIP: TOMMAMORCH TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA GILMORE & ASSOCIATES, INC. ENGINEERING & CONSULTING SERVICES 1000 W. MARKET STREET, SUITE 200, COLLETTA, PA 19304 PHONE: 610-391-1000 FAX: 610-391-1001 WWW: GILMORE-PA.COM			
		USG NO.: 15010391 SHEET NO.: 1 OF 1	

NOT APPROVED FOR CONSTRUCTION

PROPOSED PLANS

FOR

TOWAMENCIN TOWNSHIP

KRIEBEL ROAD FISCHER PARK TRAIL

TOWAMENCIN TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA

GENERAL NOTES:

1. ALL UTILITIES SHALL BE LOCATED USING A NUMBER OF SURVEYAL KNOWLEDGE TO THE DEGREE OF ACCURACY AS REQUIRED BY THE TOWNSHIP. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UTILITIES AND FOR OBTAINING THE NECESSARY PERMITS TO EXCAVATE AND REPAIR UTILITIES.
2. ALL DRIVEWAYS SHALL BE KEPT OPEN TO PERMIT ACCESS TO RESIDENTS AND BUSINESSES.
3. A SINGLE LANE OF TRAFFIC MUST BE MAINTAINED ON ALL RIGGS AT ALL TIMES DURING THE WORK ACTIVITIES. THE CONTRACTOR MUST ADHERE TO PENNDOT PUBLICATION 203 OF PA CODE CHAPTER 203 REQUIREMENTS FOR TRAFFIC WHILE COMPLETING WORK AND ADJACENT TO ROADWAYS.
4. THE CONTRACTOR MUST PROVIDE AND MAINTAIN PROPER TRAFFIC CONTROL AT ALL TIMES DURING CONSTRUCTION. TRAFFIC CONTROL SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. 24 HOURS TEMPORARY TRAFFIC CONTROL OUTRIGS, LATEST REVISION, SHALL BE PROVIDED.
5. THE CONTRACTOR MUST PROVIDE AND MAINTAIN PROPER TRAFFIC CONTROL AND TRAFFIC CONTROL SIGNS AT ALL TIMES DURING CONSTRUCTION. TRAFFIC CONTROL SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. 24 HOURS TEMPORARY TRAFFIC CONTROL OUTRIGS, LATEST REVISION, SHALL BE PROVIDED.
6. ALL OPERATIONS SHALL BE LIMITED TO 8:00 AM OF P.M. ON SUNDAYS AND HOLIDAYS. NO OPERATIONS SHALL BE PERMITTED PRIOR TO 7:00 AM OR AFTER 7:00 P.M. ON SUNDAYS AND HOLIDAYS. ALL OPERATIONS SHALL BE LIMITED TO 8:00 AM OF P.M. ON SUNDAYS AND HOLIDAYS. NO OPERATIONS SHALL BE PERMITTED PRIOR TO 7:00 AM OR AFTER 7:00 P.M. ON SUNDAYS AND HOLIDAYS. ALL OPERATIONS SHALL BE LIMITED TO 8:00 AM OF P.M. ON SUNDAYS AND HOLIDAYS. NO OPERATIONS SHALL BE PERMITTED PRIOR TO 7:00 AM OR AFTER 7:00 P.M. ON SUNDAYS AND HOLIDAYS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ALL AREAS WHICH ARE DISTURBED DURING CONSTRUCTION.



SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	OVERLAY FEATURES PLAN
3	EXISTING FEATURES PLAN
4	SITE PLAN
5	PLAN AND PROFILE
6	PLAN AND PROFILE
7	PLAN AND PROFILE
8	PLAN AND PROFILE
9	PLAN AND PROFILE
10	EROSION AND SEDIMENT CONTROL PLAN
11	EROSION AND SEDIMENT CONTROL PLAN
12	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
13	ADA RAMP LAYOUT PLAN
14	ADA RAMP LAYOUT PLAN
15	ADA RAMP A & B
16	ADA RAMP C D & E
17	ADA RAMP DETAILS
18	ALSO INCLUDED:
19	MPT PLAN

GILMORE & ASSOCIATES, INC.
 ENGINEERING & CONSULTING SERVICES
 1411 MARKET STREET, SUITE 300, THAYERS, PA 17382 • 717-634-8877 • www.gilmoreinc.com

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JOSEPH F. CARLIN
 LICENSE NO. 1007798
 PENNSYLVANIA
 DATE: 10/07/22

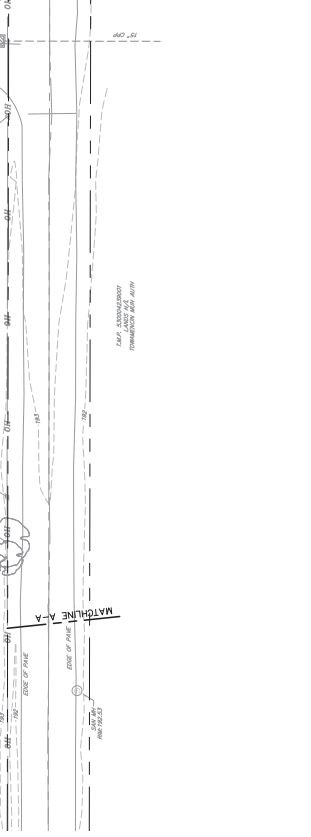
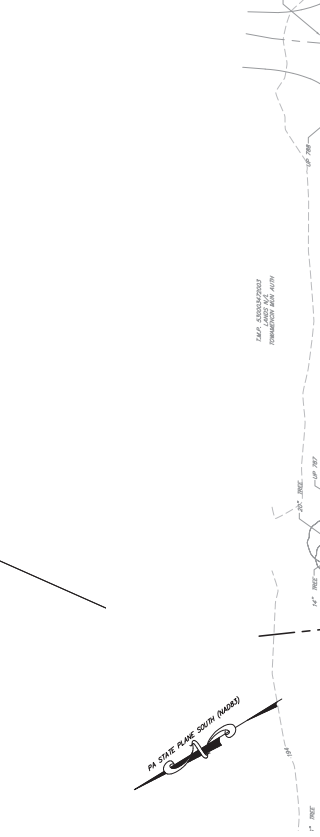
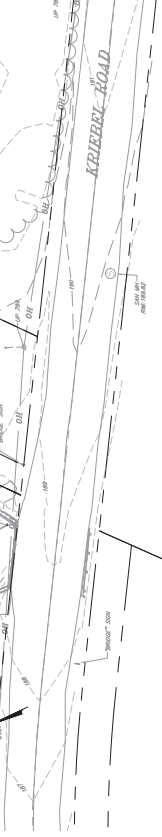
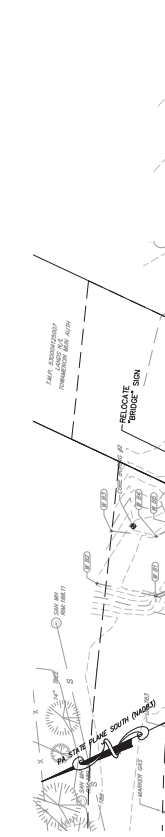
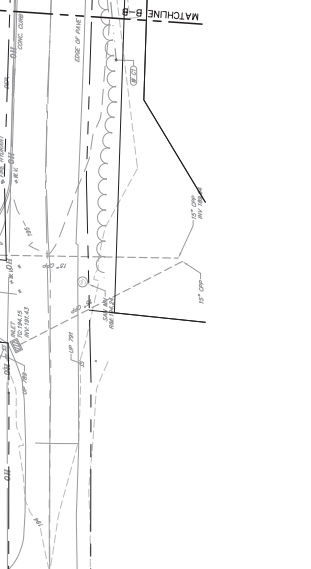
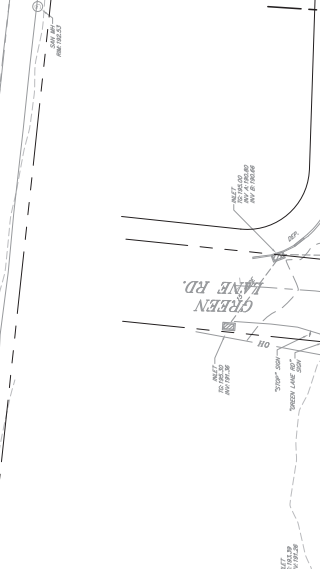
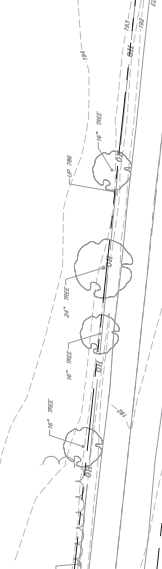
LAND DEVELOPMENT PLAN
KRIEBEL ROAD FISCHER PARK TRAIL
 TOMMACHON TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA
 SHEET - EXP

GILMORE & ASSOCIATES, INC.
 PROJECT NO.: 1906027
 OWNER: 303
 TOWNSHIP: TOMMACHON TOWNSHIP
 COUNTY: MONTGOMERY COUNTY, PA 19144
 ADDRESS: 215-387-7022

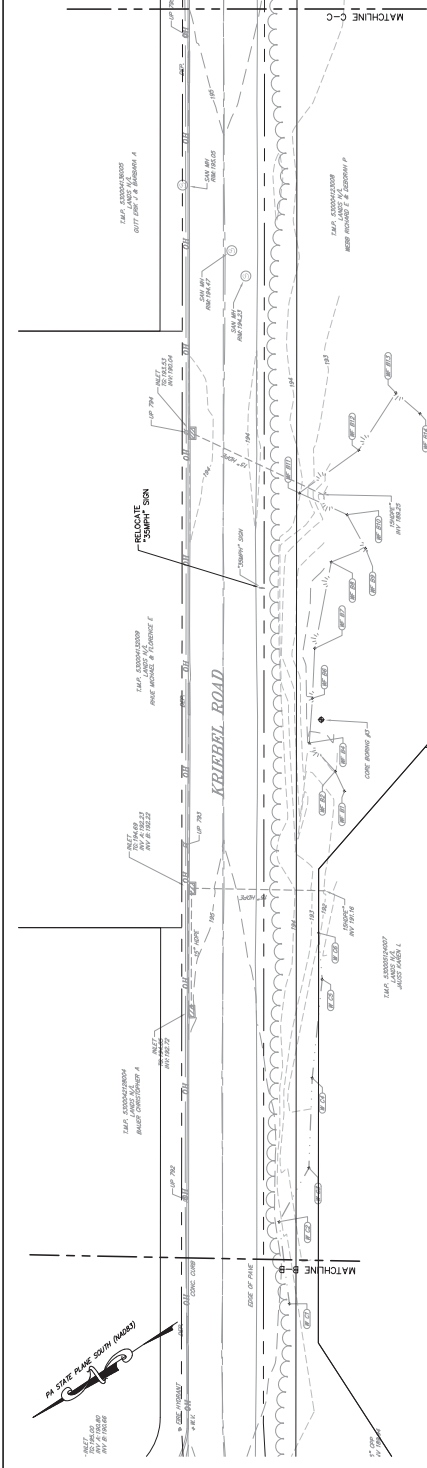
MUNICIPAL FILE NO.: 1906027
 TAX MAP PARCEL NO.: 1906027

TOTAL AREA: TOTAL LOT:
 DATE: 10/07/22 SCALE: 1"=25'
 DRAWN BY: GILMORE & ASSOCIATES, INC.
 SHEET NO.: 2 OF 17

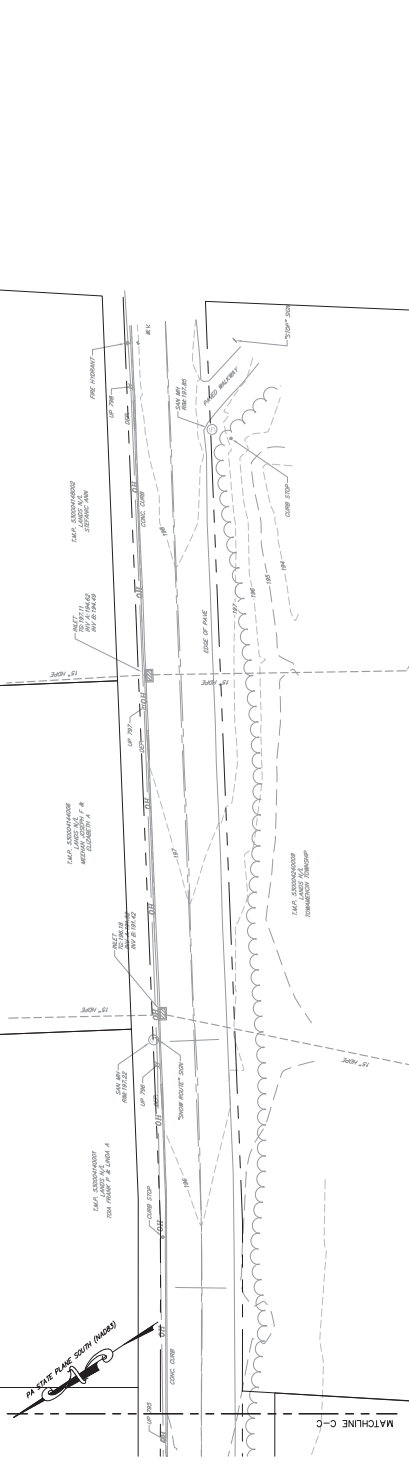
GENERAL SURVEY NOTES:
 1. THE PROPERTY LINES SHOWN ARE BASED ON MONTGOMERY COUNTY GEOLOGICAL SURVEY DATA. NO TITLE RESEARCH WAS PERFORMED IN CONNECTION WITH THIS SURVEY.
 2. THIS SURVEY IS BASED ON A FIELD SURVEY PERFORMED BY GILMORE & ASSOCIATES, INC. ON JUNE 15, 2021, AND THE SURVEY IS SUBJECT TO ANY CHANGES THAT MAY BE MADE WITHOUT THE BENEFIT OF A TITLE REPORT.
 3. SUBJECT TO COVENANTS, RESTRICTIONS AND/OR EASEMENTS OF RECORD.
 4. MEASUREMENTS WERE OBTAINED AND LOGGED BY GILMORE & ASSOCIATES, INC.
 5. VERTICAL DATUM IS NAVD83 AND WAS ESTABLISHED BY GLOBAL POSITIONING SYSTEM (GPS) WITH OBSERVATIONS REFERENCED TO THE KENNECOTT VERTICAL REFERENCE STATION SYSTEM.
 6. HORIZONTAL DATUMS BASED ON THE PENNSYLVANIA STATE PLANE COORDINATE SYSTEM (SPS) WITH OBSERVATIONS REFERENCED TO THE KENNECOTT VERTICAL REFERENCE STATION SYSTEM.
REFERENCES:
 1. TAX MAP FOR THE TOWNSHIP OF TOMMACHON, COUNTY OF MONTGOMERY, COMMONWEALTH OF PENNSYLVANIA.



LOCATION MAP
SCALE: 1" = 2000'
2000 00 2000 4000
SCALE IN FEET



EXISTING FEATURES PLAN
KRIEBEL ROAD FISCHER PARK TRAIL
TOMMICHON TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA
LAND DEVELOPMENT PLAN
DATE: 10/07/22



50
0 25
SCALE IN FEET
1" = 40'

GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

PROJECT NO.: 19040027
OWNER: 3110 KRIEBEL ROAD
TOWNSHIP: TOMMICHON TOWNSHIP
COUNTY: MONTGOMERY COUNTY, PA 19146
LANSCAPE, PA 19146
215-388-7602

MUNICIPAL FILE NO.: 19040027
TAX MAP PARCEL NO.: 19040027

TOTAL AREA:	TOTAL LOTS:
DATE: 10/07/22	SCALE: 1" = 25'
DRAWN BY: JPC	CHECKED BY: JPC
SHEET NO.: 3	OF 17

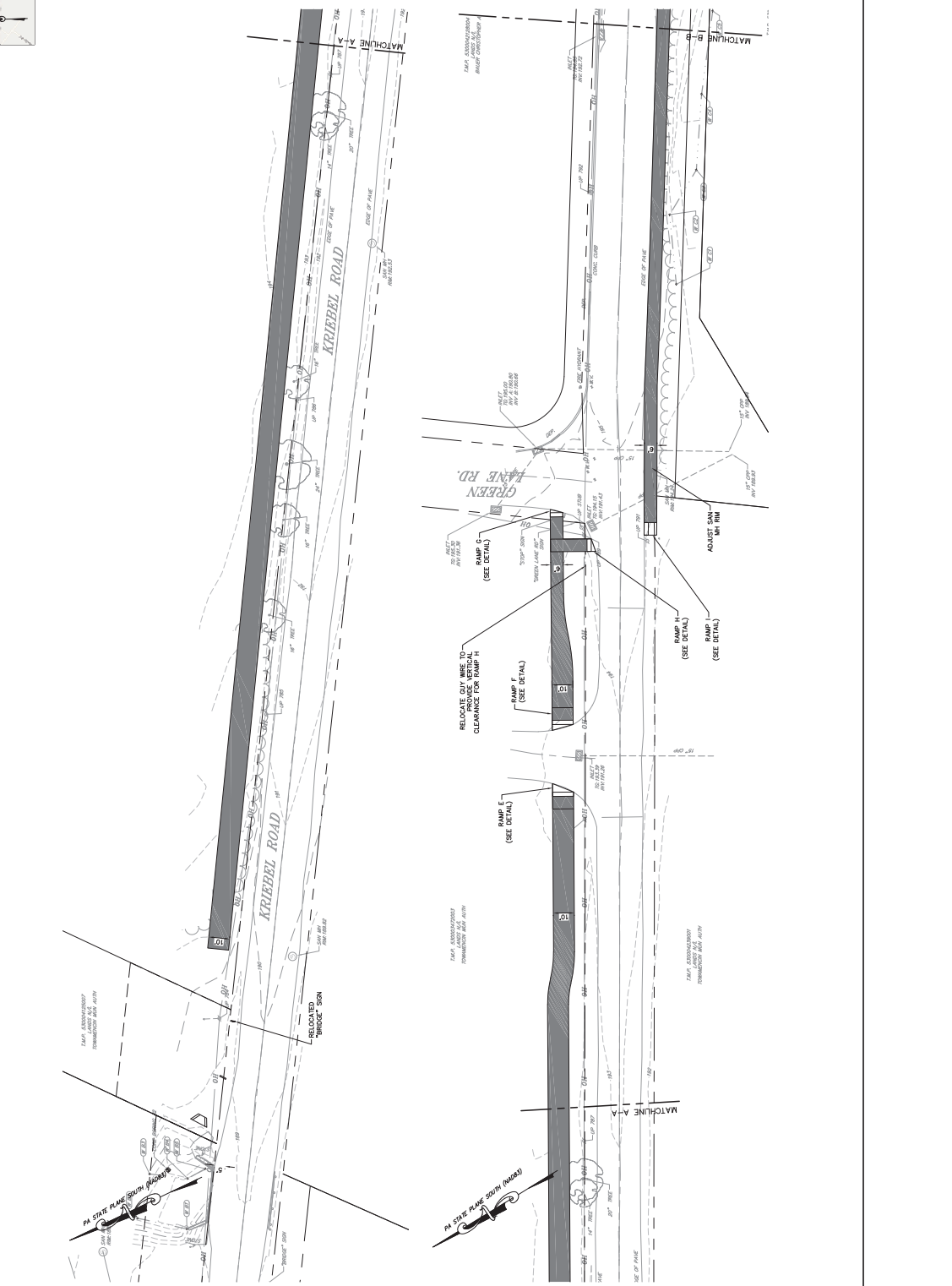
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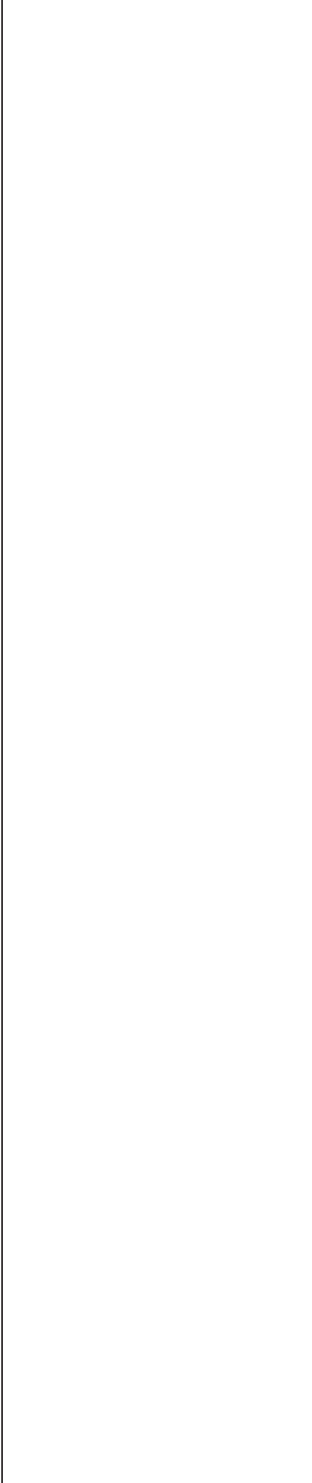
GENERAL SURVEY NOTES:
 1. THE PROPERTY LINES SHOWN ARE BASED ON MONTGOMERY COUNTY GIS DATA ONLY. NO TITLE RESEARCH WAS PERFORMED IN PREPARATION OF THIS PLAN.
 2. THIS SURVEY IS BASED ON A FIELD SURVEY PERFORMED BY GILMORE & ASSOCIATES, INC. ON JUNE 13, 2021, AND THE REFERENCED INFORMATION REPORT, WHICH IS ATTACHED TO THIS PROJECT AS PART OF THE REPORT.
 3. SUBJECT TO GOVERNMENT RESTRICTIONS AND/OR EASEMENTS EITHER SHOWN OR REFERENCED.
 4. "N" REFERENCE BEARS PLACED AND LOCATED BY GILMORE & ASSOCIATES.
 5. VERTICAL DATUM NAVORS AND WAS ESTABLISHED BY GLOBAL POSITIONING SYSTEM (GPS) WITH OBSERVATIONS REFERENCED TO THE PENNSYLVANIA VERTICAL REFERENCE STATION SYSTEM.
 6. HORIZONTAL DATUM IS BASED ON THE PENNSYLVANIA STATE PLANE SYSTEM (SPS) WITH OBSERVATIONS REFERENCED TO THE PENNSYLVANIA VERTICAL REFERENCE STATION SYSTEM.

REFERENCES:
 1. TAX MAP FOR THE TOWNSHIP OF MONTGOMERY COUNTY OF MONTGOMERY, COMMONWEALTH OF PENNSYLVANIA.

LEGEND:
 EX. MINOR CONTOUR
 EX. MAJOR CONTOUR
 EX. RIGHT OF WAY
 EX. PROPERTY CONTOUR
 EX. FENCE
 EX. FREELINE
 EX. STORM
 EX. SANITARY
 EX. SIDE OF ROAD
 PR. TRAIL



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GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

GENERAL SURVEY NOTES:

1. THE PROPERTY LINES SHOWN ARE BASED ON MONTGOMERY COUNTY GIS DATA ONLY. NO TITLE RESEARCH WAS PERFORMED IN PREPARATION OF THIS SURVEY.
2. THIS SURVEY IS BASED ON A FIELD SURVEY PERFORMED BY GILMORE & ASSOCIATES, INC. ON JUNE 10, 2021, AND THE REFERENCED INFORMATION HEREON. MODIFICATION, REVISION, REPLICATION OR USE WITHOUT THE CONSENT OF GILMORE & ASSOCIATES, INC. IS PROHIBITED.
3. SUBJECT TO GOVERNMENT, RESTRICTIONS AND/OR EASEMENTS (OTHER THAN EASEMENTS).
4. "X" MARKERS WERE PLACED AND LOCATED BY GILMORE & ASSOCIATES, INC.
5. VERTICAL DATUM NAVD83 WAS ESTABLISHED BY GLOBAL POSITIONING SYSTEM (GPS) WITH OBSERVATIONS REFERENCED TO THE KENNESAW VERTICAL REFERENCE STATION SYSTEM.
6. HORIZONTAL DATUM IS BASED ON THE PENNSYLVANIA STATE PLANE VERTICAL REFERENCE STATION SYSTEM.

REFERENCES:

1. TAX MAP FOR THE TOWNSHIP OF TOWNSHIP, COUNTY OF MONTGOMERY, COMMONWEALTH OF PENNSYLVANIA.

LEGEND:

- EX. MINOR CONTOUR
- EX. MAJOR CONTOUR
- EX. RIGHT OF WAY
- PR. CONTOUR
- EX. MAJOR CONTOUR
- EX. FENCE
- EX. FREELINE
- EX. STORM
- EX. SANITARY
- EX. ELECTRICAL
- EX. EDGE OF PAVEMENT
- PR. TRAIL

PROFESSIONAL SURVEYOR
J. JOSEPH F. CARLIN
DATE: 10/07/22

SCALE: 1" = 2000'
0' 1000' 2000' 4000' FEET

SCALE: 1" = 25'
0' 25' 50' FEET

SITE PLAN
LAND DEVELOPMENT PLAN
KRIEBEL ROAD FISCHER PARK TRAIL
TOWNSHIP OF TOWNSHIP, COUNTY OF MONTGOMERY, PENNSYLVANIA

G&A
GILMORE & ASSOCIATES, INC.
PROJECT No.: 19040027
OWNER: [REDACTED]
TOWNSHIP: TOWNSHIP
COUNTY: MONTGOMERY COUNTY, PA 19146
LANSCAPE: PA 19146
215-588-7602

REV.	DESCRIPTION	DATE	BY
5	OF 17		

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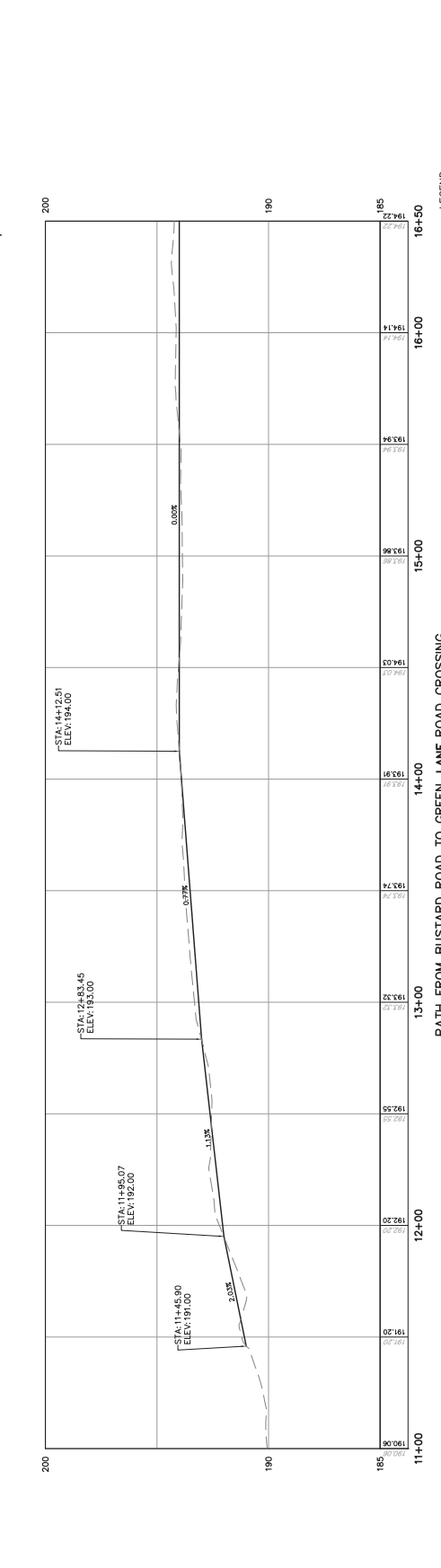
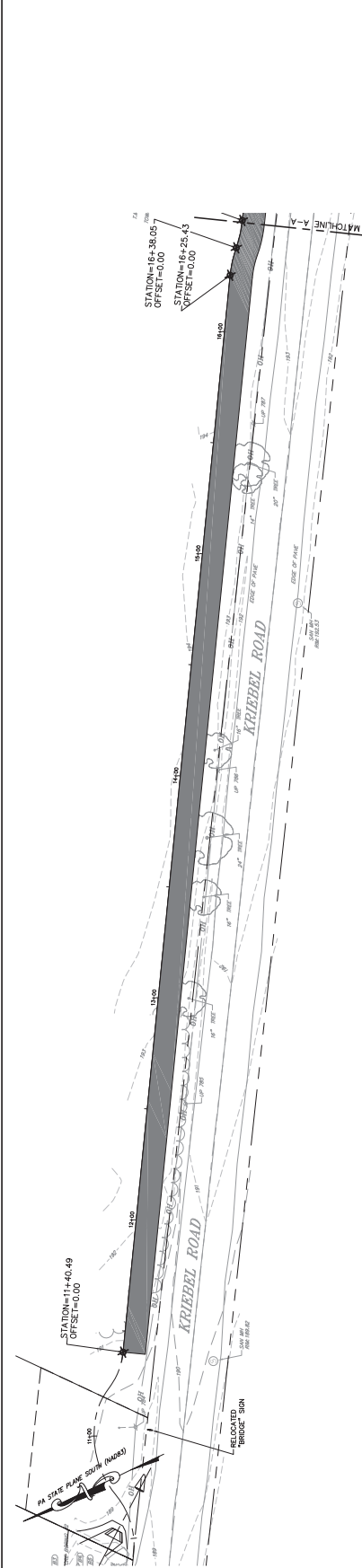
14111 14111 STREET, SUITE 300, THORNTON, PA 19062 • 781-386-7020
GILMORE & ASSOCIATES, INC.
 ENGINEERING & CONSULTING SERVICES



LAND DEVELOPMENT PLAN
 KRIEBEL ROAD FISCHER PARK TRAIL
 TOWNSHIP: MONTGOMERY COUNTY, PENNSYLVANIA
 PLAN AND PROFILE
 DATE: 10/07/22



PROJECT No: 19040027
 OWNER: 811
 TOWNSHIP: MONTGOMERY COUNTY, PENNSYLVANIA
 ADDRESS: 14111 STREET, SUITE 300, THORNTON, PA 19062
 PHONE: 781-386-7020
 MUNICIPAL FILE No.:
 TOTAL AREA: TOTAL LOT:
 DATE: 10/07/22
 SCALE: 1"=25'
 DRAWN BY: JFC
 CHECKED BY: JFC
 SHEET NO.: 6 OF 17



- LEGEND:
- EX. MINOR CONTOUR
 - EX. MAJOR CONTOUR
 - PR. MAJOR CONTOUR
 - EX. FENCE
 - EX. TREELINE
 - EX. DRIVEWAY
 - EX. OVERHEAD ELECTRIC
 - EX. EDGE OF PAVEMENT
 - PR. TRAIL

SCALE: HORIZ 1"=25'
 VERT 1"=2'

LOCATIONS OF EXISTING UNDERGROUND UTILITIES/FACILITIES MARKED BY UTILITY OWNERS, AND/OR ABOVE-GROUND UTILITIES, SHALL BE SHOWN AS PROVIDED BY THE FIELD SURVEYORS IN THE PREPARATION OF THESE DRAWINGS. WHERE ALL UTILITIES ARE NOT SHOWN, THE FIELD SURVEYORS SHALL BE RESPONSIBLE FOR THE LOCATION, DEPTH AND SIZE. OTHER POTENTIAL EXITS FOR OTHER UNDERGROUND UTILITIES/FACILITIES TO BE PRESENT WHICH ARE NOT SHOWN SHALL BE THE RESPONSIBILITY OF THE FIELD SURVEYORS. THE ACCURACY OF THE LOCATION AND DEPTH OF UNDERGROUND UTILITIES/FACILITIES AT THE TIME OF FIELD SURVEY IS NOT GUARANTEED BY GILMORE & ASSOCIATES, INC.

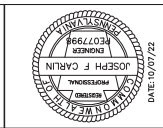
ALL CONTRACTORS WORKING ON THIS PROJECT SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES AND FACILITIES PRIOR TO START OF WORK AND SHALL COMPLY WITH THE REQUIREMENTS OF 25 PA CODE § 3121.101 AND 25 PA CODE § 3121.102 AS LAST AMENDED ON APRIL 22, 2018 PENNSYLVANIA ACT 50. GILMORE & ASSOCIATES, INC. HAS OBTAINED A PA-ONE CALL SIGNAL NUMBER AS NOTED HEREON FOR DESIGN PURPOSES ONLY. SERIAL NO. #####

PENNSYLVANIA ONE CALL SYSTEM, INC.
 811
 879 York Road
 York, PA 17403
 717-765-1111

PENNSYLVANIA ONE CALL SYSTEM, INC.
 NON-MEMBERS MUST BE CONTACTED DIRECTLY
 PRIOR TO ANY EXCAVATION WORK. CALL
 811 TO REGISTER BEFORE YOU DIG.
 SERIAL NO. #####

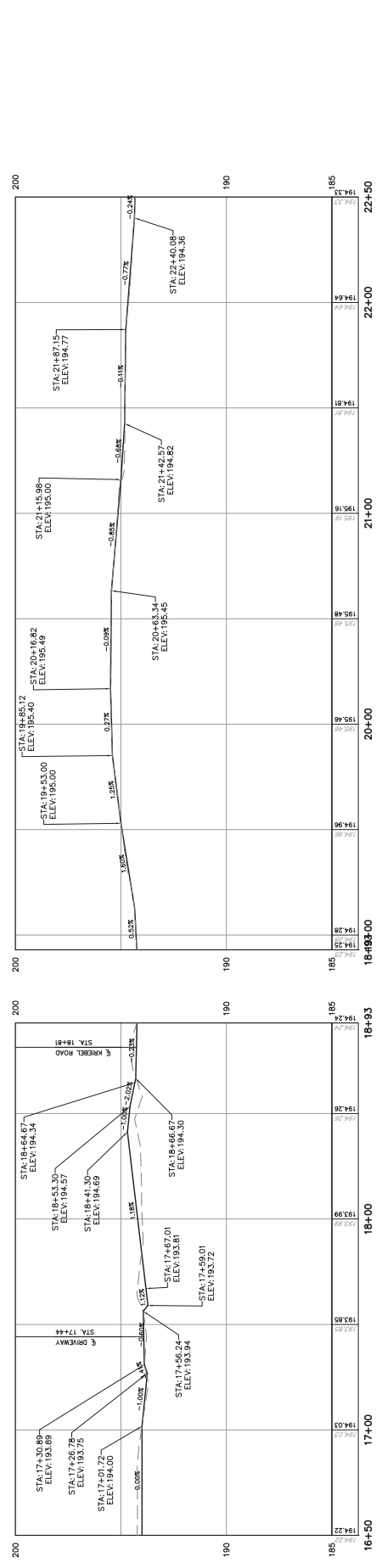
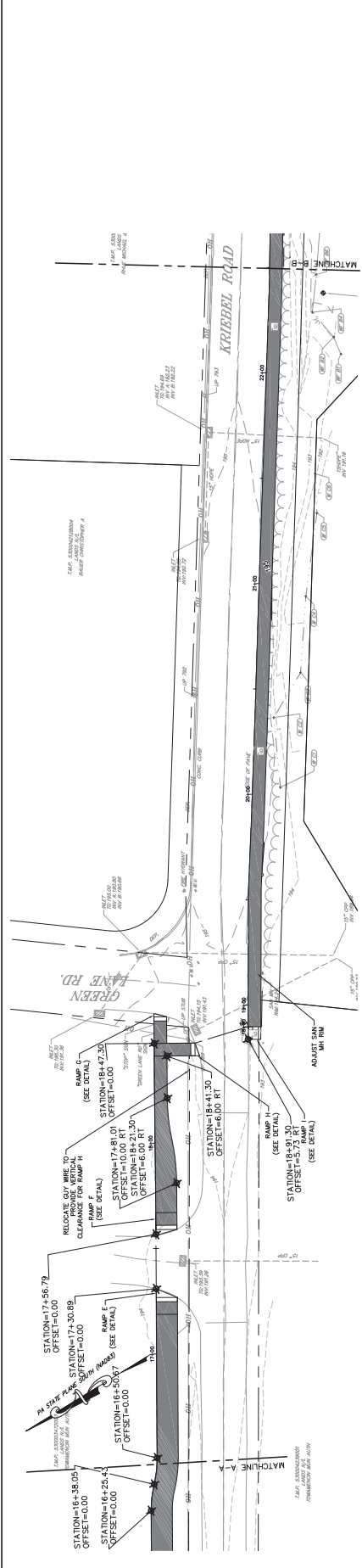
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GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES



DATE: 10/07/22
LAND DEVELOPMENT PLAN
KRIEBEL ROAD FISCHER PARK TRAIL
TOWNSHIP: MONTGOMERY COUNTY, PENNSYLVANIA
PLAN AND PROFILE

GILMORE & ASSOCIATES, INC.
PROJECT No.: 19040027
TOWNSHIP: MONTGOMERY COUNTY, PENNSYLVANIA
MUNICIPAL FILE No.: 215-38P-702
TOTAL AREA: TOTAL LOT: 7 OF 17
DATE: 10/07/22 SCALE: 1"=25'
DRAWN BY: JGC
CHECKED BY: JGC
SHEET NO.: 7 OF 17



REV.	DESCRIPTION	DATE	BY
7	OF 17		

LEGEND:
 EX. MINOR CONTOUR
 EX. MAJOR CONTOUR
 EX. RIGHT OF WAY
 PR. CONTOUR
 PR. MAJOR CONTOUR
 EX. FENCE
 EX. TIELINE
 EX. STORM
 EX. SANITARY
 EX. UTILITY
 EX. SIDE OF PAVEMENT
 PR. TRAIL

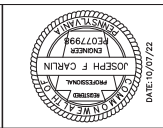
SCALE: 1"=25'
 0 25 50 FEET

EXISTING PATH TO CROSSING AT GREEN LANE ROAD
 STATION 18+43 TO 22+50
 SCALE: HORIZ 1"=25'
 VERT 1"=2'

PATH FROM BUSTARD ROAD TO GREEN LANE ROAD CROSSING
 STATION 16+50 TO 18+93
 SCALE: HORIZ 1"=25'
 VERT 1"=2'

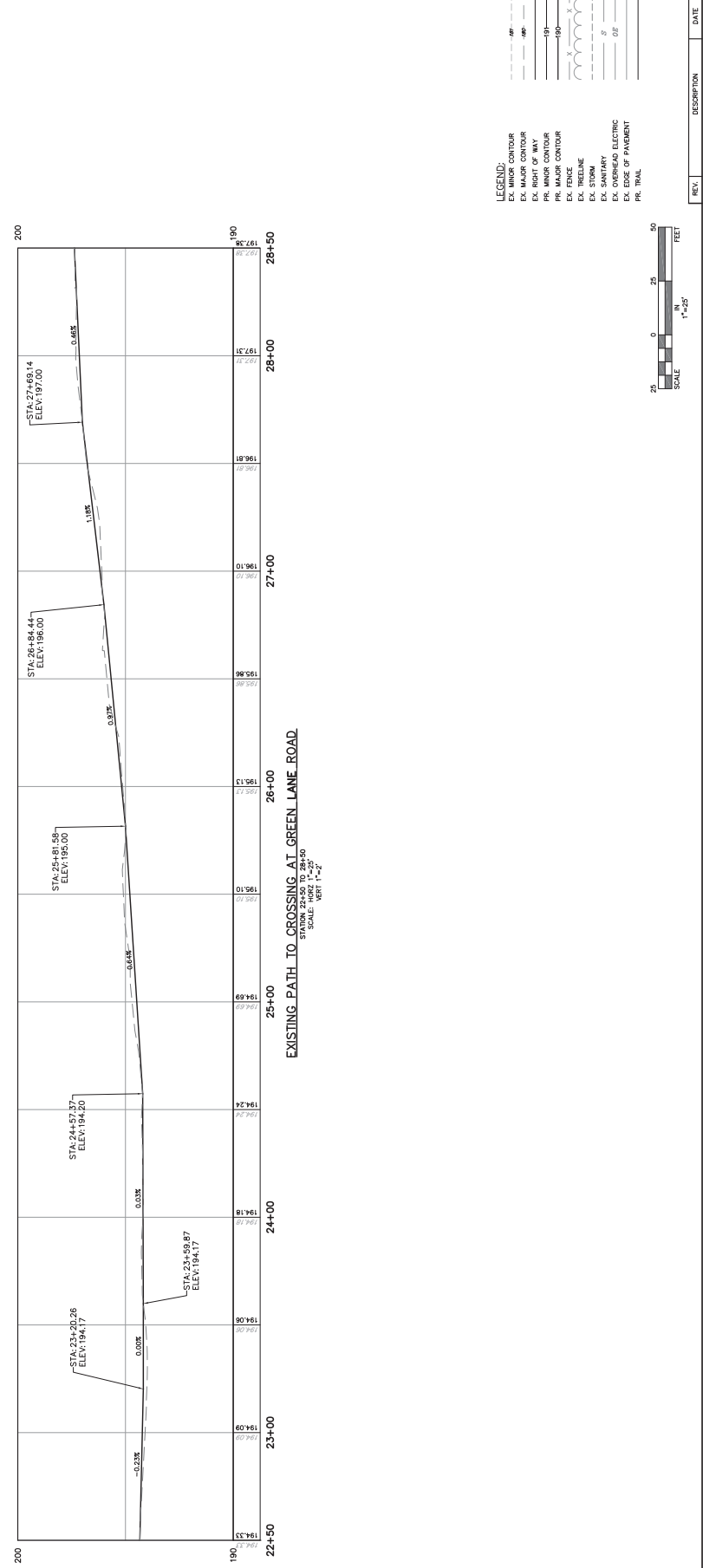
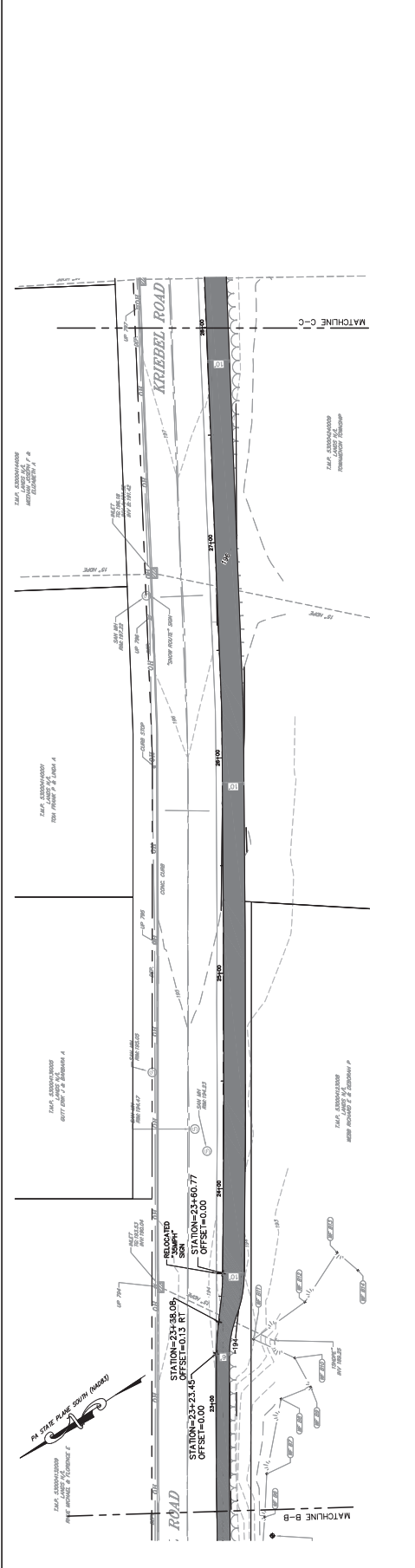
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GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

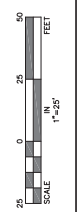


LAND DEVELOPMENT PLAN
KRIEBEL ROAD FISCHER PARK TRAIL
TOWNSHIP: MONTGOMERY COUNTY, PENNSYLVANIA
DATE: 10/07/22

G&A
GILMORE & ASSOCIATES, INC.
PROJECT No.: 1904027
OWNER: [REDACTED]
TOWNSHIP: MONTGOMERY COUNTY, PENNSYLVANIA
MUNICIPALITY: LANESDALE, PA 19446
MUNICIPAL FILE No.: 215-3817-002
TAX MAP PARCEL No.: [REDACTED]
TOTAL AREA: [REDACTED]
TOTAL LOTS: [REDACTED]
DATE: 10/07/22
SCALE: 1"=25'
DRAWN BY: [REDACTED]
CHECKED BY: [REDACTED]
SHEET NO.: 8 OF 17



- LEGEND:**
- EX. MINOR CONTOUR
 - EX. MAJOR CONTOUR
 - EX. RIGHT OF WAY
 - PR. MAJOR CONTOUR
 - EX. FENCE
 - EX. TIE LINE
 - EX. STORM
 - EX. SANITARY
 - EX. OVERHEAD ELECTRIC
 - EX. UNDERGROUND ELECTRIC
 - PR. TRAIL



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GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES



DATE: 10/07/22

LAND DEVELOPMENT PLAN

PLAN AND PROFILE

KRIEBEL ROAD FISCHER PARK TRAIL

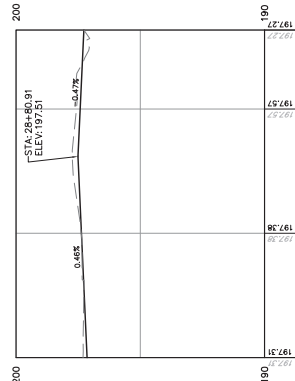
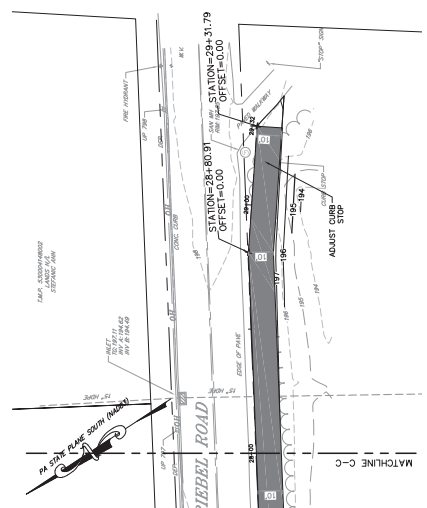
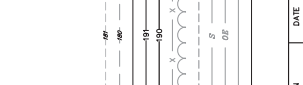
TOWNSHIP: MONTGOMERY COUNTY, PENNSYLVANIA

PROJECT No.: 190602Z

OWNER: 31150602Z
TOWNSHIP: MONTGOMERY COUNTY, PENNSYLVANIA
LOCALITY: LANSDALE, PA 19346
MUNICIPAL FILE No.: 215-387-702

TAX MAP PARCEL No.:
TOTAL AREA: TOTAL LOT:
DATE: 10/07/22 SCALE: 1"=25'
DRAWN BY: JGC
SHEET NO.: 9 OF 17

LEGEND:
--- EX. MAJOR CONTOUR
--- EX. MINOR CONTOUR
--- EX. RIGHT OF WAY
--- PR. MAJOR CONTOUR
--- PR. MINOR CONTOUR
--- EX. FENCE
--- EX. STORM
--- EX. SANITARY
--- EX. OVERHEAD ELECTRIC
--- EX. EDGE OF PAVEMENT
--- PR. ROAD



EXISTING PATH TO CROSSING AT GREEN LANE ROAD.
SCALE: HORIZ 1"=25' VERT 1"=2'

REV.	DESCRIPTION	DATE	BY

GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

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GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

DATE: 10/07/22

EROSION AND SEDIMENT CONTROL PLAN

LAND DEVELOPMENT PLAN

PROJECT NO.: 19040027

TOWNSHIP: MONTGOMERY COUNTY, PENNSYLVANIA

KRIEBEL ROAD FISCHER PARK TRAIL

DATE: 10/07/22

PROJECT NO.: 19040027

OWNER: GILMORE & ASSOCIATES, INC.

ADDRESS: 3000 W. BIRCH AVE., SUITE 100
LANESDALE, PA 19446
215-384-7022

MUNICIPAL FILE NO.: 19040027

TAX MAP PARCEL NO.: 19040027

TOTAL AREA: TOTAL LOT:

DATE: 10/07/22 SCALE: 1"=25'

DRAWN BY: JG/EC

CHECKED BY: JG/EC

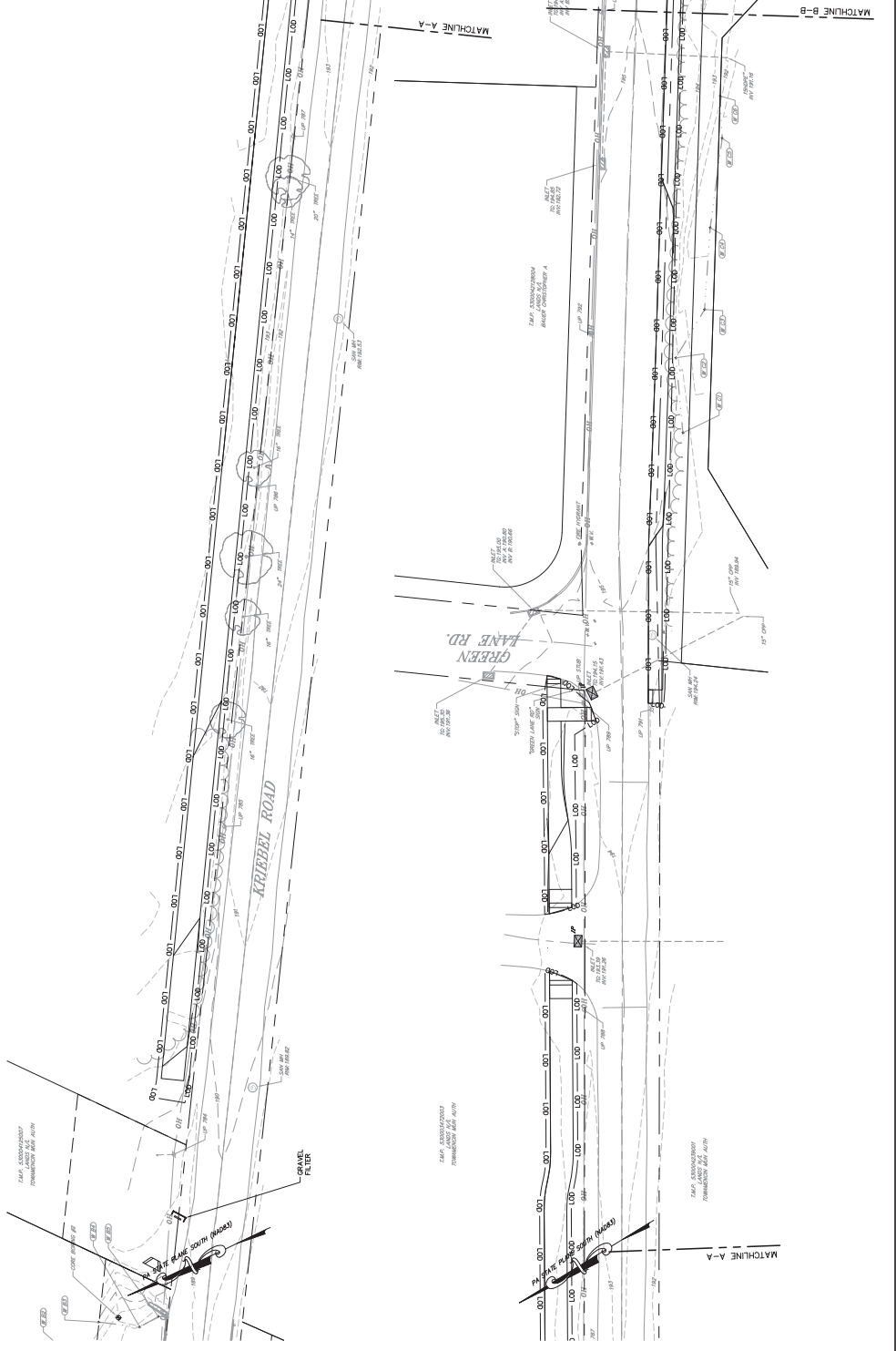
SHEET NO.: 10 OF 17

GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

DATE: 10/07/22

SCALE: 1"=2000'

LOCATION MAP



GILMORE & ASSOCIATES, INC.
 ENGINEERING & CONSULTING SERVICES

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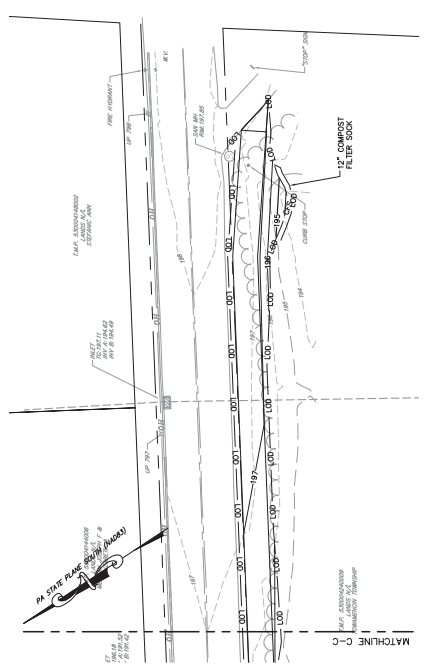
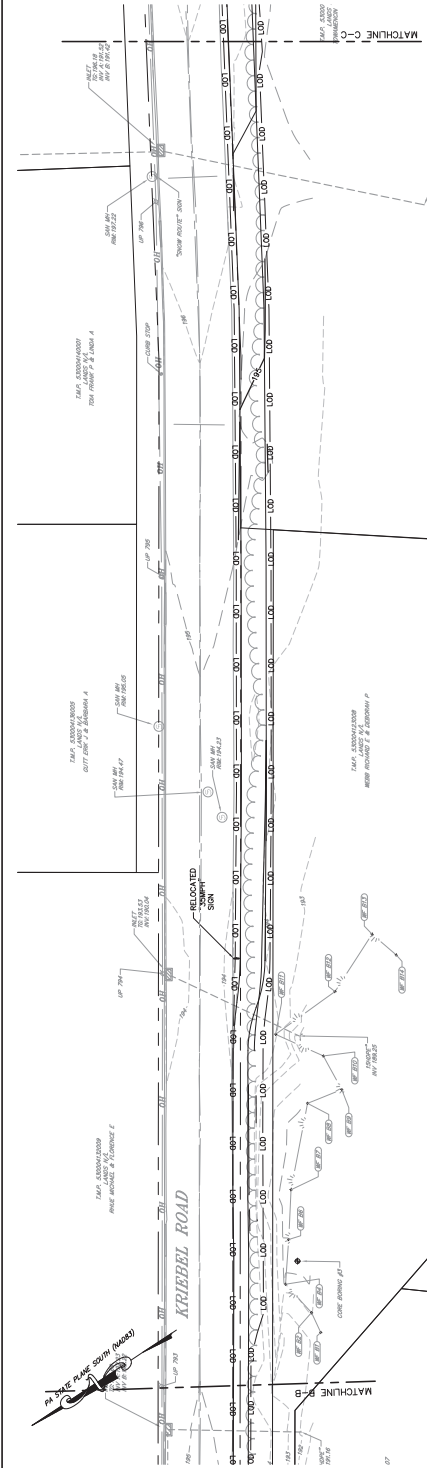
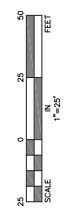
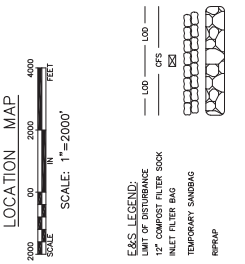


LAND DEVELOPMENT PLAN
KRIEBEL ROAD FISCHER PARK TRAIL
 TOWNSHIP: MONTGOMERY COUNTY, PENNSYLVANIA
 EROSION AND SEDIMENT CONTROL PLAN

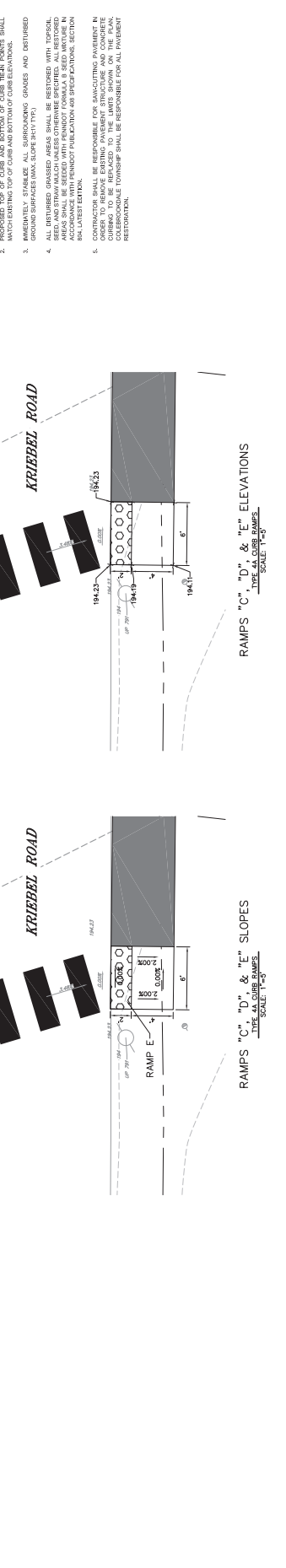
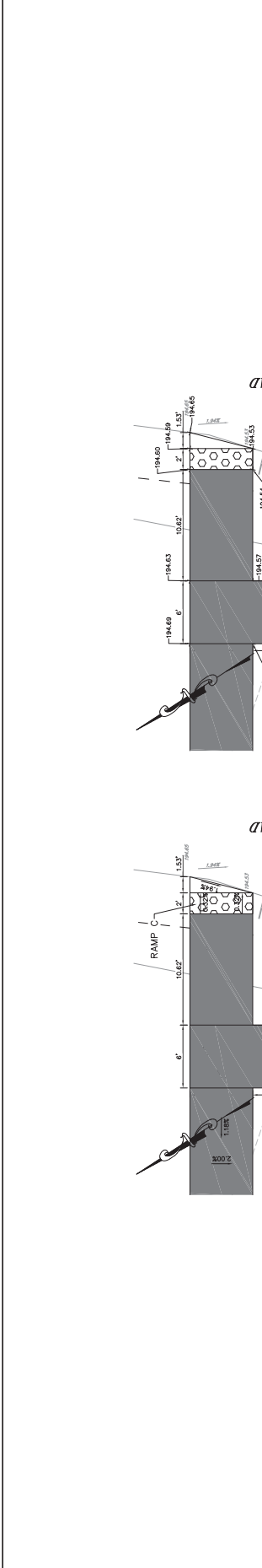
GILMORE & ASSOCIATES, INC.
 PROJECT No.: 19040027
 ADDRESS: 3100 W. STATE ST.
 TOWNSHIP: MONTGOMERY COUNTY, PENNSYLVANIA
 LANESDALE, PA 19346
 215-388-7602

MUNICIPAL FILE No.: 19040027
 TAX MAP PARCEL No.: 19040027

TOTAL AREA: TOTAL LOT: TOTAL LOTS:
 DATE: 10/27/22 SCALE: 1"=25'
 DRAWN BY: JGC/EF/EC
 SHEET NO.: 11 OF 17



REV.	DESCRIPTION	DATE	BY

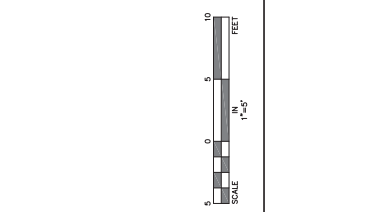


LEGEND

- LEVEL TURNING AREA (25' MAX)
- DETECTABLE WARNING SURFACE
- EXISTING SPOT ELEVATION
- PROPOSED SLOPE
- PROPOSED CURB/PATH
- EXISTING EDGE OF PAVEMENT
- EXISTING CONCRETE TO BE REMOVED
- W/24" 24 INCH WHITE LINE

NOTES:

- REMOVE EXISTING CONCRETE JUNCTION AND REPLACE WITH GRASS.
- IMMEDIATELY STAKE ALL SURROUNDING GRASSES AND DISTURBED AREAS. MATCH EXISTING TOP OF CURB AND BOTTOM OF CURB ELEVATIONS.
- ALL DISTURBED GRASSED AREAS SHALL BE RESTORED WITH TOPSOIL AND SEED. ALL DISTURBED GRASSED AREAS SHALL BE SEEDING WITH PENNDOT FORMULA B SEED MIXTURE IN ACCORDANCE WITH PENNDOT PUBLICATION 409 SPECIFICATIONS, SECTION 602.01.
- CONTRACTOR SHALL BE RESPONSIBLE FOR CALCULATING PAVEMENT IN ORDER TO REMOVE EXISTING PAVEMENT STRUCTURE AND CONCRETE CURB. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PAVEMENT RESTORATION.



REV.	DESCRIPTION	DATE	BY

MONTGOMERY COUNTY LAND USE CODES

0319	R	PREFERENTIAL ASSESSMENT		2101	R	RES VAC LAND UNDER 5000 SQ FT
0515	C	PREFERENTIAL ASSESSMENT		2102	R	RES VAC LAND 5000-10000 SQ FT
1000	R	MISCELLANEOUS		2103	R	RES VAC LAND 10001-20000 SQ FT
1001	R	HOUSE ONLY, NO LAND		2104	R	RES VAC LAND 20001-30000 SQ FT
1002	R	LAND ONLY, BLDG ASSESSED SEPARATELY		2105	R	RES VAC LAND 30001-40000 SQ FT
1003	R	OPEN SPACE/COMMON AREA		2106	R	RES VAC LAND 40001-60000 SQ FT
1004	R	COMMON ELEMENT/CONDO AMENITIES		2107	R	RES VAC LAND 60001-87120 SQ FT
1005	R	DETENTION BASIN		2108	R	RES VAC LAND 2.00- 4.99 ACRES
1006	R	SUBSIDIZED SINGLE FAMILY DETACHED		2109	R	RES VAC LAND 5.00- 9.99 ACRES
1101	R	SINGLE FAMILY		2110	R	RES VAC LAND 10.00-19.99 ACRES
1105	R	SINGLE DWELLING GARAGE APT		2111	R	RES VAC LAND 20.00-29.99 ACRES
1106	R	BOARDED-UP HOUSE		2112	R	RES VAC LAND 30.00-49.99 ACRES
1108	R	MORE THAN 1 HOUSE, DETACHED		2113	R	RES VAC LAND 50.00+ ACRES
1110	R	GARAGE ON LOT		2200	C	COM VAC LAND ASS'D IN OTHER MUNC
1111	R	POOL ON LOT		2201	C	COM VAC LAND UNDER 5000 SQ FT
1112	R	POLE BLDG, STABLE, BARN, ETC		2202	C	COM VAC LAND 5000-10000 SQ FT
1113	R	TENNIS COURT ON LOT		2203	C	COM VAC LAND 10001-20000 SQ FT
1116	R	HOUSE WITH IN-LAW SUITE		2204	C	COM VAC LAND 20001-30000 SQ FT
1132	R	DUPLEX		2205	C	COM VAC LAND 30001-40000 SQ FT
1134	R	TRIPLEX		2206	C	COM VAC LAND 40001-60000 SQ FT
1136	R	QUADRAPLEX		2207	C	COM VAC LAND 60001-87120 SQ FT
1140	C	RESIDENTIAL CONVERSION 5 OR MORE APT		2208	C	COM VAC LAND 2.00- 4.99 ACRES
1145	C	ROOMING HOUSE - TOURIST HOME		2209	C	COM VAC LAND 5.00- 9.99 ACRES
1160	C	RESIDENTIAL-COMMERCIAL NON-CONFORM		2210	C	COM VAC LAND 10.00-19.99 ACRES
1161	C	RESIDENTIAL/PROFESSIONAL		2211	C	COM VAC LAND 20.00-29.99 ACRES
1175	R	CONDOMINIUM-SINGLE DETACHED		2212	C	COM VAC LAND 30.00-49.99 ACRES
1180	R	RESIDENTIAL CONVERTIBLE REAL ESTATE		2213	C	COM VAC LAND 50.00+ ACRES
1188	R	CONDO TOWNHOUSE		2300	I	IND VAC LAND ASS'D IN OTHER MUNC
1189	R	CONDOMINIUM CLUSTER 2-5 UNITS		2301	I	IND VAC LAND UNDER 5000 SQ FT
1190	R	CONDOMINIUM - 2-4 UNITS		2302	I	IND VAC LAND 5000-10000 SQ FT
1200	R	CONDO GARAGE		2303	I	IND VAC LAND 10001-20000 SQ FT
1201	R	CONDO GARDEN STYLE-PRIVATE ENT. 1-3S		2304	I	IND VAC LAND 20001-30000 SQ FT
1202	R	CONDO GARDEN STYLE-COMMON ENT. 1-3S		2305	I	IND VAC LAND 30001-40000 SQ FT
1203	R	CONDOMINIUM MID RISE 4-6 STORIES		2306	I	IND VAC LAND 40001-60000 SQ FT
1204	R	CONDOMINIUM HIGH RISE 7 + STORIES		2307	I	IND VAC LAND 60001-87120 SQ FT
1220	R	MOBILE HOME - OWNER'S LOT		2308	I	IND VAC LAND 2.00- 4.99 ACRES
1221	R	MOBILE HOME - RENTED LOT - PARK		2309	I	IND VAC LAND 5.00- 9.99 ACRES
1222	R	MANUFACTURED HOME - RENTED LOT		2310	I	IND VAC LAND 10.00-19.99 ACRES
1270	R	SEASONAL DWELLING		2311	I	IND VAC LAND 20.00-29.99 ACRES
1282	R	MASTER PARCEL CONDO/COOP/PLANNED COM		2312	I	IND VAC LAND 30.00-49.99 ACRES
1901	E	EXEMPT DWELLING VETERANS		2313	I	IND VAC LAND 50.00+ ACRES
2000	R	NO ZONE VAC LAND ASS'D IN OTHER MUNC		2400	R	WOOD/REC/AGR ASS'D IN OTHER MUNC
2001	R	NO ZONE VAC LAND UNDER 5000 SQ FT		2401	R	WOOD/REC/AGR UNDER 5000 SQ FT
2002	R	NO ZONE VAC LAND 5000-10000 SQ FT		2402	R	WOOD/REC/AGR 5000-10000 SQ FT
2003	R	NO ZONE VAC LAND 10001-20000 SQ FT		2403	R	WOOD/REC/AGR 10001-20000 SQ FT
2004	R	NO ZONE VAC LAND 20001-30000 SQ FT		2404	R	WOOD/REC/AGR 20001-30000 SQ FT
2005	R	NO ZONE VAC LAND 30001-40000 SQ FT		2405	R	WOOD/REC/AGR 30001-40000 SQ FT
2006	R	NO ZONE VAC LAND 40001-60000		2406	R	WOOD/REC/AGR LAND 40001-59999 SQ FT
2007	R	NO ZONE VAC LAND 60001-87120		2407	R	WOOD/REC/AGR LAND 60001-87120 SQ FT
2008	R	NO ZONE VAC LAND 2.00-4.99 ACRES		2408	R	WOOD/REC/AGR LAND 2.00- 4.99 ACRES
2009	R	NO ZONE VAC LAND 5.00-9.99 ACRES		2409	R	WOOD/REC/AGR LAND 5.00- 9.99 ACRES
2010	R	NO ZONE VAC LAND 10.00-19.99 ACRES		2410	R	WOOD/REC/AGR LAND 10.00-19.99 ACRES
2011	R	NO ZONE VAC LAND 20.00-29.99 ACRES		2411	R	WOOD/REC/AGR LAND 20.00-29.99 ACRES
2012	R	NO ZONE VAC LAND 30.00-39.99 ACRES		2412	R	WOOD/REC/AGR LAND 30.00-49.99 ACRES
2013	R	NO ZONE VAC LAND 50.00+ ACRES		2413	R	WOOD/REC/AGR LAND 50.00+ ACRES
2100	R	RES VAC LAND ASS'D IN OTHER MUNC		2500	C	INST'L VAC ASS'D IN OTHER MUNC

MONTGOMERY COUNTY LAND USE CODES

2501	C	INST'L VAC LAND UNDER 5000 SQ FT		3347	I	IND-OLD MILL TYPE ABOVE 100000 S.F.
2502	C	INST'L VAC LAND 5000-10000 SQ FT		3348	I	INDUST CMLPX CONVERT TO MULTITENANT
2503	C	INST'L VAC LAND 10001-20000 SQ FT		3351	I	IND- COLD STORAGE PLANT
2504	C	INST'L VAC LAND 20001-30000 SQ FT		3352	I	IND-MEAT PACKING PLANT
2505	C	INST'L VAC LAND 30001-40000 SQ FT		3500	I	IND-INDUSTRIAL BLDG CONDO
2506	C	INST'L VAC LAND 40001-60000 SQ FT		3501	I	COMMON ELEMENT-INDUST. BLDG CONDO
2507	C	INST'L VAC LAND 60001-87120 SQ FT		3503	I	CONVERT REAL EST-INDUST BLDG CONDO
2508	C	INST'L VAC LAND 2.00- 4.99 ACRES		4000	C	MISC./VARIED COMMERCIAL
2509	C	INST'L VAC LAND 5.00- 9.99 ACRES		4001	C	BLDG ONLY/LAND ASSESSED SEPARATELY-C
2510	C	INST'L VAC LAND 10.00-19.99 ACRES		4002	C	LAND ONLY/BLDG ASSESSED SEPARATELY-C
2511	C	INST'L VAC LAND 20.00-29.99 ACRES		4100	C	RETAIL, OFFICE, APTS. - MULTI-USE
2512	C	INST'L VAC LAND 30.00-49.99 ACRES		4200	A	LOW-RISE 5-10 UNITS(1 BLDG) < 3-STRY
2513	C	INST'L VAC LAND 50.00+ ACRES		4201	A	LOW-RISE 11-30 UNITS(1 BLD) < 3 STRY
2600	C	ADMIN OFC LND ASSD IN OTHER MUNC		4202	A	LOW-RISE > 30 UNITS, < 3-STORY
2601	C	ADMIN'VE OFC LND UNDER 5000 SQ FT		4203	A	GARDEN (GROUP OF LOW RISE) < 50 UNIT
2602	C	ADMIN'VE OFC LND 5000-10000 SQ FT		4204	A	GARDEN(GROUP OF LOW RISE) > 51 UNITS
2603	C	ADMIN'VE OFC LND 10001-20000 SQ FT		4205	A	GARDEN(GROUP OF LOW RISE) > 101 UNIT
2604	C	ADMIN'VE OFC LND 20001-30000 SQ FT		4210	A	HIGH RISE > 4-STORY, < 50 UNITS W/EL
2605	C	ADMIN'VE OFC LND 30001-40000 SQ FT		4211	A	HIGH RISE > 4-STORY, > 50 UNITS W/EL
2606	C	ADMIN'VE OFC LND 50001-59999 SQ FT		4212	A	HIGH RISE > 4-STORY, > 100 UNIT W/EL
2607	C	ADMIN'VE OFC LAND 60001-87120 SQ FT		4213	A	TOWNHOUSES UP TO 25
2608	C	ADMIN'VE OFC LAND 2.00- 4.99 ACRES		4214	A	TOWNHOUSES 26 OR MORE
2609	C	ADMIN'VE OFC LAND 5.00- 9.99 ACRES		4216	A	SUBSIDIZED HOUSING
2610	C	ADMIN'VE OFC LAND 10.00-19.99 ACRES		4220	C	HOT/MOT UNDER 40 UNITS W/RESTAURANT
2611	C	ADMIN'VE OFC LAND 20.00-29.99 ACRES		4221	C	HOT/MOT 40-100 UNITS W/RESTAURANT
2612	C	ADMIN'VE OFC LAND 30.00-49.99 ACRES		4222	C	HOT/MOT 101+ UNITS W/RESTAURANT
2613	C	ADMIN'VE OFC LAND 50.00+ ACRES		4223	C	HOT/MOT UNDER 40 UNITS W/O RESTAURAN
2700	C	LANDFILL LAND ASSD IN OTHER MUNC		4224	C	HOT/MOT 40-100 UNITS W/O RESTAURANT
2701	C	LANDFILL VACANT LAND UNDER 5000 SQFT		4225	C	HOT/MOT 101+ UNITS W/OUT RESTAURANT
2702	C	LANDFILL VACANT LAND 5000-10000 SQFT		4226	C	HOT/MOT CABINS-SMALL MOTEL (MOM&POP)
2703	C	LANDFILL VACANT LAND 10001-20000 SF		4227	C	HOT/MOT BED & BREAKFAST
2704	C	LANDFILL VACANT LAND 20001-30000 SF		4230	C	DEPARTMENT STORE
2705	C	LANDFILL VACANT LAND 30001-40000 SF		4231	C	1-STORY STRIP STORE (NO MAJOR FOOD)
2706	C	LANDFILL VACANT LAND 40001-60000 SF		4232	C	2-STORY STRIP STORE W/OFF OR APT
2707	C	LANDFILL VACANT LAND 60001-87120 SF		4235	C	AIRPORT
2708	C	LANDFILL VAC LAND 5.00- 9.99 ACRES		4236	C	AUTOMOBILE GRAVEYARD
2709	C	LANDFILL VAC LAND 5.00- 9.99 ACRES		4237	C	AUTOMOBILE SHOWROOM
2710	C	LANDFILL VAC LAND 10.00-19.99 ACRES		4238	C	AUTO SERVICE CENTER - PEP BOYS, ETC.
2711	C	LANDFILL VAC LAND 20.00-29.99 ACRES		4239	C	BEVERAGE DISTRIBUTOR
2712	C	LANDFILL VAC LAND 30.00-49.99 ACRES		4240	C	BANK
2713	C	LANDFILL VAC LAND 50.00+ ACRES		4241	C	BAR OR TAPROOM
2800	R	REVERSE SUBDIVISION - NO LOT SIZE		4242	C	BOWLING ALLEY
2900	R	ASSESSED WITH		4244	C	BAR/HOTEL
3000	I	IND-ONE STORY MISC./VARIED		4245	C	CAR WASH
3320	I	IND-ONE STORY WHSE/MFG UP TO 15000 S		4246	C	COIN-OPERATED LAUNDROMAT
3321	I	IND-MUL STORY WHSE/MFG UP TO 15000 S		4248	C	CONVENIENCE STORE (7-11,WAWA)
3324	I	IND-MUL STORY WHSE/MFG 15-25000 S.F.		4249	C	CONTRACTOR'S FACILITIES
3325	I	IND-ONE STORY WHSE/MFG 15-25000 S.F.		4250	C	DAIRY STORE
3326	I	IND-MUL STORY WHSE/MFG 25-50000 S.F.		4251	C	DAY CAMP
3327	I	IND-ONE STORY WHSE/MFG 25-50000 S.F.		4252	C	DINER
3330	I	IND-ONE STORY WHSE/MFG 50-100000 S.F		4253	C	DISCOUNT DEPARTMENT STORES
3331	I	IND-MUL STORY WHSE/MFG 50-100000 S.F		4254	C	FARMER'S MARKET
3340	I	IND-ONE STORY WHSE MFG 100000+ S.F.		4255	C	FAST FOOD OPERATIONS
3341	I	IND-MUL STORY WHSE MFG 100000+ S.F.		4256	C	FUNERAL HOME
3345	I	IND- OLD MILL TYPE UP TO 50000 S.F.		4257	C	DAY CARE CENTER
3346	I	IND-OLD MILL TYPE 50000-100000 S.F.		4259	C	GAS STATION, MINI MARKET

MONTGOMERY COUNTY LAND USE CODES

4260	C	GAS STATION		4503	C	OFFICE- CONVERT R.E., BLDG CONDO
4261	C	GOLF COURSES		4545	C	MALL STORES
4262	C	GREENHOUSES, NURSERIES		4546	C	SHOPPING CENTER - NBHD(MAJOR FOOD)
4263	C	HEALTH SPA		4547	C	SHOPPING CENTER - COMMUNITY(FOOD +)
4264	C	HOME CENTER (CHANEL, ETC.)		4548	C	SHOPPING CENTER - REGIONAL (2 DEPT T
4265	C	LANDFILL		4550	C	EXHIBITION AND CONVENTION CENTER
4266	C	LUMBER YARDS		4800	C	LERTA
4267	C	MINI BANK		4850	C	TIF DISTRICT-TAX INCREMENT FINANCE
4271	C	MEDICAL-DENTAL CENTER		5000	C	TAXABLE MISCELLANOUS
4272	C	MULTI-TENANT MINI STORAGE FACILITY		5101	C	TAXABLE CHURCH
4275	C	PARKING LOTS		5102	C	TAXABLE CHURCH PARKING LOT
4276	C	PARKS, REC. FAC., POOLS (PRIVATE)		5104	C	TAXABLE CONVENTS, RETREAT HOUSES
4277	C	POST OFFICE		5105	R	TAXABLE PARSONAGES
4278	C	PARKING GARAGE		5106	C	TAXABLE OTHER RELIGIOUS ORGANIZATION
4279	C	QUARRY		5110	C	TAXABLE OTHER CHARITABLE ORG
4280	C	REPAIR SHOP OR GARAGES		5120	C	TAXABLE CEMETERIES (RELIGIOUS)
4281	C	RESTAURANT W/LIQUOR LICENSE		5125	C	TAXABLE CEMETERIES (PRIVATE)
4282	C	RESTAURANT WITHOUT LIQUOR LICENSE		5129	C	TAXABLE FIREHOUSES
4283	C	RETAIL AND SHOP		5130	C	TAXABLE HOSPITALS, MEDICAL FACILITY
4284	C	RETAIL SHOWROOM (FURNITURE, ETC)		5131	C	TAXABLE AMBULANCE FACILITY
4285	C	RETAIL STAND ALONE 8,000 SF + UNDER		5140	C	TAXABLE NURSING HOMES, SANATORIUMS
4286	C	RETAIL STAND ALONE ABOVE 8,000 SF		5145	C	TAXABLE RETIREMENT CENTERS & HOMES
4289	C	FUEL OIL DISTRIBUTION COMPANY		5150	C	TAXABLE SCHOOLS - PAROCHIAL,NURSERY
4290	C	SCRAP & JUNK YARDS		5152	C	TAXABLE SCHOOLS-PAROCHIAL,PRIMARY
4291	C	SKATING RINKS		5154	C	TAXABLE SCHOOLS-PAROCHIAL,SECONDARY
4292	C	STORAGE TANKS		5156	C	TAXABLE SCHOOLS-PAROCHIAL,HIGH
4293	C	SUPERMARKETS		5158	C	TAXBL SCHOOLS-PAROCHIAL COLLEGE,UNIV
4294	C	USED CAR DEALER		5166	C	TAXABLE SCHOOLS-PRIVATE NURSERY
4295	C	TENNIS AND/OR RACQUETBALL CLUBS		5168	C	TAXABLE SCHOOLS-PRIVATE PRIMARY
4296	C	THEATER (INDOOR)		5170	C	TAXABLE SCHOOLS-PRIVATE SECONDARY
4297	C	THEATER (OUTDOOR)		5172	C	TAXABLE SCHOOLS-PRIVATE HIGH SCH.
4298	C	WIRELESS TELECOMMUNICATION FACILITY		5174	C	TAXBL SCHOOLS-PVT COLLEGE UNIVER.
4299	C	TRUCK TERMINAL		5178	C	TAXABLE SCHOOLS-SPECIAL PURPOSE
4300	C	ANIMAL HOSPITAL/DOG KENNEL		5180	C	TAXBL CLUBS & FRATL ORGANIZATIONS
4304	C	TRASH TRANSFER STATION		5319	E	PREFERENTIAL ASMT EXEMPT 319
4305	C	PRIVATE SEWER PLANT		5515	E	PREFERENTIAL ASMT EXEMPT 515
4310	C	MOBILE HOME PARK- 1 TO 50 PADS		5800	E	PARTIAL EXEMPT MISCELLANOUS
4311	C	MOBILE HOME PARK- 51 TO 100 PADS		5801	E	PARTIAL EXEMPT CHURCH
4312	C	MOBILE HOME PARK 100+ PADS		5804	E	PART EXEMPT CONVENTS, RETREAT HOUSES
4320	C	OFFICE- 1 STORY UNDER 15000 S.F.		5805	E	PARTIAL EXEMPT PARSONAGES
4321	C	OFFICE- MUL STORY UNDER 15000 S.F.		5806	E	PARTL EXEMPT OTHER RELIGIOUS ORG
4325	C	OFFICE- 1 STORY 15000-50000 S.F.		5810	E	PARTIAL EXEMPT OTHER CHARITABLE ORG.
4326	C	OFFICE- MUL STORY 15000-50000 S.F.		5820	E	PARTL EXEMPT CEMETERIES (RELIGIOUS)
4330	C	OFFICE- 1 STORY 50000-100000 S.F.		5825	E	PARTIAL EXEMPT CEMETERIES (PRIVATE)
4331	C	OFFICE- MUL STORY 50000-100000 S.F.		5829	E	PARTIAL EXEMPT FIREHOUSES
4335	C	OFFICE- 1 STORY 100000+ S.F.		5830	E	PARTL EXEMPT HOSPITALS, MED FACIL.
4336	C	OFFICE- MUL STORY 100000+ S.F.		5831	E	PARTIAL EXEMPT AMBULANCE FACILITY
4340	C	OFFICE- 1 STORY RESEARCH AND ENGINEER		5840	E	PARTL EXEMPT NURS HOMES, SANATORIUS
4341	C	OFFICE- MUL STORY RESEARCH & ENGINEE		5845	E	PARTL EXEMPT RETIREMENT CTRS & HOME
4343	C	PHARMACEUTICAL FACILITY		5850	E	PARTL EXEMPT SCHLS-PAROCHIAL,NURSERY
4345	C	COMMERCIAL CONDO		5852	E	PARTL EXEMPT SCHLS-PAROCHIAL,PRIMARY
4346	C	COMMON ELEMENT - COMMERCIAL CONDO		5854	E	PARTL EXEMPT SCHLS-PAROCHIAL,SECONDY
4347	C	CONVERTIBLE REAL ESTATE - COMM CONDO		5856	E	PARTL EXEMPT SCHLS-PAROCHIAL,HIGH S.
4500	C	OFFICE- CONDO		5858	E	PARTL EXEMPT SCHLS-PAROCHIAL COLLEGE
4501	C	OFFICE- CONDO COMMON ELEMENT		5866	E	PARTL EXEMPT SCHOOLS-PRIVATE NURSERY
4502	C	OFFICE- FLEX BUILDINGS		5868	E	PARTL EXEMPT SCHOOLS-PRIVATE PRIMARY

MONTGOMERY COUNTY LAND USE CODES

5870	E	PARTL EXEMPT SCHLS-PRIVATE SECONDARY				
5872	E	PARTL EXEMPT SCHLS-PRIVATE HIGH SCH.				
5874	E	PARTL EXEMPT SCHLS-PRIV. COLL. UNIV.				
5876	E	PARTL EXEMPT SCHLS-PRIVATE VOCATIONL				
5878	E	PARTL EXEMPT SCHOOLS-SPECIAL PURPOSE				
5880	E	PARTL EXEMPT CLUBS, FRATERNAL ORG				
5900	E	EXEMPT MISCELLANOUS				
5901	E	EXEMPT CHURCH				
5902	E	EXEMPT CHURCH PARKING LOT				
5903	E	PARTL EXMPT CHRCH PKG LT				
5904	E	EXEMPT CONVENTS, RETREAT HOUSES				
5905	E	EXEMPT PARSONAGES				
5906	E	EXEMPT OTHER RELIGIOUS ORGANIZATION				
5910	E	EXEMPT OTHER CHARITABLE ORGANIZATION				
5916	E	EXEMPT SUBSIDIZED HOUSING				
5920	E	EXEMPT CEMTERIES (RELIGIOUS)				
5925	E	EXEMPT CEMETERIES (PRIVATE)				
5929	E	EXEMPT FIREHOUSES				
5930	E	EXEMPT HOSPITALS, MEDICAL FACILITIES				
5931	E	EXEMPT AMBULANCE FACILITY				
5940	E	EXEMPT NURSING HOMES, SANATORIUMS				
5945	E	EXEMPT RETIREMENT CENTERS & HOMES				
5950	E	EXEMPT SCHOOLS-PAROCHIAL, NURSERY				
5952	E	EXEMPT SCHOOLS-PAROCHIAL,PRIMARY				
5954	E	EXEMPT SCHOOLS-PROCHIAL,SECONDARY				
5956	E	EXEMPT SCHOOLS-PAROCHIAL,HIGH SCHOOL				
5958	E	EXEMPT SCHLS-PAROCHIAL COLLEGE, UNIV				
5966	E	EXEMPT SCHOOLS-PRIVATE NURSERY				
5968	E	EXEMPT SCHOOLS-PRIMARY				
5970	E	EXEMPT SCHOOLS-PRIVATE SECONDARY				
5972	E	EXEMPT SCHOOLS-PRIVATE HIGH SCHOOL				
5974	E	EXEMPT SCHOOLS-PRIVATE COLLEGE-UNIV.				
5976	E	EXEMPT SCHOOLS-PRIVATE VOCATIONAL				
5978	E	EXEMPT SCHOOLS-SPECIAL PURPOSE				
5980	E	EXEMPT CLUBS & FRATL ORGANIZATIONS				
8100	U	OTHER UTILITY PROPERTY- TAXABLE				
8200	U	ELECTRIC GENERATION PLANT-TAXABLE				
8900	U	EXEMPT PUBLIC UTILITY				
8910	U	GOVERNMENTAL AUTHORITIES- EXEMPT				
8966	U	UTILITY REALTY - PURTA				
8980	U	GOVERNMENTAL AUTHORITIES- TAXABLE				
9910	E	EXEMPT- FEDERAL GOVERNMENT				
9920	E	EXEMPT - STATE GOVERNMENT				
9930	E	EXEMPT - COUNTY GOVERNMENT				
9940	E	EXEMPT - LOCAL MUNICIPALITY				
9950	E	EXEMPT - BD OF ED, PRIMARY				
9960	E	EXEMPT - BD OF ED, SECONDARY				
9970	E	EXEMPT - BD OF ED, HIGH SCHOOL				
9980	E	EXEMPT - BD OF ED, UNIVERSITY				
9990	E	EXEMPT - BD OF ED, VOCATIONAL				

Towamencin Township Park, Recreation, and Open Space Preservation Plan Update

Adopted: September 27, 2006

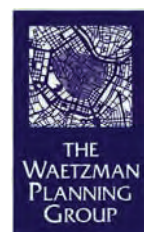


**ADOPTED BY TOWAMENCIN TOWNSHIP
BOARD OF SUPERVISORS
BY RESOLUTION #06-51**

Prepared with the assistance of:
THE WAETZMAN PLANNING GROUP
1230 COUNTY LINE ROAD
BRYN MAWR, PENNSYLVANIA 19010

and

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1101 South Broad Street
Suite 200, PO Box 1545
Lansdale, Pennsylvania 19446



Towamencin Township Park, Recreation, and Open Space Preservation Plan Update

Adopted: September 27, 2006

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**ADOPTED BY TOWAMENCIN TOWNSHIP BOARD OF SUPERVISORS
BY RESOLUTION #06-51**

The preparation of the report was made possible by
a grant from Montgomery County's *Green Fields/Green Towns* Program

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Table of Contents

<i>List of Maps</i>	<i>iv</i>
<i>List of Tables</i>	<i>iv</i>
<i>List of Charts</i>	<i>iv</i>
CHAPTER 1. INTRODUCTION	1
GREEN FIELDS/GREEN TOWNS	2
AUDIT OF THE 1995 PLAN.....	3
CHAPTER 2. COMMUNITY BACKGROUND	4
REGIONAL SETTING	4
EXISTING LAND USE.....	5
DEMOGRAPHICS, HOUSING, AND EMPLOYMENT	7
<i>Population Growth</i>	7
<i>Education</i>	8
<i>Age Structure</i>	8
<i>Age Comparison to Surrounding Municipalities</i>	8
<i>Household Income</i>	9
<i>Household Types</i>	10
<i>Household Size Comparison to Surrounding Municipalities</i>	10
<i>Special Needs Groups</i>	10
<i>Civilian Non Institutionalized Population</i>	11
<i>Housing Information</i>	11
<i>Employment</i>	12
<i>Demographic Implications</i>	12
EXISTING PLANS AND ORDINANCES	13
<i>Comprehensive Plan</i>	13
<i>Township-Wide Trail Master Plan</i>	14
<i>Zoning Ordinance of Towamencin Township</i>	15
<i>Subdivision and Land Development Ordinance</i>	18
CHAPTER 3. GOALS AND OBJECTIVES	20
CHAPTER 4. PROTECTED AND POTENTIALLY VULNERABLE LANDS	23
PERMANENTLY AND TEMPORARILY PROTECTED LANDS	23
POTENTIALLY VULNERABLE RESOURCES	26
<i>Natural Features – Geology and Soils</i>	27
<i>Topography, Hydrology, Vegetation, and Wildlife</i>	27
<i>Scenic, Historic, and Cultural Resources</i>	29
POTENTIAL OPEN SPACE LINKAGES	31
CHAPTER 5. ANALYSIS OF UNPROTECTED RESOURCES	32
GROWTH AREA CALCULATIONS – BUILD OUT ANALYSIS	33
EVALUATION OF OPEN SPACE NEEDS.....	35
CHAPTER 6. COMPARISON TO ABUTTING PLANS	37
<i>Montgomery County</i>	37
<i>Lower Salford</i>	39
<i>Skipack</i>	40
<i>Upper Gwynedd</i>	41
<i>Worcester</i>	41
<i>Hatfield</i>	43
<i>Lansdale Borough</i>	44
CHAPTER 7. MUNICIPAL TRAIL AND PATHWAY DEVELOPMENT – OPTIONAL ELEMENT	46
CHAPTER 8. RECOMMENDATIONS	50
SHORT-TERM RECOMMENDATIONS (2005-2008).....	50
LONG-TERM RECOMMENDATIONS (BEYOND 2008).....	52
POLICIES AND METHODS FOR PROTECTING OPEN SPACES	55
CHAPTER 9. ACTION PLAN	61
ACTION PLAN CHART	62
CHAPTER 10. APPENDICES	69



APPENDIX A: MEETING MINUTES69

APPENDIX B: AUDIT NOTES.....99

APPENDIX C: ADOPTION RESOLUTIONS.....107

Towamencin Township.....108

Montgomery County Open Space Board.....109

APPENDIX D: OTHER FUNDING SOURCES110

Federal.....110

Commonwealth of Pennsylvania.....110

Regional.....113

Private.....114

APPENDIX E: MONTGOMERY COUNTY TRAIL GUIDELINES.....117

List of Maps

Map 1: Existing Land Use.....6

Map 2: Existing Open Space.....25

Map 3: Environmental Features.....28

Map 4: Significant Historical or Cultural Sites30

Map 5: Build Out Analysis34

Map 6: Trail Plan.....49

Map 7: Open Space Plan54

List of Tables

Table 1: Grants Since 1995 for Open Space Projects.....1

Table 2: Existing Land Use as a Percentage of Total Area5

Table 3: Population Totals and Change 1980-2000.....7

Table 4: Population Projections.....7

Table 5: Level of Education8

Table 6: Median Age of Surrounding Municipalities9

Table 7: Household Types10

Table 8: Average Household Size.....10

Table 9: Special Needs Groups11

Table 10: Non Institutionalized Population11

Table 11: Units per Structure.....11

Table 12: Towamencin Largest Employers12

Table 13: Forecasted Employment Change, 2000 through 2030.....12

Table 14: Park Area Requirements18

Table 15: County Identification of Protected Lands.....24

Table 16: Historic Sites in Towamencin Township with a brief description29

Table 17: Temporarily Protected Land in Towamencin Township32

Table 18: Population and Job Growth.....33

Table 19: Existing Open Space Area.....35

Table 20: Linear feet of Trail, proposed and installed46

List of Charts

Chart 1: Age Structure.....8

Chart 2: Household Income.....9

Chart 3: Open Space Needs Assessment36

Chapter 1. Introduction

Towamencin Township has abundant natural resources, recreational areas, and public and private parks and open lands; however these open space amenities are threatened by growth pressures on the Township. As residential, commercial, office and industrial development expands, landscape changes will result, and the visual quality of the Township will shift to a predominately suburban character. Approximately 19,000 people live in Towamencin Township at present. Population forecasts indicate that the Township can expect a population of 21,000 by the year 2030. Jobs are projected to increase by 74% by 2030. At the same time that land is being developed for residential and commercial uses, the demand for recreational areas, facilities and programs will grow due to increased population and changes in preferences. Strategically located sites capable of serving local recreational needs must be preserved to meet the Township's demand for recreational areas, facilities and programs.

In 1993, Montgomery County created what is now considered Phase 1 of their Open Space Program to help municipalities, such as Towamencin, preserve their open spaces. Under Phase 1, Towamencin received a planning grant for which they created the *Park, Recreation & Open Space Preservation Plan* (1995). The Township received additional funds under Phase 1 to help implement their plan (see Table 1: Grants Since 1995 for Open Space Projects); this table also documents grants from other sources received for open space projects.

Table 1: Grants Since 1995 for Open Space Projects

Project	Acres	Year	Source	Amount
Township Tree Farm (Ellis Tract)	6.92	1998	County	\$117,900
Rittenhouse Property (Municipal Complex)	15.26	1996	County	\$270,000
Arneth Property (Fischer's Park Addition)	22.98	1996	County	\$247,500
Reiff Road Properties	4.42	1999	County	\$142,200
Tree Planting (Bustard Road)		1996	County	\$11,474
Tree Planting (Park Trees)		1999	County	\$21,330
Tree Planting (Park Trees)		2000	County	\$6,994
			County Subtotal	\$817,398
Tree Planting (Tree Farm)		2001	America the Beautiful	\$1,500
Grading Permits & Playing Field Design (Bustard Park/Green Lane, Grist Mill Park)		2004	DCED	\$15,000
Fischer's Park Tot Lot and Parking Lot		2002	DCNR	\$98,000
Fischer's Park Trails		2001	Growing Greener	\$99,968
Pool Construction		2001	HUD	\$898,020
			Other Grants Subtotal	\$1,112,488
Total All Grants				\$1,929,886

Green Fields/Green Towns

Phase Two of Montgomery County's open space program is now underway and Towamencin must update their 1995 Plan to participate and receive Montgomery County funding. The *Green Fields/Green Towns* program has three major funding components (in addition to the planning grants) as described by the Montgomery County Planning Commission:

Phase two of the Montgomery County open space program began when the Montgomery County Commissioners officially adopted the new *Green Fields/Green Towns* program on December 18, 2003. The ten-year \$150 million program was approved by voter referendum in November 2003. The *Green Fields/Green Towns* program is made up of three basic components: municipal grants (\$67 million), private organization grants (\$8 million), and county open space expenditures (\$75 million).

Municipal Grants

All Montgomery County municipalities are eligible to apply for open space grants. The first round (the first four years of the program ending April 2008) will provide guaranteed allocation grant funds for each municipality. The second round of the program will provide the remaining grant funds to municipalities on a competitive basis. Municipalities will need to update their existing open space plans. Once this done, they can turn their attention to the open space projects listed in the new plans. In addition to land acquisition, municipalities may direct funds toward heritage resource conservation, green infrastructure, farmland preservation, floodplain restoration, community trails that connect to the County's trail network, and implementation of the Schuylkill River Greenway.

Private Organization Grants

Private organizations experienced in land preservation and heritage conservation will be eligible for open space grant funds. Applicants may use open space funds toward the acquisition and easement of properties and buildings, given natural resource or heritage value. Projects involving buildings must be accompanied by a strategic plan for fundraising and restoration or adaptive reuse. Open space grant funds may not be used to restore structures.

County Open Space Projects

Over the next ten years, the County will pursue five major open space goals aimed at creating a connected open space network. These include the development and preservation of trails and greenways; land acquisition and easement of lands that expand, protect, and enhance county parks, historic sites, and natural areas; capital improvement and planning for parks and historic sites; continuation and expansion

for the farmland preservation program; and implementation of the Schuylkill River Greenway.

This update to the 1995 Plan provides current demographic and land use data for Towamencin, sets goals, and makes recommendations. The development trends documented in 1995 have continued and resulted in increased residential lands and fewer farms. The goals in this update reflect the physical changes in the Township and also emphasize cooperation with other municipal governments. Towamencin has also elected to take advantage of the *municipal trail and pathway development* optional plan element offered by the County to prioritize certain open space preservation efforts.

Audit of the 1995 Plan

An audit of the 1995 *Park, Recreation, and Open Space Plan* was conducted by Township Staff and the Open Space Planning Committee to determine how effective the Plan's goals and objectives were and which goals and objectives require additional planning. On the whole, the 1995 was very successful. Seven properties were either donated or acquired for preservation totaling over 90 acres (See Map 2: Existing Open Space). A number of farms began participation in the State Agricultural Security Area program. The Township also made several changes to their zoning and land development ordinances that help to preserve open space, such as allowing clustered development. Additionally, several recreation plans were conducted including park master plans and a township-wide trails plan.

A few elements of the 1995 Plan need additional attention. While the Township adopted a clustering ordinance, the minimal tract size is 100 acres, which leaves very few possible sites. Additional zoning tools such as performance zoning were recommended but not carried forward. The full audit of the 1995 Plan with the goals and objectives is attached as Appendix B.

Chapter 2. Community Background

Regional Setting

(The following section is reproduced from the 1995 Park, Recreation, and Open Space Preservation Plan)

Towamencin Township is located in the west-central portion of the North Penn Area of Montgomery County. In addition to Towamencin Township, the municipalities that comprise the North Penn area are: Franconia Township, Hatfield Borough, Hatfield Township, Lansdale Borough, Lower Salford Township, Montgomery Township, North Wales Borough, Souderton Borough, Telford Borough and Upper Gwynedd Township. Adjacent municipalities include: Franconia Township, Hatfield Township, Lansdale Borough, Lower Salford Township, Skippack Township, Upper Gwynedd Township and Worcester Township.

Several of these communities have recreation facilities which provide recreation opportunities for Towamencin Township residents. Evansburg State Park, a portion of which is located in Towamencin Township, also includes some acreage in Worcester Township and the bulk of its acreage is located in Skippack Township. The Philadelphia Variety Club Camp for handicapped children and adults, the Peter Wentz Farmstead County Park and the Center Square Golf Club are located in Worcester Township but provide recreational opportunities to Towamencin Township residents. Mainland Golf Course which contains an eighteen-hole golf course is located in both Lower Salford and Towamencin Townships. Another eighteen-hole golf course is located at the Indian Valley Country Club in Franconia Township. Additional swimming pool facilities are located at the Nor-Gwyn Pool in Upper Gwynedd. A public library, the North Penn Boys Club, the North Penn YMCA, and two pools are located in Lansdale, but provide recreation opportunities to Towamencin Township residents. Senior Adult Activity Centers are located in Lansdale and Lower Salford Township and provide programming and resources for recreation for older adults living in the North Penn Community.

Existing Land Use

It appears that the Township is nearing its full build out with only 3.46% of the land classified “undeveloped.” However, it should be noted that agricultural uses (with 15.44%) are the second highest land use percentage, and are predominantly found near Evansburg State Park, in the southwestern part of the Township. Nearly half the land area of the Township is residential (47.63%), with the strong majority of all residential uses being single family detached homes, spread throughout the Township. Overall, 11.25% of the land area is open space, either public or private; while most of the open space is part of Evansburg State Park, Township parks/open space and homeowners’ association lands are also included. Higher Density Residential homes are principally located in the center of the Township, and industrial uses are concentrated in the northwest corner of the Township. Kulpsville Village is characterized by a mix of uses. The following chart details the exact acreage for each land use, and that land uses’ percent of the total Township Area; and Map 1: Existing Land Use graphically represents all land uses.

Table 2: Existing Land Use as a Percentage of Total Area

EXISTING LAND USE	GROSS ACRES	% OF TOTAL ACRES
OTHER RESIDENTIAL (1)	862.26	12.34%
SINGLE FAMILY DETACHED (2)	2,465.20	35.29%
MIXED USE	43.19	0.62%
RETAIL	112.56	1.61%
OFFICE	40.67	0.58%
INDUSTRIAL	334.38	4.79%
INSTITUTIONAL	592.13	8.48%
UTILITIES	397.41	5.69%
UNDEVELOPED	241.82	3.46%
PUBLIC OPEN SPACE	679.41	9.73%
PRIVATE OPEN SPACE	105.85	1.52%
AGRICULTURE	1,078.36	15.44%
WATER	32.80	0.47%
TOTAL	6,986.04	100.00%

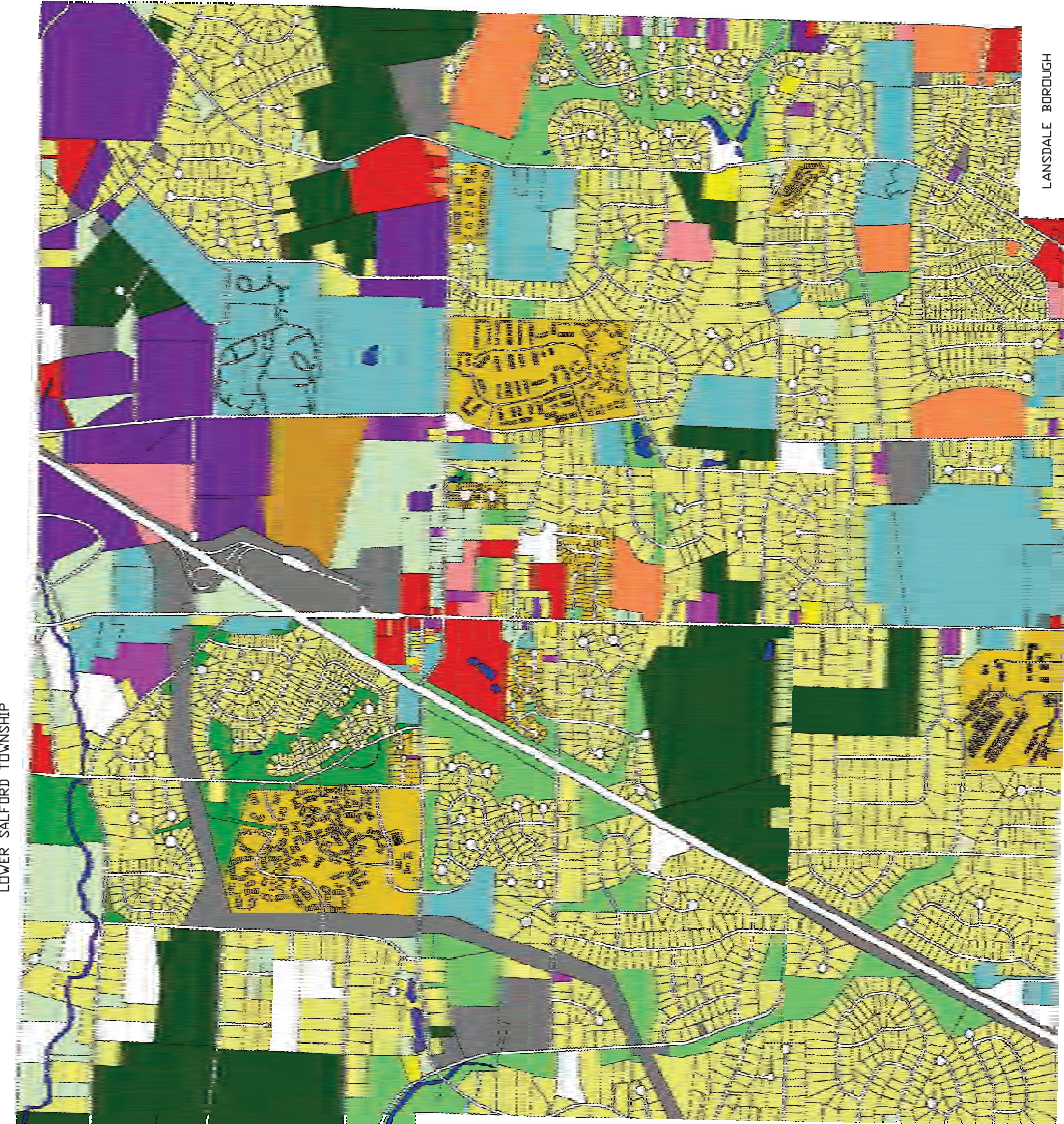
NOTES: 1) Includes Multi-Family, Single Family Attached, Twin / Duplex and Mobile Home Park.
 2) Includes Single Family Detached and Country Residence

HATFIELD TOWNSHIP

LANSDALE BOROUG

UPPER GWYNEDD TOWNSHIP

LOWER SALFORD TOWNSHIP



WORCESTER TOWNSHIP



TOWAMENCIN TOWNSHIP
 MONTGOMERY COUNTY
 PENNSYLVANIA

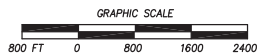
- LEGEND
- MULTI-FAMILY
 - SINGLE FAMILY-ATTACHED
 - TWIN / DUPLEX
 - MOBILE HOME PARK
 - SINGLE FAMILY-DETACHED
 - COUNTRY RESIDENCE
 - MIXED USE
 - RETAIL
 - OFFICE
 - INDUSTRIAL
 - INSTITUTIONAL
 - UTILITIES
 - UNDEVELOPED
 - PUBLIC OPEN SPACE
 - PRIVATE OPEN SPACE
 - AGRICULTURE
 - WATER

MAP 1
 EXISTING LAND USE

NOVEMBER 2005



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Demographics, Housing, and Employment

The following section describes the demographic characteristics of Towamencin Township. Most of the data is derived from the 2000 U.S. Census. Information is provided regarding population growth, education, age structure, income, household type/size, special needs groups, and employment.

Population Growth

Towamencin experienced a 27.5% increase in population from 1980 to 1990, while Montgomery County only experienced a 5.4% increase during the same time period. From 1990 to 2000, Towamencin continued to grow at a fast pace, increasing its population by another 24.2%. From 1990 to 2000, Montgomery County grew by 10.6%.

Table 3: Population Totals and Change 1980-2000

	1980	1990	2000	Change 1980-90	Change 1990-00
Towamencin	11,112	14,167	17,597	27.5%	24.2%
Montgomery County	643,371	678,111	750,097	5.4%	10.6%

Sources: US Census, www.census.gov, 1995 Park, Recreation, & Open Space Preservation Plan

According to the 2000 Census, the total population for Towamencin Township was 17,597. The average household size in 2000 was 2.55.

The population of Towamencin Township is projected to increase by approximately 24% from 2000 to 2025, with a growth rate of 3-5% every five years. The population for Montgomery County is projected to increase by approximately 3% every 5 years through 2020.

Table 4: Population Projections

	2000	2005	2010	Forecasts		
	Census			2015	2020	2025
Towamencin	17,597	18,510	19,400	20,190	20,980	21,740
Montgomery County	750,097	776,340	797,990	818,210	838,700	857,030

Source: DVRPC, Table 3: Forecasted Population Change, Revised 2002 (www.dvrpc.org/data/databull/rdb/db73.htm)

Education

Of the population aged 25 or older, 92% were high school graduates and 43.1% had a bachelor’s degree or higher.

Table 5: Level of Education

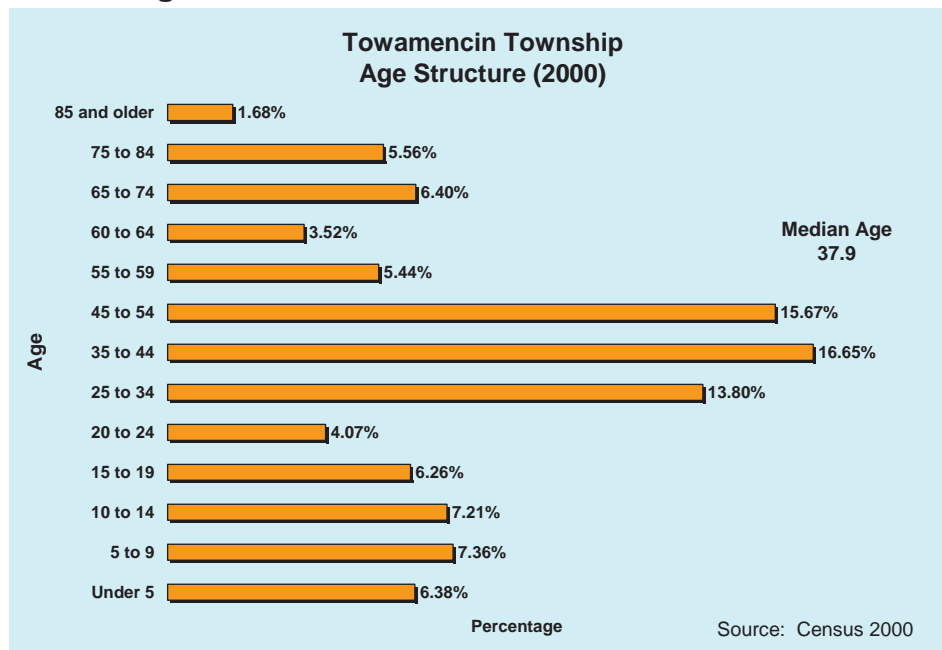
	Number	Percent
Population 25 years or older	12,085	100.0%
High School graduate or higher	11,106	92.0%
Bachelor’s degree or higher	5,203	43.1%

Source: US Census 2000

Age Structure

The median age of a Towamencin resident in 2000 was 37.9. Approximately 27% of the population was aged 19 or younger and 23% of the population was aged 55 or older. The majority of the population (50%) was between 20 and 54.

Chart 1: Age Structure



Age Comparison to Surrounding Municipalities

The following graph shows the median age of Towamencin Township in comparison to the surrounding townships of: Franconia, Hatfield, Lansdale, Lower Salford, Skippack, Upper Gwynedd, and Worcester; as well as for Montgomery County. The median age

for Towamencin Township (37.9) is about the average median age for the surrounding municipalities illustrated in Table 6 below.

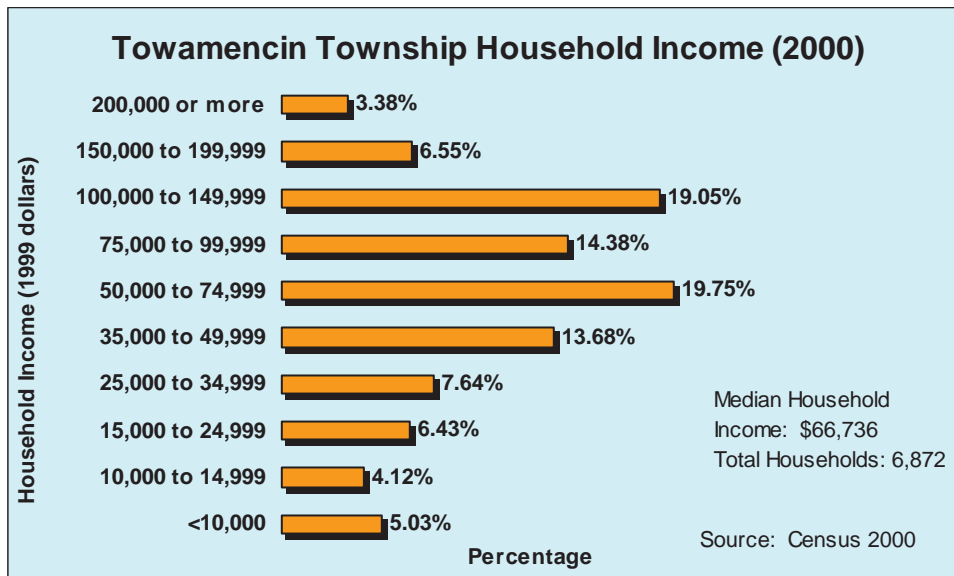
Table 6: Median Age of Surrounding Municipalities

	Median Age
Franconia	39.5
Hatfield	36.6
Lansdale	37.0
Lower Salford	34.6
Skippack	36.0
Towamencin	37.9
Upper Gwynedd	39.9
Worcester	39.9
Montgomery County	38.2

Household Income

The median household income in Towamencin in 2000 was \$66,736, about 10% higher than the \$60,829 median household income for Montgomery County.

Chart 2: Household Income



Household Types

Towamencin is a family-oriented community. Of the 6,872 households living there, 70% of them are family households. 49% of families have children under the age of 18.

Table 7: Household Types

	Number	Percent
Family Households	4,807	70.0%
Non-family Households	2,065	30.0%
Householder living alone	1,764	26.0%
Households with individuals <18	2,437	35.0%
Households with individuals 65 or older	1,742	25.0%
Total Households	6,872	100.0%
Average household Size		2.55
Average family size		3.11

Source: US Census, 2000

Household Size Comparison to Surrounding Municipalities

Towamencin has the lowest average household size of the surrounding municipalities, but almost the same as the average household size for the county. The average household size for Towamencin in 2000 was 2.55, somewhat less than the 1990 figure of 2.71; this is consistent with regional and national trends.

Table 8: Average Household Size

	Average Household Size
Franconia	2.70
Hatfield	2.63
Lansdale	2.36
Lower Salford	2.89
Skippack	2.73
Towamencin	2.55
Upper Gwynedd	2.63
Worcester	2.69
Montgomery County	2.54

Special Needs Groups

Special needs groups live within Towamencin and should be noted. Of the 13,152 civilian population aged 18 or older, 1,528 or 11.6% of them are civilian veterans. Of the 17,597 total population, 2,400 or 13.6% of them are senior citizens and 503 or 2.9% of them live in poverty.

Table 9: Special Needs Groups

	Number	Percent
Civilian population 18 or older	13,152	100.0%
Civilian veterans	1,528	11.6%
Total Population	17,597	100.0%
Seniors 65 years and older	2,400	13.6%
Individuals below poverty line	503	2.9%

Source: US Census, 2000

Civilian Non Institutionalized Population

Some of the people residing in Towamencin live with a disability and this should be noted and taken into consideration when planning for future recreational needs. Of the population aged 5-20, 4.6% of them have a disability. 12.8% of the population aged 21-64 live with a disability. Almost a third of the population aged 65 and older (32.1%) lives with a disability.

Table 10: Non Institutionalized Population

	Number	Percent
Population Age 5-20	3,699	100.0%
With a Disability	171	4.6%
Population Age 21-64	10,331	100.0%
With a Disability	1,320	12.8%
Population Age 65 and older	2,264	100.0%
With a Disability	727	32.1%

Housing Information

The majority of homes in Towamencin Township are single family detached (50.3%). 20.3% of the homes are single family attached.

Table 11: Units per Structure

	Number	Percent
1-unit, detached	3,538	50.3%
1-unit, attached	1,431	20.3%
2 units	97	1.4%
3 or 4 units	290	4.1%
5 to 9 units	477	6.8%
10 to 19 units	391	5.6%
20 or more units	698	9.9%
Mobile homes	116	1.6%
Total housing units	7,038	100.0%

Source: Census 2000 www.census.gov

Employment

The largest eight employers in the Township provide 2,442 jobs representing roughly 48% of Towamencin’s total employment.

Table 12: Towamencin Largest Employers

North Penn School District	595
Green Tweed	570
Dock Woods Community	370
Accupac Acquisitions	230
SKF USA Inc.	225
MArttech Medical	260
Clemens Markets	112
Roy Lomas Carpets	80
Total	2,442

Montgomery County’s employment is forecasted to increase 21.2% by 2030 while Towamencin’s is forecasted to increase 73.8%. It is assumed that one of the reasons for such a high forecast is the anticipated development and redevelopment of properties in the Kulpsville Village area.

Table 13: Forecasted Employment Change, 2000 through 2030

	2000	2005	2010	2015	2020	2025	2030
Montgomery County	492,677	504,009	531,225	547,162	563,029	579,920	597,300
Towamencin	5,466	5,948	6,664	7,291	7,964	8,702	9,500

Source: Delaware Valley Regional Planning Commission

Demographic Implications

Reviewing Towamencin’s demographic information reveals several trends which have important implications for recreation and open space planning.

Like many of the surrounding communities in Montgomery County, Towamencin is a community with a large proportion of families. The average household size is relatively high, confirming the presence of children (the Township’s average family size is 3.11). This being the case, there should be a continued focus on providing sufficient active recreational opportunities such as sports fields or courts, playground equipment, and large multi-purpose open space areas.

Towamencin also has a prevalence of senior citizens. As population ages in place, this segment of the population has the potential to increase significantly. Consideration should be given to recreation and open space that is appropriate for an older population. While many seniors enjoy more passive recreational opportunities such as

walking trails, bird-watching, and passive open spaces, others enjoy active recreation as well.

Previously, Towamencin has demonstrated a balanced approach to recreation and open space planning. There are many factors beyond age that contribute to someone's recreational and open space preference, so by maintaining a balance of active and passive opportunities, the preferences of most of the citizens should be met. Based on the demographic profile of the township and projections, it is appropriate to continue this approach.

Existing Plans and Ordinances

Comprehensive Plan

In the most general sense, Towamencin Township's Comprehensive Plan, adopted in 1988, had as "Major Objectives" the preservation and enhancement of major environmental features and open space within the Township and for the provision of a coordinated system of needed municipal parklands and recreation areas. Again, speaking in generalities, the plan detailed approximately 488 acres of open space/recreation facilities in the study area for the Township. (It should be noted that this total does not detail the specific acreage for Evansburg State Park or Fischer's Pool within Towamencin Township).

Specifically, the Natural Features Plan within the Comprehensive Plan calls for the protection of critical environmental features through the following methods (this list is not every method outlined within the Comprehensive Plan; the list only contains those items which are pertinent to this Open Space Plan):

- Steep Slopes
 - Keep natural vegetation intact
 - Preserve areas with a slope greater than 25%
 - Require larger lots in steep slope areas
- Floodplains
 - A prohibition on all building in the floodplains
 - Permanent preservation as public or private open space
 - Avoiding the disturbance of natural vegetation with any paved surfaces
- Groundwater
 - Determine the maximum area of pervious surfaces so that maximum groundwater recharge can occur
- High Water Table Soils
 - Preserve all wetlands as open Space

- Wooded Areas
 - Remove diseased and dead trees from Township-owned Open Space and replant trees as needed
- Natural Drainage Channels
 - Preserve adequate width along channels. Keep lands open within fifteen feet of banks of natural drainage channels and small drainage-ways.
- Creeks
 - Require building and paving setbacks from creek and intermittent stream banks (twenty five foot minimum)

The Land Use Plan within the Comprehensive Plan does not specifically detail the parcels, if any are proposed for Open Space Preservation. However, the document does detail various options in place within the Township's Zoning Ordinance for Open Space to be set aside as part of the development process.

The Community Facilities Plan details the Township's plans for park and pathway development. The Plan shows two proposed parks; the first in the northwest portion of the Township (near the Walton Farm School) and the second south of Sumneytown Pike near North Penn High School. In addition, it shows one 'bikeway/pathway' along the PECO right-of-way west of Route 463 and north of Evansburg State Park (to be acquired through limited easements).

Township-Wide Trail Master Plan

The *Township-Wide Trail Master Plan* (adopted in January 1996) identifies a network of trails to serve all non-automobile transportation in the Township. The Trail Plan is an extension of the 1995 *Park, Recreation, and Open Space Preservation Plan* and its recommendations are therefore consistent with the recommendations made in this Plan Update. Specifically, the Plan Update recommends connecting the Liberty Bell Trail in the northern part of the Township with the Evansburg Trail in the southern part of the Township. The connecting trail, discussed later in this Plan, utilizes many of the same trail alignments established in the Trail Plan.

The Trail Plan also provides a detailed inventory of Towamencin's existing right-of-ways. An extensive trail network is proposed and different classifications are assigned to trail segments based on intensity and purpose of use. Implementation and funding strategies are developed that prioritize the trails based on need, safety, and likelihood of development. Partnerships and funding possibilities are also suggested as are design standards that address grading, landscaping, signage, and crossing standards.

Zoning Ordinance of Towamencin Township

There are three major sections of the Towamencin Township Zoning Ordinance, as amended through April 25, 2001, that relate to the creation, design and maintenance of open spaces. The Ordinance provides a residential cluster district that requires open space dedication. A floodplain district limits development, protects natural features, and creates open space in the 100-year floodplain. Last, the Ordinance provides environmental performance standards that protect various natural features including steep slopes.

The **Mixed Residential Cluster District** provides an option for tracts that are 100 acres or larger and are served by public water and sewer. The purpose and intent of the district according to Section 153-303.A.(8), is to “encourage a creative approach to the use and development of land while preserving open space and natural features, to promote a more desirable visual character in residential areas and to provide affordable housing and a variety of housing types in the Township within a neighborhood setting with usable open areas designed into the neighborhood and with the creation of, and connection to, open space corridors throughout the district and Township.” Requirements of the district are established in Section 153-408. The minimum open space set aside is 25% of the gross tract area. The required maximum density in the District is 2.5 units per acre (excluding the right-of-way of existing streets). Three types of residential structures must be included in the development. At least 50% must be single-family detached and the other uses must not be less than 15%.

Subsection K. describes in detail the requirements for the design and maintenance of the created open space. Open spaces must be “located and so shaped as to be suitable for the purpose intended. Consideration shall be given to contiguous portions of existing and potential open space lands in adjacent tract.” In addition to the required 25% minimum for open space, 25% of open space lands must be for active recreational purposes. Open space lands must be offered for dedication to the Township unless used for private purposes. The Township can require the dedication of specific open space lands if they are deemed to be a “key element” of the open space plan.

Towamencin’s Zoning Ordinance also provides a **Floodplain Conservation Overlay District** for all area in the 100-year floodplain. The intent of the District is in part to, “protect areas of floodplain subject to, and necessary for, the containment of floodwaters, and to permit and encourage the retention of open space land uses which will be so located and utilized as to constitute a harmonious and appropriate aspect of the continuing physical development of Towamencin Township.” Specific statements of purpose and intent are listed including to, “To maintain undisturbed the ecological balance between those natural system elements, including wildlife, vegetation, and marine life, dependent upon watercourses and water areas.” (Section 153-303)

Section 153-617 of the Zoning Ordinance describes the permitted, prohibited, and banned uses and activities in the Floodplain Conservation District. The permitted uses are:

- (1) Cultivation and harvesting of crops in accordance with the recognized soil conservation practices.
- (2) Pasture and grazing land in accordance with recognized soil conservation practices.
- (3) The growing of plant stock or an orchard in accordance with recognized soil conservation practices.
- (4) Wildlife sanctuary, woodland preserve, arboretum, and passive recreation or parks, including hiking, bicycle and bridle trails, but including no facilities subject to damage by flooding.
- (5) Forestry, lumbering and reforestation in accordance with recognized natural resource conservation practices, but permitting no structures.
- (6) Utility transmission lines.
- (7) Sealed public water supply wells and pipelines with approval of proper state agencies.
- (8) Sanitary sewers, including pumping stations and similar uses, and storm sewers with the approval of the Township Engineer and the Pennsylvania Department of Environmental Resources.
- (9) Front, side, or rear yards, and required lot area for any district.
- (10) Public roadways with approval of applicable state agencies and the Board of Supervisors.
- (11) Golf courses, not miniature, but permitting no structures.
- (12) Picnic grove, but permitting no structures.
- (13) Piers and docks along a waterway.

Prohibited activities and uses relate to the addition, expansion, removal, or modification of structures, soils, water, and vegetation in the floodplain are enumerated in the Ordinance. Banned uses include the storage of hazardous materials, which are also listed in the Ordinance. Procedures and standards for the application, variance, and special exception of the Floodplain District are also described in this section.

The Zoning Ordinance provides **Environmental Performance Standards** (Section 153-616), which are applicable to “Any site alterations, grading, filling or clearing of vegetation ... when necessary in accordance with an approved subdivision.” The standards limit the development activity within floodplains, lakes, wetlands, streams and watercourses, steep slopes, woodlands, and tree protection areas by requiring special exceptions for development. Specifically the Zoning Ordinance states:

Floodplain protection standards. No structures, filling, piping, diverting, or stormwater detention basins shall be permitted within the floodplain as defined by this chapter except that roads, dams, culverts, bridges, storm or sanitary sewer facilities may be located in the floodplain or on floodplain soils where approval is obtained from the Pennsylvania Department of Environmental

Resources, the Zoning Hearing Board by special exception, and other regulatory agencies.

Lakes and ponds protection standards. No development, filling, or diverting shall be permitted in lakes or ponds or within lake/pond margins [50 feet] except where used for farm irrigation purposes.

Wetlands protection standards. Wetlands shall not be altered, regraded, developed, filled, piped, diverted, or built upon except that roads may cross wetlands where approval is obtained from the township by special exception of the Zoning Hearing Board and the U.S. Army Corps of Engineers or, as applicable, the Pennsylvania Department of Environmental Resources, and where no other access to the property is available. The property owner/applicant shall identify wetlands and where encroachment is anticipated shall obtain the applicable state and federal permits. One hundred percent of these wetland areas shall be protected. [Standards in this section include a 50 foot buffer, but exclude *limited value wetlands*.]

Streams and watercourses. Streams and watercourses (any lake, pond, perennial or intermittent stream shown on the U.S.G.S. map and/or identified by field survey) shall be 100% protected and shall remain as open space [Includes a 50 foot margin except where approved by special exception].

Steep slopes [Slopes in excess of 15%]. [The Zoning Ordinance provides detailed standards relating to the application of this section, stripping of vegetation, design standards, liability, and restrictions. These standards relate to the following stated intents of this section:]

- [1] All structures will be located away from steep slopes on safe, stable grounds away from possible landslide or erosion activities.
- [2] All roads and driveways will have safe and stable side slopes or shoulders.
- [3] Development activities such as grading and stripping of vegetation will be minimized on steep slopes to reduce accelerated stormwater runoff and soil erosion of the slope, thereby preserving water quality.
- [4] Environmentally sensitive native wildlife habitats (such as woodlands) located on steep slopes will be minimally affected by development.
- [5] The visual integrity of steep slopes areas will be maintained throughout development.

Woodlands. Mature trees with a circumference of 60 inches or greater measured 14 inches above ground shall be identified and preserved, unless the Board of Supervisors agrees to a different disposition.

Tree protection area. The purpose is to ensure that trees which are to be protected do not suffer damage during the development. The tree protection area is an area radial to the trunk of a tree and shall be 15 feet from the trunk of the tree to be retained, or the distance from the trunk to the drip-line (the line marking the outer edge of the branches of the tree), whichever is greater. Where there is a group of trees or woodlands, the tree protection area shall be an area encompassing the protection areas for the individual trees.

Subdivision and Land Development Ordinance

The Subdivision and Land Development Ordinance of the Township of Towamencin, adopted April 17 1995, as amended through March 24 1999, establishes design, development, and maintenance standards for open spaces.

Section 136-502. Community facilities, requires both the Township Planning Commission and a developer to address community facilities for proposed developments or subdivisions including public requirements for open space. Subsection A. states, "In reviewing subdivision plans, the Township Planning Commission shall consider whether community facilities in the area are adequate to serve the needs of the additional dwellings proposed by the subdivision and shall make such report thereon as it deems necessary in the public interest." Subsection B. states, "Subdividers shall reserve land for both public and quasi-public community facilities and will reserve areas for facilities normally required in residential neighborhoods, including churches, libraries, schools and other public buildings, and parks, playgrounds and playfields." Playground and neighborhood park requirements are based on the number of dwelling units. Subsection B. requires:

Table 14: Park Area Requirements

Dwelling Units	Min. Park Acres
1 to 49	1.5 to 2.5
50 to 100	2.5 to 3.5
100 to 200	3.5 to 5.0
200 to 400	5.0 to 7.0
Each additional 100 units	1.0 to 2.0

The Ordinance provides minimum open space area dedication for residential land uses and provides a payment of a fee in lieu of dedication for non-residential land (and for residential land under certain circumstances). Lands that are not suitable for open space may not be used to meet the requirements of this section. Open space set asides

must be contiguous unless approved by the Board of Supervisors and they must conform to the Comprehensive Plan and Park and Recreation Plan. The maintenance and administration of open spaces not dedicated to the Township must be described in the plan. Additionally, all open space must be designated on plans as one of the four following categories:

- (1) Lawn. A grass area, with or without trees, which may be used by the residents for a variety of purposes and which shall be mowed regularly to insure a neat and tidy appearance.
- (2) Natural area. An area of natural vegetation undisturbed during construction, or replanted. Such areas may contain pathways. Meadows shall be maintained as such and not left to become weed-infested. Maintenance may be minimal, but shall prevent the proliferation of weeds and undesirable plants such as honeysuckle and poison ivy. Litter, dead trees and brush shall be removed, and streams shall be kept in free-flowing condition.
- (3) Recreation area. An area designated for a specific recreation use including, but not limited to, tennis, swimming, shuffleboard, playfield, and tot lot. Such areas shall be maintained so as to avoid creating a hazard or nuisance, and shall perpetuate the proposed use.
- (4) Agricultural area. An area designated for family vegetable plots or to be leased for an agricultural use.

Section 136-510 Landscape requirements. provides installation and maintenance standards for development plans. There is an emphasis on maintaining mature trees and vegetation in this section. The Section also outlines various requirements for buffers and landscaping in proposed developments; all of these are based on specific standards found in the Township Engineering Standards.

Chapter 3. Goals and Objectives

The following set of goals and objectives have been developed to guide the formulation of the 2005 update to the *Towamencin Township Park, Recreation & Open Space Preservation Plan*. These goals and objectives have been established in order to protect and enhance the quality of life sought by individuals living and working in the Township. In order to ensure that these goals and objectives continue to reflect current Township policies and that they are being actively pursued, they will be reviewed at least once a year by a committee appointed by the Board of Supervisors. As the need arises, this committee will recommend modifications of the goals and objectives to the Board.

Goal 1 Actively pursue new open space opportunities within the Township

- a. Adopt methods to require useful and sustainable green space in areas to be redeveloped.
- b. Develop various types of playing fields and additional recreational facilities to meet the current and growing needs of the community, and when appropriate, require the same of developers.
- c. Coordinate the location and development of new open spaces with other existing and projected land uses so that they enhance one another.
- d. Centrally locate recreational land within established and developing neighborhoods.
- e. Establish a working list of priorities for immediate and long-term projected recreational and open space acquisitions and improvements and review and update this list annually.

Goal 2 Expand and maintain existing parks, open space and recreational areas

- a. Plan new and existing parks, recreational areas, and recreational facilities to address a variety of uses.
- b. Conduct an audit of existing uses and facilities at the Township's parks to determine if they are still appropriate based on current demands, and to assess the need for any repairs or renovations.
- c. Conduct an audit of existing recreational uses in public open space areas within established residential developments to determine if additional facilities (for example, tot lots) should be installed.
- d. Select park and recreation sites based on the land's suitability for their intended purposes.

- e. Develop public and private partnerships to enable services and commercial ventures within our parks and recreational areas.
- f. Work with local organizations to carry out similar open space goals.
- g. Seek public input on plans for acquiring and developing open space lands, using all available options (Township newsletter, website, public meetings, etc.).

Goal 3 Protect Historic and Cultural Resources

- a. Identify potential historical resources and sites within the Township.
- b. Promote existing historical areas within the Township.
- c. Partner with similar Township organizations and developers to preserve these areas.
- d. Explore opportunities to preserve historic resources through the zoning and subdivision/land development processes.

Goal 4 Coordinate Township efforts with the regional open space network

- a. Coordinate open space preservation, trail linkages, and facilities planning efforts with the efforts of other levels of government, abutting municipalities, and institutional entities.
- b. Work with county on regional trail planning.
- c. Continue to develop existing and new Township trails and linkages with the countywide trail system.

Goal 5 Protect and preserve natural resources

- a. Separate residential uses from inharmonious land uses by utilizing topographic features, stream corridors, woodland, lakes, and other natural features, landscaped greenbelts, and open space as transition areas between uses.
- b. Minimize the loss of open space from development through changes in zoning requirements, including consideration of adding cluster and performance zoning provisions.
- c. Continue to protect the critical natural features and resources of the Township such as floodplains, woodlands, steep slopes, wetlands, and bodies of water. Confirm the adequacy of the controls on the permitted disturbance of critical resources during land development.

- d. Continue to preserve and enhance the Township's existing green spaces.

Goal 6

Maximize the use of scarce financial resources available for open space and recreation

- a. Pursue the rights of 'first refusal' for vulnerable parcels.
- b. Monitor and take advantage of the resources available through various grant programs administered by all levels of government and other sources.
- c. Encourage the use of innovative and least cost techniques to acquire land and develop recreation facilities.
- d. Review and amend, as appropriate, Township requirements for developers to set aside open space and provide recreational facilities.
- e. Review "fee in lieu of" requirements and update periodically to reflect current value of land and recreational facilities which would otherwise be required of developers.

Chapter 4. Protected and Potentially Vulnerable Lands

An important component open space planning is to establish a baseline of how much open space exists in a municipality and where it is located. A baseline inventory helps to identify where open space is most needed and where acquisition, maintenance, and open space linkage objectives have already been met. To help guide where open space preservation might be most important, it is also important to conduct an inventory of where vulnerable lands are located. Vulnerable lands have certain physical or cultural characteristics that make them more desirable as open space. The next section provides an inventory of Towamencin's open spaces followed by inventory of vulnerable lands.

Permanently and Temporarily Protected Lands

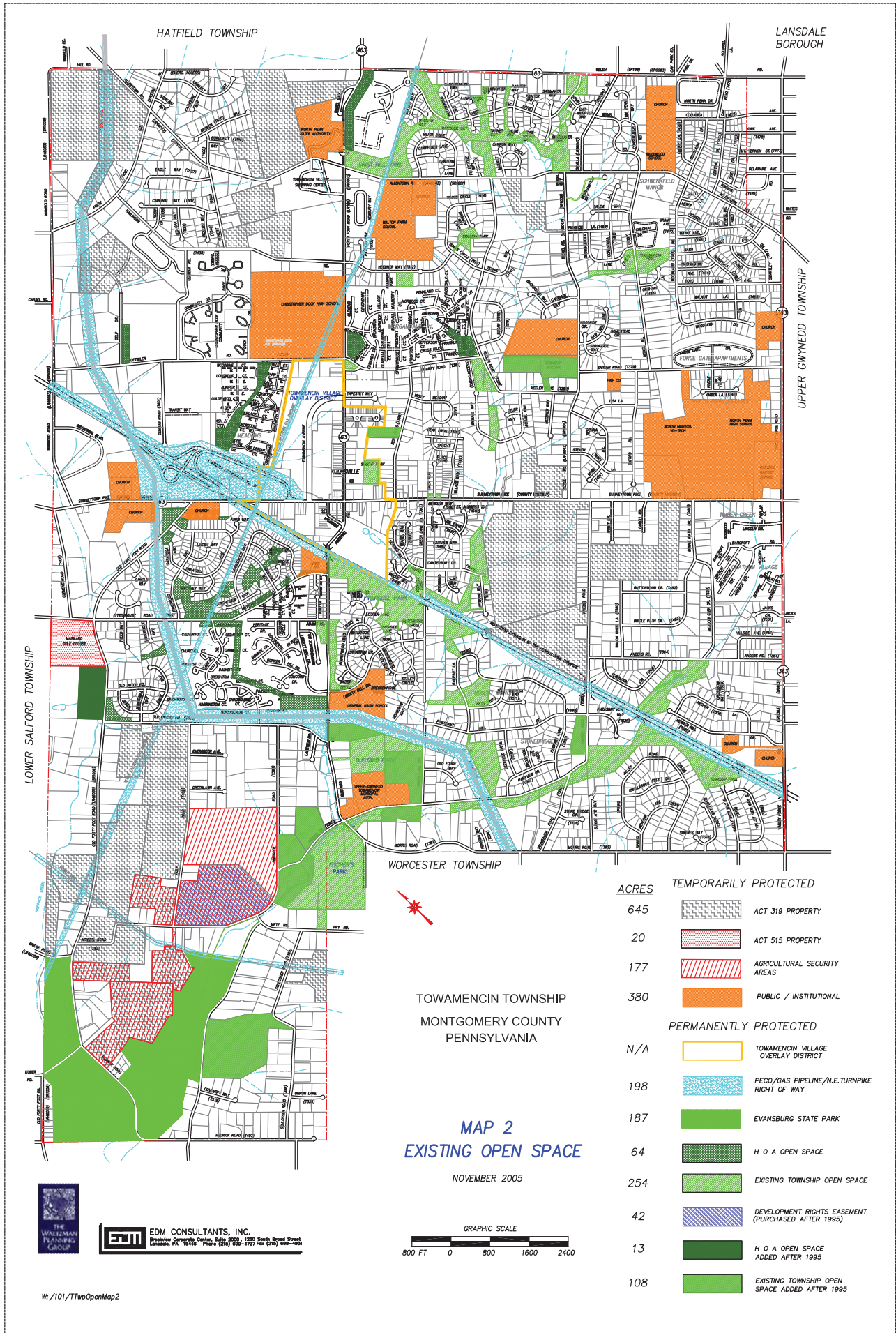
Open space protection can be provided by public governments or programs, private individuals or companies, or by not-for-profit land trusts through a variety of development restrictions. The greatest protection is offered through the purchase of a property, or a property's development rights, in order to restrict development permanently. Lesser forms of protection are offered through incentive programs that encourage a property owner to not develop their property; but do not offer permanent restriction. There are also open spaces for which protection is less clear. Institutional uses such as schools often have open spaces and recreation areas, which may developed if the school decides to move to a new location.

The *Green Fields/Green Towns* manual divides open space protection into two categories: permanently protected and temporarily protected. The manual then assigns the different tools to protect open space into the two categories (see Table 15: County Identification of Protected lands.). Most of the ways in which land is protected are fairly straight forward. Lands that are in municipal ownership, for example, are protected by the municipality. There are a few state programs that require some explanation however. Act 515 land refers legislation enacted in 1965 that allows property owners, on a voluntary basis, to defer certain property taxes on land so long as their land is not developed. Act 319 is a similar program enacted in 1974 that offers tax abetments for land that is used for agricultural purposes. Agricultural Security Areas are part of another state program that offers incentives for land preservation and ultimately can permanently preserve land through the acquisition of development rights.

Table 15: County Identification of Protected Lands

Permanently Protected		Temporarily Protected	
Municipal parks and open space	362	Act 515 land	20
County parks and open space	0	Act 319 land	645
State parks and open space	187	Golf courses	0
Federal parks and open space	0	Private recreation lands	0
Utility right-of-way	198	Large institutional holdings	380
Watershed association/conservation org. land	0	Agricultural security areas	177
Homeowners association land	77		
Other (cons. easements, dev'l rights purchased)	42		
Total	866	Total	1,222

These different open space protection tools have been carefully inventoried for Towamencin, and mapped (see Map 2: Existing Open Space). There are 866 acres of open space in the Township that are permanently protected and 1,222 that are under temporary protection. Combined, this is nearly one third of the Township's total area. The temporarily protected lands are subject to development. Protected lands are fairly evenly distributed with somewhat less open space in the northwest quadrant.



HATFIELD TOWNSHIP

LANSDALE BOROUGH

LOWER SALFORD TOWNSHIP

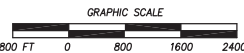
UPPER CWNEDD TOWNSHIP

WORCESTER TOWNSHIP

TOWAMENCIN TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

**MAP 2
EXISTING OPEN SPACE**

NOVEMBER 2005



ACRES	TEMPORARILY PROTECTED
645	ACT 319 PROPERTY
20	ACT 515 PROPERTY
177	AGRICULTURAL SECURITY AREAS
380	PUBLIC / INSTITUTIONAL
N/A	PERMANENTLY PROTECTED
	TOWAMENCIN VILLAGE OVERLAY DISTRICT
198	PECO/GAS PIPELINE/N.E.TURNPIKE RIGHT OF WAY
187	EVANSBURG STATE PARK
64	H O A OPEN SPACE
254	EXISTING TOWNSHIP OPEN SPACE
42	DEVELOPMENT RIGHTS EASEMENT (PURCHASED AFTER 1995)
13	H O A OPEN SPACE ADDED AFTER 1995
108	EXISTING TOWNSHIP OPEN SPACE ADDED AFTER 1995



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Potentially Vulnerable Resources

There are numerous physical and cultural characteristics that make open space a more valuable amenity. If open space abuts water for example, it has greater potential for recreation use and for connecting with trails. Because of the increased importance of these open spaces, they are more vulnerable from a preservation perspective. *Green Fields/Green Towns* provides a list of physical and cultural attributes that make land more vulnerable (see inset below). The amenities that occur in Towamencin are described below followed by a map showing their locations.

Green Fields/Green Towns Potential Vulnerable Resources

1. Natural Features:

a. Geology:

- unique geologic features
- geologic hazard areas (sink holes, limestone formations, etc.)
- rock outcroppings
- aquifer characteristics (including recharge potential).

b. Topography:

- steep slopes (15+ percent and 25+ percent)
- watershed boundaries
- drainage areas

c. Soils:

- agricultural soils (prime farmland; soils of statewide importance)
- seasonal high water table

d. Surface Waters:

- water bodies (streams, lakes, ponds, etc.)
- headwater streams and springs
- wetlands (hydric soils, national wetlands inventory)
- floodplains (100-year)
- water quality (cold water fisheries, exceptional waters)
- riparian buffers

e. Vegetation and Wildlife:

- wooded areas (of defined size and width)
- locally important vegetation
- significant wildlife habitats
- Pennsylvania Natural Diversity Inventory locations
- Montgomery County Natural Areas Inventory

2. Scenic Resources:

- a. scenic roads.
- b. scenic vistas.

3. Historic and Cultural Resources:

- a. national register and national landmark sites.
- b. other historic sites (locally important and other).
- c. archaeological sites or ruins
- d. sites of local cultural significance.

Natural Features – Geology and Soils

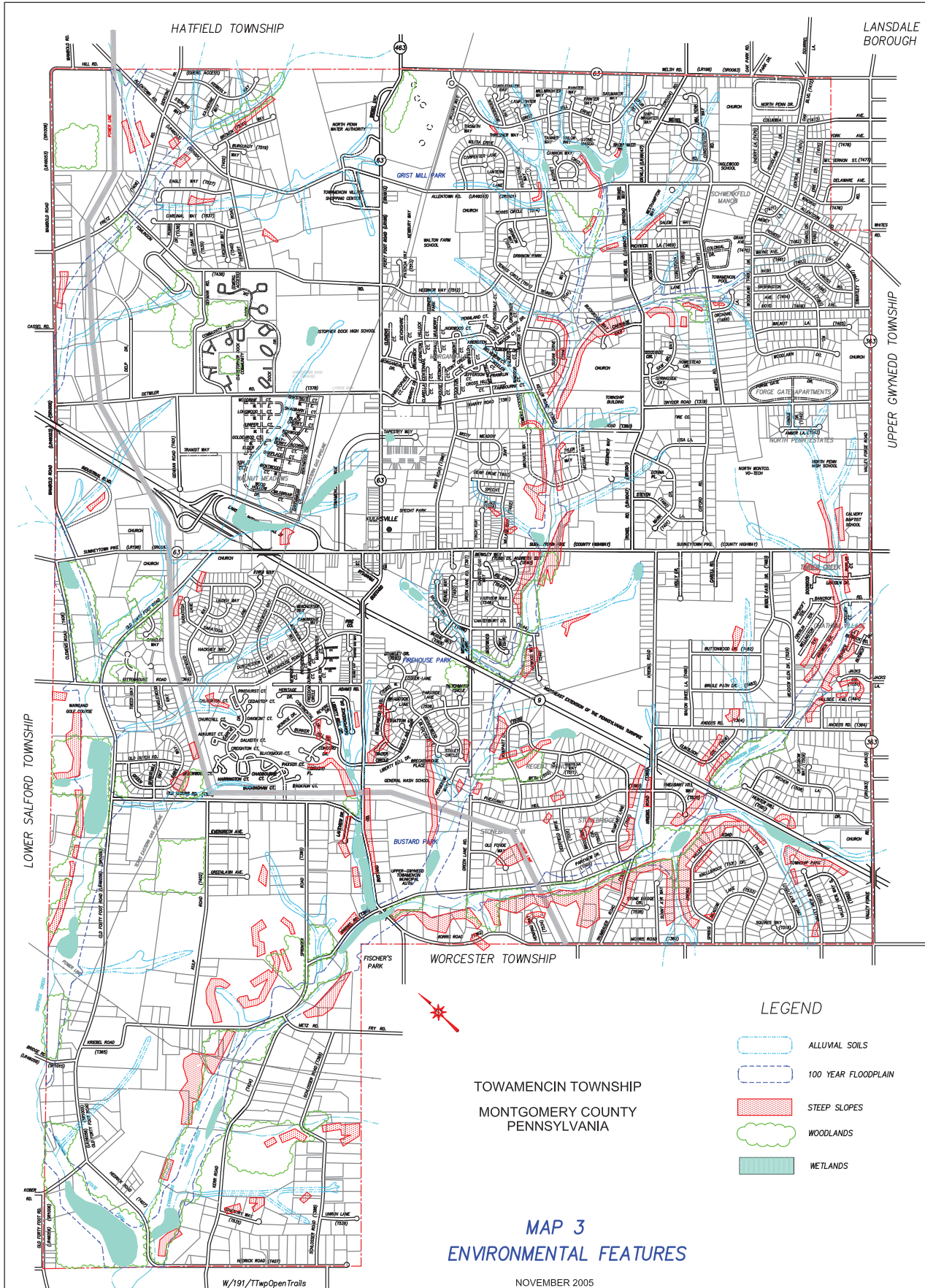
The entire Township is Brunswick Shale and Sandstone. According to the Montgomery County *Open Space Natural Resources and Cultural Resources Plan* (2005) “The Brunswick formation underlies most of the northwestern half of the county, except where several diabase intrusions are found. Brunswick shale and sandstone are characterized by reddish brown shale, mudstone, and siltstone. The topography of the formation is characterized by rolling hills. Groundwater yields are highly variable. The rocks are generally fine-grained and allow little primary porosity. Secondary openings, such as joints and fractures, are the key to adequate groundwater flow. This rock is a good to fair source of construction aggregate and fill material.”

Topography, Hydrology, Vegetation, and Wildlife

Towamencin does not have significant amounts of unusual topography. The steeper parts of the Township are generally those around stream corridors, although there are some steeper hills. Steep slopes are generally not ideal for development and can therefore be used as open space. Because steep slopes are often transitional areas between different habitats they are often home to diverse species. Map 3: Environmental Features shows the location of all slopes greater than 15% in the Township.

Towamencin is located in the Skippack Creek Basin and the Towamencin Creek Sub-Basin. There are a number of 100 year floodplains located along the Township’s major streams. There are also numerous wetlands. Both floodplains and wetlands offer diverse habitats for wildlife and have limited development possibilities. Therefore they present excellent opportunities for open space preservation. These areas are shown in Map 3.

No sites in Towamencin are identified in the Natural Areas Inventory prepared by the Nature Conservancy. There are *Areas of Hydrologic and Terrestrial Convergence* identified in Montgomery County’s *Open Space, Natural Features, and Cultural Resource Plan* within the Township, but most of those are within Evansburg State Park, which is already protected.



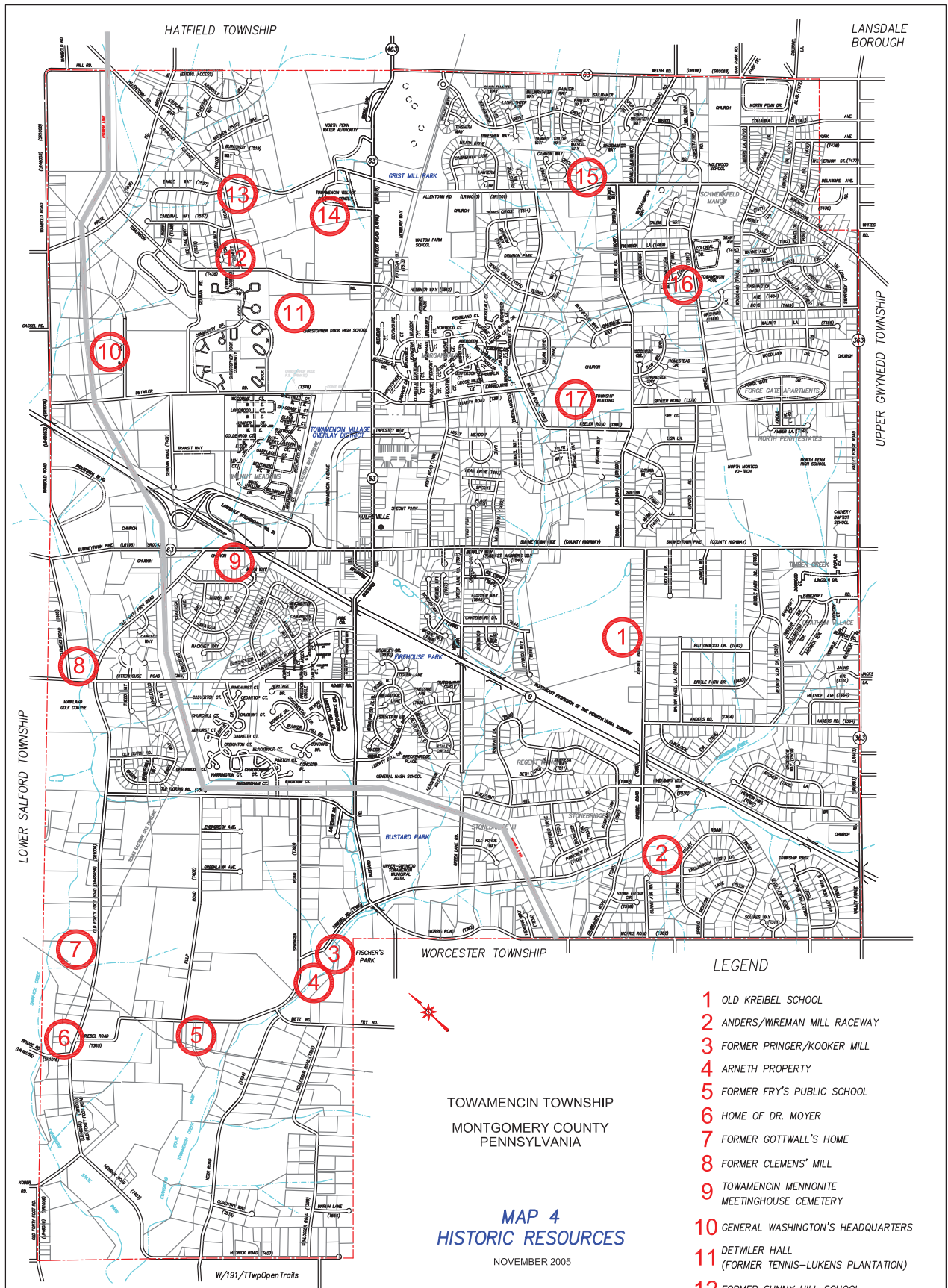
Scenic, Historic, and Cultural Resources

(Adapted from Historical Society of Towamencin promotional flyer, *Historic Tour of Towamencin October 2002*, compiled by Historic Society of Towamencin, Dr. Thomas Hollenbeck)

Towamencin, a Native American term for a poplar tree, was first inhabited by the Lenni Lenape tribe who moved down from the mountainous regions of the Delaware Valley in the winter to the New Jersey shore in the summer, searching for food. The earliest European settlers, German Mennonites, inhabited the area of the Township in 1702. In 1725, those settlers erected their first Quaker Meetinghouse, and in 1728 the Township was officially incorporated. Historic sites are plentiful in Towamencin Township, ranging from former Mill sites, to one room school houses, to markers identifying the earliest roads. The following chart and the accompanying Map 4: Significant Historic or Cultural Sites lists a few of the sites within the Township.

Table 16: Historic Sites in Towamencin Township with a brief description

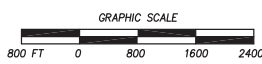
Site	Description
Old Kreibel School	One of the few remaining one room schoolhouse in the North Penn Area
Anders/Wireman Mill Raceway	
Pringer/Kooker Mill	Headwater site for the Mill, thought to be in operation during the encampment of George Washington
Arneith Property	Donated to the Township
Fry's Public School	Modified from the original structure with dormers and an attached garage
Home of Dr. Moyer	Home to an early physician in the Township
Former Gottwall's Home	Site of where General Francis Nash died following the Battle of Germantown in October 1777
Former Clemens' Mill	Along Skippack Creek and was in operation until the early 1970's
Towamencin Mennonite Meetinghouse Cemetery	Site of various fallen soldiers from the Battle of Germantown, including General Francis Nash
General George Washington's Headquarters	A small plaque identifying the location of General George Washington's Headquarters during his 1777 encampment in the Township
Detwiler Hall (former Tennis-Lukens Plantation)	A site used in the Underground Railroad prior to and during the Civil War
Former Sunny Hill School	Believed to have been moved from Allentown Road
1789 Stone Marker	Noting the site traveled by the Liberty Bell when it was moved from Philadelphia to Bethlehem in 1777
Tennis-Lukens Cemetery	Contains the remains of Revolutionary War casualties
Farm of Charles and Anna Moyer	A farm settle in the early 1800's
Morgan Log House	Home of the Grandparents of Daniel Boone
Rittenhouse Farmstead	Adaptive reuse of the Farmstead, now used as Towamencin's municipal complex



**MAP 4
HISTORIC RESOURCES**

NOVEMBER 2005

- LEGEND**
- 1 OLD KREIBEL SCHOOL
 - 2 ANDERS/WIREMAN MILL RACEWAY
 - 3 FORMER PRINGER/KOOKER MILL
 - 4 ARNETH PROPERTY
 - 5 FORMER FRY'S PUBLIC SCHOOL
 - 6 HOME OF DR. MOYER
 - 7 FORMER GOTTWALL'S HOME
 - 8 FORMER CLEMENS' MILL
 - 9 TOWAMENCIN MENNONITE MEETINGHOUSE CEMETERY
 - 10 GENERAL WASHINGTON'S HEADQUARTERS
 - 11 DETWILER HALL (FORMER TENNIS-LUKENS PLANTATION)
 - 12 FORMER SUNNY HILL SCHOOL
 - 13 1769 STONE MILE MARKER
 - 14 TENNIS-LUKENS CEMETERY
 - 15 FORMER FARM ANNA & CHARLES MOYER
 - 16 MORGAN LOG HOUSE
 - 17 FORMER RITTENHOUSE FARMSTEAD



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SEE TEXT FOR DESCRIPTION OF HISTORIC RESOURCES

Potential Open Space Linkages

Integral parts of the community, such as schools, neighborhoods, institutional buildings, commercial centers, and recreation areas benefit from being linked through an extensive trail network. There are numerous elements in Towamencin Township, and in neighboring municipalities that should be linked by a trail; whether that trail is on or off road, bikeway, or even just linear open space, the impact and accessibility of a community facility for the general population is greatly enhanced by the connection. The inventory of natural and built features in this Plan shows several important areas for connection.

However, of all the important areas for linkage within the Township and into the neighboring municipalities, Evansburg State Park is the largest and most important destination. In addition, with the recent feasibility study of the Liberty Bell Trail, a preferable route for connecting the Park to the northern areas of the Township have been previously studied, and offer a well documented route for connections throughout the Township. Remaining trails within the Township can make use of many existing rights-of-way, stream beds, or existing roads. As an example, the PECO or the Texas Eastern Gas rights-of-way provide an existing corridor that is accessible and has been used as trail locations in many other municipalities. In addition, Towamencin has many stream beds that have been developed as trails; however, those natural features can be further used for trail development. Skippack Creek and Towamencin Creek are two examples of trail corridors that have been developed, but can be expanded.

Chapter 5. Analysis of Unprotected Resources

Currently in Towamencin Township, there are 1,222 acres of temporarily protected open space land. Over half this land is currently protected under PA Act 319, a preferential assessment program, which lowers the assessed value of a property (based on a farm use). However, this program, or land use designation can be voluntarily removed by the landowner (once the difference in taxes between the farm use and the proposed use, and penalties have been paid).

The second largest portion of unprotected land within the Township is land held by large institutions. With landowners such as the North Penn School District (North Penn High School and Walton Farm School), the Mennonite Church (Christopher Dock High School), and the North MontCO Technical Career Center, these properties could be considered less likely to be developed than the Act 319 Land.

Table 17: Temporarily Protected Land in Towamencin Township

Act 515 land	20
Act 319 land	645
Golf courses	0
Private recreation lands	0
Large institutional holdings	380
Agricultural security areas	177
Total	1,222

Overall, the risk of losing the majority of unprotected land within Towamencin may be low; however, this should not preclude the Township from a continual monitoring process. The Board of Supervisors should authorize the Open Space Advisory Committee to undertake a survey of the availability of the unprotected parcels on an annual basis and advise the Board of Supervisors to potential development on these sites.

In addition to unprotected tracts of land, an important element in the preservation of the land is the view to that land. The Township has identified one scenic road and numerous scenic views worthy of protection. Kriebel Road, near the Towamencin Creek, and specifically the southern portion of that roadway is a highly scenic road. Currently a linear park helps protect this roadway, but as any of the larger residential lots south of the creek develop, caution will need to be taken to ensure the view's preservation. The scenic views, as noted on Map 7, Open Space Plan (page 54) generally look onto the open spaces (park or agricultural land) within the Township, primarily in the southeastern, least developed area. Because the roadway and the views

provide even the casual observer with a glimpse into natural features of Towamencin Township, they should be considered when preservation decisions are being made.

Growth Area Calculations – Build Out Analysis

Through analysis of the available land (including unprotected open space) it has been determined that once completely built out, Towamencin Township’s population will include 3,961 new residents (assuming that all new homes built within the Township will be inhabited by new residents). In addition, there will be an additional 928,000 square feet of new light industrial space developed, which would presumably create 1,856 new workers. The following table, Table 18: Population and Job Growth details the areas of growth:

Table 18: Population and Job Growth

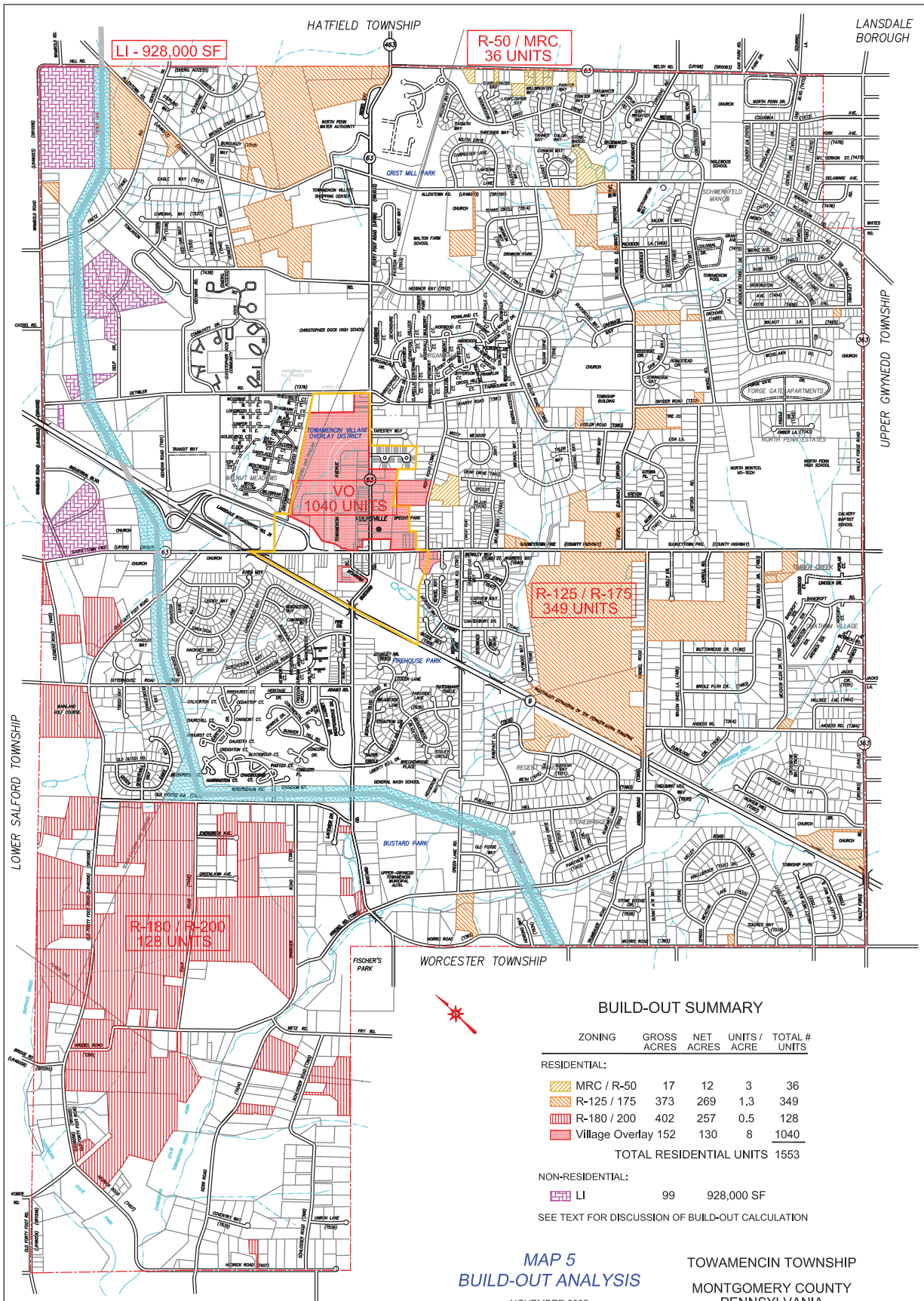
	Gross Acres	Environmental Constraint Reduction (percentage)*	Infrastructure Reduction (percentage)**	Net Acres	Units/Acre	Units Produced
MRC/R50	17	10	20	12	3	36
R125/R175	373	10	20	269	1.3	349
R180/R200	402	20	20	257	0.5	128
Village Overlay	152	5	10	130	8	1,040
Total	944		Total	668	Total	1,553
				New Residents:		3,961

	Gross Acres	Environmental Constraints*	Infrastructure Reduction**	Net Acres	Building Coverage	Square Footage Produced
Non-Residential						
Light Industrial	99	10	20	71	30%	928,000
					Jobs Created:	1,856

*Gross acreage is reduced by the percentages listed, to account for any environmentally constrained land.

**Gross acreage is reduced by the percentages listed, to account for any infrastructure installed in a development.

It should be noted that while the Village Overlay District allows a range of uses, it was assumed that the land in that District would all be developed residentially. This is the most conservative assumption since residential use has the greatest impact on the need for open space.



BUILD-OUT SUMMARY

ZONING	GROSS ACRES	NET ACRES	UNITS / ACRE	TOTAL # UNITS	
RESIDENTIAL:					
	MRC / R-50	17	12	3	36
	R-125 / 175	373	269	1.3	349
	R-180 / 200	402	257	0.5	128
	Village Overlay	152	130	8	1040
TOTAL RESIDENTIAL UNITS				1553	

NON-RESIDENTIAL:
 LI 99 928,000 SF

SEE TEXT FOR DISCUSSION OF BUILD-OUT CALCULATION

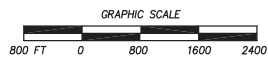
**MAP 5
 BUILD-OUT ANALYSIS**

NOVEMBER 2005

TOWAMENCIN TOWNSHIP
 MONTGOMERY COUNTY
 PENNSYLVANIA



EDM CONSULTANTS, INC.
 1101 South Broad Street
 Lansdale, PA 19446 Phone (215) 383-0870 Fax (215) 383-0852



Evaluation of Open Space Needs

Historically, open space plans used a needs standard developed by the National Recreation and Park Association (NRPA) of 10 acres per 1,000 residents. This was a regional recommendation and primarily was used to calculate active recreation in developed areas. This one size fits all approach was determined to be too general to meet the needs of diverse communities, so the NRPA developed a new approach in their most recent publication *Park, Recreation, Open Space and Greenway Guidelines (1995)*. Their new approach recommends considering the needs, desires, and resources of communities as well as changing environmental, social, economic and demographic trends.

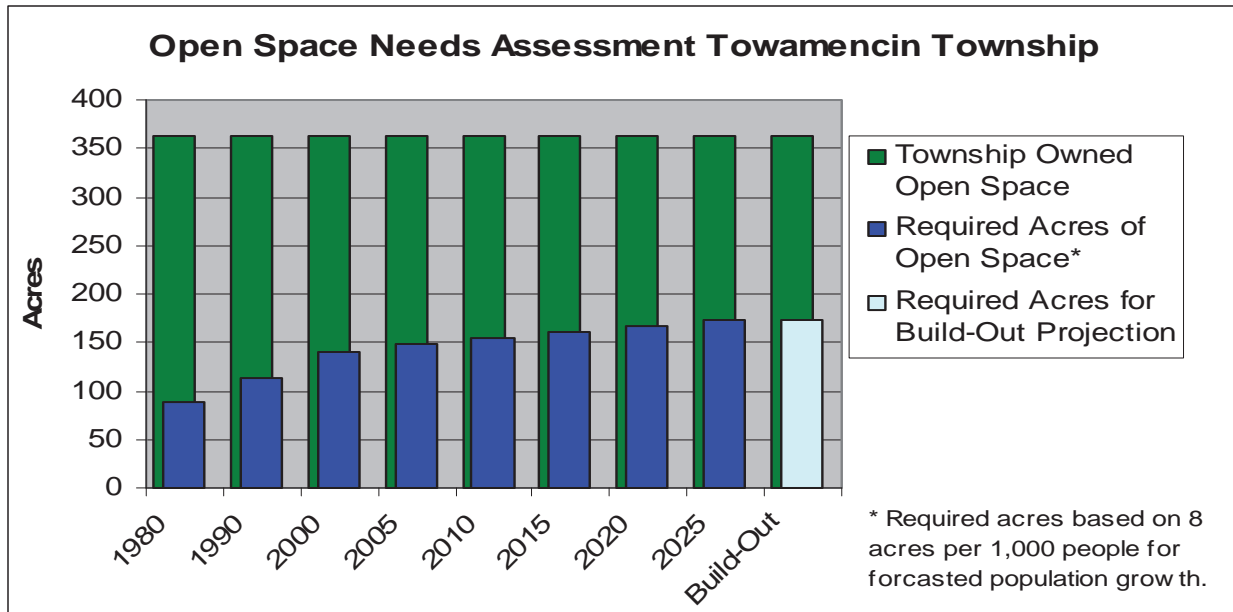
The Delaware Valley Regional Planning Commission (DVRPC) in following the NRPA's guidelines developed a density based formula for assessing open space needs in the Delaware Valley. It should be noted that the DVRPC is a regional entity and focuses on sub-regional (county) and regional (state and federal) open space requirements but also includes standards for local open space needs. In their 2002 report *Recreation Open Space Needs Analysis for the Delaware Valley*, the DVRPC determined need should be density based. For example, 1,000 residents in Philadelphia would not have the same open space needs as the same number of people in a rural township.

Towamencin Township, with a 2000 population density of 1,827 residents per square mile, falls into a density category that calls for eight acres of open space per 1,000 residents. In 2000, Towamencin had a population of 17,597 requiring 140.775 acres of open space based on the DVRPC standard. This amount does not include county, state, or federal parks which are viewed as regional or sub-regional open spaces. The current non-county or state open space land far exceeds this amount (see Table 19). The existing amount of open space is sufficient well beyond 2025 as shown in Chart 3.

Table 19: Existing Open Space Area

	Acres
Facilities ROW	198
Institutional	380
Evansburg State Park	187
Private Open Space	64
Open Space	254
ASA – Easement	42
Since 1995	
Private Open Space	13
Open Space	73
Total	1,211

Chart 3: Open Space Needs Assessment



Towamencin’s open space needs are therefore focused on preserving the rural and natural lands that exist and creating active open spaces that can meet the needs of the residents of Towamencin. For example, while it is essential that the younger children and teens have sufficient fields and courts for their recreational needs, nearly half of the Township (46%) was between the ages of 25 and 54 in 2000 according to the US Census. It will therefore be important to provide a full range of recreational opportunities for whatever lands are acquired.

Chapter 6. Comparison to Abutting Plans

Towamencin is surrounded by six municipalities and is located within Montgomery County. Each has developed their own open space plan that meets the needs of the individual communities, but also influences Towamencin due to trail linkages and other overlapping regional open space planning. To ensure consistency and promote coordination, each of the surrounding municipality's open space plans were examined. Important overlaps are described below.

Montgomery County

Shaping Our Future: A Comprehensive Plan for Montgomery County

Open Space, Natural Features, and Cultural Resources Plan – Shaping Our Future: A Comprehensive Plan for Montgomery County (2004) guides open space decision making through the year 2025. *Shaping Our Future* inventories existing conditions, sets goals, and makes policies for the preservation of Montgomery County's natural features, open spaces, trails, farmland, and historic resources. Not surprisingly this document provides much of the information and is similar in format to the requirements of Montgomery County's *Green Fields Green Towns* manual upon which Towamencin's Open Space is based.

Shaping Our Future provides general information such as goals that can be applied to the County as a whole and specific information that can be applied to municipalities or sub-regional areas. The Plan's goals are listed below along with a short description of each goal.

Goal 11. Preserve Large Interconnected Areas of Significant Open Space. This goal includes purchasing of lands, adopting zoning ordinances, limiting sewer and water infrastructure in non-developed areas, fostering communication among interested parties and endorsing comprehensive open space plans.

Goal 12. Protect and Manage Wetlands, Stream, Steep Slopes, Woodlands, and Natural Habitats. Elements of this goal include protecting wetlands and environmentally sensitive areas on and for development plans and adopting riparian steep slope, and landscaping ordinances.

Goal 13. Create a Greenway System along Rivers, Creeks, and other Sensitive Natural and Historic Features. This goal will be achieved through ordinances,

purchasing land or development rights, and connecting open spaces to keep greenways in their natural state and to move development away from important greenways.

Goal 14. Develop a County-Wide Network of Interconnected Trails. This goal will be achieved through building trails along major corridors and working with different levels of government and the public to create interconnected trails.

It is noted that the County Trail Plan proposes three trails that impact Towamencin Township. The first, the Evansburg Trail meets a second trail, The Power Line Trail, at the southern-most Township border with Skippack Township. The third trail, the Liberty Bell Trail, touches the Township its boundary with Lansdale Borough. It is the primary goal of this Plan to develop a trail that is complementary of Montgomery County's proposed trails. As will be described later within this document, Towamencin is proposing a trail, named the Liberty Bell/Evansburg Park Trail, which will connect all the County Trails in the Township while also providing access to schools, neighborhoods, and community facilities throughout the Towamencin.

Goal 15. Provide Park Facilities to Meet the Public's Recreation Needs. This goal intends to place active recreation areas as close to population centers and growth areas as possible through zoning ordinances that require active open spaces, purchasing lands, and encouraging schools to allow their open spaces to be used by the general public.

Goal 16. Preserve Farmland. This goal will be achieved by through purchasing development rights and adopting zoning provisions that encourage large lots of preserved land.

Goal 17. Protect Scenic Roads, Vistas, and Viewsheds. This goal will be achieved through inventorying scenic corridors, providing scenic easements, and creating ordinances that cluster development, allow for transfers of development rights, and control the intensity and character of development.

Goal 18. Protect Historic Resources and Cultural Landscapes. This goal will be achieved by purchasing structures, using grants to improve and protect facades in historic areas, planning for historic resources, and creating ordinances to create village commercial areas and encourage adaptive reuse.

Lower Salford

Lower Salford's Open Space plan is being prepared by the Montgomery County Planning Commission. Examination of a draft of their open space plan and discussion with County staff indicate that there are limited opportunities for coordination between Lower Salford and Towamencin. There is overlap between the goals of the two Townships and collaboration on efforts to achieve these goals should be pursued where appropriate. Lower Salford's open space goals are to:

- Protect and Maintain Remaining Rural Character
- Protect Sensitive Natural Features
- Maintain and Enhance Recreation

Protect and Maintain Remaining Rural Character

Remaining areas of rural character have been diminishing during the past ten years. Therefore, it has become a high priority goal to identify key areas of the Township where significant rural qualities and characteristics can still be conserved, including the following:

Preserve Farmland, Scenic Views and Roads, Historic Sites and Landscapes

Rural character cannot be maintained if these elements are not effectively preserved and protected from the spread of suburban development. Therefore, protection of these rural features should be pursued aggressively through acquisition of land and/or easements, enactment of ordinance standards that require protection, and cooperation among landowners, developers, and the Township to maximize retention of rural character.

Preserve the Identity and Character of Existing Villages

The historic character of the Township's villages makes a vital contribution to the rural agricultural heritage of the Township and region. Measures that encourage retention of the identity and character of these villages are critical to the overall goals of this open space plan.

Protect Rural Character Using Regional Planning Concepts

The Township has historically permitted a wide variety of housing types from low to high density, and non-residential development with a wide variety of goods, services, and employment opportunities. As a member community in the Indian Valley Region, Lower Salford has planned for growth areas and rural resource conservation areas. In concert with the Future Land Use Plan element of the Indian Valley Regional Comprehensive Plan, the Township's Open Space Plan intends to protect vital elements of rural character and use land appropriately for active and passive recreation within those areas.

Protect Sensitive Natural Features

Natural features are critical elements of the rural character of the Township and they extend throughout the developed areas as well. Protection of these natural features should be aggressively pursued for both aesthetic benefits and environmental qualities using regulatory and stewardship methods.

Protect Steep Slopes

Avoid increased runoff and sedimentation from disturbed slopes, improve water quality and stormwater management, and retain habitats for plants and wildlife.

Protect Stream Corridors, Floodplains, and Wetlands

Carry floodwaters, reduce erosion, protect water quality, facilitate groundwater recharge, provide plant and animal habitats, and provide recreation opportunities.

Protect Woodlands

Reduce the impact of rainfall and control erosion, filter the air, protect privacy, provide windbreaks, cool the summer air, muffle noise, absorb odors, provide plant and animal habitat, and improve the appearance of the area.

Maintain and Enhance Recreation Opportunities

Most areas of the Township have convenient access to Township parkland and the need to acquire more land for active recreation has diminished. Therefore, the Open Space Plan recommends optimized use of existing parklands for active and passive purposes, and encourages establishment of a variety of recreation programs to serve the Township's residents.

Optimize Use of Existing Parklands

Community level parks are places to play a variety of organized sports such as soccer, baseball, softball, tennis, and basketball, and neighborhood level parks are conveniently accessible, especially as play areas for younger children. Greenway corridor parks along waterways protect natural features and facilitate trail connections and passive recreation activities.

Continue to Expand the Trail Network

The Township's existing trail network provides opportunities for recreation and alternative transportation. Wherever appropriate, new development should provide segments for the trail network and the network should interconnect with trails in adjoining communities, as outlined in the Indian Valley Regional Comprehensive Plan, and with the County's trail system.

Skippack

While not finalized, the Skippack Township Open Space Plan has a connection to Towamencin Township. The draft Plan details the acquisition of an easement along the

PECO right-of-way that would also connect to Evansburg State Park. This complements the proposed trail network within this plan.

Upper Gwynedd

In review of Upper Gwynedd Township's Trail Master Plan and Open Space Plan we note that it shows trails and land proposed to be acquired, yet there is little to no impact to the Township. In addition, the proposed trails do not extend to the border shared with Towamencin Township, nor do they connect to proposed trails in Towamencin Township. However, there are no conflicts with Towamencin's Plan.

Worcester

Preserve designated open space priority lands in the township in order to protect sensitive natural resources, preserve important agricultural lands and working farms, and conserve historic and heritage resources.

Objectives:

- Utilize local, state, and federal funding mechanisms in order to preserve approximately 50 to 100 acres annually.
- Discuss options for a local funding mechanism for the purpose of preserving additional Open Space Priority Lands.
- Preserve farmland surrounding Peter Wentz Farmstead to buffer the historic site from development and to preserve the unique attributes of the farmstead.
- Review and revise local ordinances as necessary to protect and promote the continued economic viability of working farms of all types in the township, in order to encourage existing farmers to continue farming as well as to attract additional farm owners to the township.

Preserve suburban open space lands in the township in order to prevent further sprawl development and reduce costs for public services such as schools, sewers, water, and roads.

Objectives:

- Enact a mandatory conservation subdivision zoning ordinance for all new subdivisions (except minor subdivisions), using Growing Greener-Conservation by Design Model.
- Create an Environmental Advisory Council, to review the specifics of land development plans in order to assure the protection, to the greatest extent possible, of important natural, cultural, and historic resources in the township.

- Enact a historic preservation ordinance to promote the preservation of lands and structures that may have local, state or national historic significance.
- Amend the current Subdivision and Land Development Ordinance to include more progressive site design techniques for stormwater management which will minimize the need for structural stormwater controls in all new developments.
- Identify and consider protection of local mill sites as historic and heritage resources of local significance.

Develop a network of parks and recreational trails to connect the passive and active open space within the township, as well as throughout the county.

Objectives:

- Identify potential linkages between existing or planned destinations within the township and in neighboring townships, and identify possible strategies to implement these linkages.
- Develop a recreation facilities assessment plan for the township to determine how to address recreation needs as well as the ideal location of the facilities.
- Enact a Park & Recreation Fee Ordinance in conjunction with the proposed Park & Recreation Assessment Plan to help create and preserve more active and passive open space.
- Enact a trail ordinance to require developers of larger parcels to provide a trail easement across the parcel so that planned or potential future trail linkages are not blocked by development.
 - Develop the following trail sections:
 - Evansburg State Park to Heebner Park.
 - Heebner Park to Nike Park.
 - Peter Wentz Loop

Connect areas of preserved open space with greenway linkages to enhance and protect the township's potential as an important natural habitat.

Objectives:

- Implement an environmental impact fee ordinance for variances granted under floodplain, riparian buffer, and steep slope protection ordinances, and use these fees to supplement municipal funding efforts to protect greenway areas.
- Establish a protected greenway along the Zacharias Creek (including feeder creeks and headwater areas) to handle floodwaters, minimize erosion, protect water quality, and provide important wildlife habitat.

- Establish a protected greenway along the Stoney Creek feeders (including headwater areas) to handle floodwaters, protect against erosion, protect water quality, and provide important wildlife habitat.
- Use “SmartConservation” mapping to identify and prioritize areas of environmental significance in order to plan for future protection of sensitive natural resources.

Hatfield

Bordering Towamencin Township along most of its northern edge, Hatfield Township has drafted their Open Space Preservation Plan (the plan is not officially adopted as of this printing). The draft Plan calls for the development of a trail network. These proposed trails are planned to connect to the proposed trail network contained within this plan.

The first short term Action Item in the Hatfield Multi-Municipal Open Space Plan (in conjunction with Hatfield Borough) is to design and build the Liberty Bell Trail. For the Township this includes the following actions:

- Acquire an easement on the Ruby’s Plastics site at Schawb and Orvilla Roads
- Acquire an easement on the Railroad Corridor adjacent to the electric sub-station
- Acquire an easement on the Snyder property, if the property is developed in the future
- Work with the property owner of the trailer park to acquire the necessary right-of-way for development of the trail
- Pursue any required easements necessary for the complete of the trail through the Township.

While not immediately adjacent to Towamencin Township, the Hatfield Multi-Municipal Open Space Plan recommends the protection and preservation of “several adjacent undeveloped properties to create a large area of protected open space in the southern portion of the Township.” These parcels as listed in the Draft Plan are as follows:

- The 87 acres of movie lots currently owned by the North Penn School District
- The Richard and Eva Baum Properties
- The Palo and Beach Property
- The Ehrlich Property

Overall, the Hatfield Multi-Municipal Open Space Plan in this current draft form, appears to be complementary to the proposed Open Space Plan for Towamencin Township.

Lansdale Borough

The small border that Towamencin and Lansdale Borough share is mostly residential and there are few open space areas around where they border. A portion of the Liberty Bell Trail is located along the border and this plan proposes a trail that will connect with the Liberty Bell Trail. The Goals and objectives of the Lansdale Open Space Plan are below.

2005 GOALS & OBJECTIVES

1. ESTABLISH A GREEN TOWN IMAGE

- A. Fill gaps in the street tree network, especially in the central business district.
- B. Create green gateways at strategic borough entrances.
- C. Direct landowners on how to create and maintain greener public spaces, streetscapes, and parking lots.
- D. Establish a residential neighborhood tree program.
- E. Develop a façade and streetscape improvement plan.

2. PROVIDE OPEN SPACE OPPORTUNITIES IN ALL DISTRICTS

- A. Create new plazas and pocket parks in the central business district.
- B. Adopt methods to require useful and sustainable green space in redeveloped areas.
- C. Maintain existing park, open space, and community facilities

3. ENHANCE EXISTING PARKS TO MEET COMMUNITY NEEDS

- A. Create a balanced open space system with a variety of opportunities for all residents.
- B. Enhance protection of streams, woodlands, and habitat at existing parks and throughout the borough.
- C. Support development of cultural amenities in parks.
- D. Develop public/private partnerships to enable services and commercial ventures within parks.
- E. Expand existing parks when adjacent tracts add significantly to the open space network.

4. CONNECT WITH A REGIONAL OPEN SPACE NETWORK

- A. Participate in regional trail planning.
- B. Develop a local trail plan to compliment the regional system.
- C. Manage sidewalk system to increase pedestrian access throughout the borough.
- D. Develop clear signage to enhance usage of services and businesses in Lansdale.

5. PRESERVE PRIVATE LANDS THE COMMUNITY RELIES ON FOR RECREATION & OPEN SPACE

- A. Pursue right of first refusal for vulnerable parcels.
- B. Maximize community recreation benefit from private and institutionally-owned facilities.

Chapter 7. Municipal Trail and Pathway Development – Optional Element

As shown on Map 6: Trails, this Plan is calling for an extensive trail network to be developed in Towamencin Township. Currently, Towamencin has over 47,000 linear feet of trails constructed in the Township, 150,000 linear feet of planned trails, including over 41,000 linear feet designed trails. These trails are proposed to crisscross the Township and interconnect all major community facilities with Evansburg State Park, neighboring municipalities, and trails planned by Montgomery County. Table 20 shows the exact details of the length for each type of proposed and existing trail.

Table 20: Linear feet of Trail, proposed and installed

Future on road	Future Off Road	LBT/EPT HP	CMAQ Trail*	Completed Off-Road	Completed On-Road	Total Completed
44,795 feet (8.48 miles)	87,684 feet (16.61 miles)	26,035 feet (4.83 miles)	41,706 feet (7.89 miles)	12,500 feet (2.36 miles)	34,991 feet (6.63 miles)	47,491 feet (8.99 miles)

**the linear feet included in this total are also included in the total linear feet for on and off road trails*

The 41,706-foot CMAQ Trail is separated out since these trail linkages have been designed. It is anticipated that the majority of the funding will come from a grant previously awarded to Towamencin Township. This grant was obtained through a Congestion Mitigation and Air Quality Improvement (CMAQ) Grant, a federal grant through the Delaware Valley Regional Planning Commission (DVRPC). CMAQ and the grant, as described by DVRPC’s website are:

[A] strategic federal initiative, funded through the DVRPC Transportation Improvement Program (TIP). The CMAQ program enables the DVRPC region to target funding to innovative programs that help manage congestion as we work to meet the national air quality standards. Many of these projects, though beneficial, might not be funded if not for this special effort. Periodically, DVRPC conducts a competitive application program open to public agencies, incorporated private firms and non-profit entities. Projects are selected for their ability to cost effectively reduce emissions from highway sources. CMAQ is a reimbursement program which can typically cover up to 80% of eligible project costs, with the project’s sponsor covering at least the remaining 20%. (Source: www.dvrpc.org)

Of all the trails proposed in this Plan, the highest priority is the Liberty Bell Trail/Evansburg Park Trail; this trail also represents the highest priority recommendation for this plan. This trail will connect the proposed Montgomery County Trail in Evansburg State Park on the extreme southwest corner of the Township

to the proposed Liberty Bell Trail, which touches the Township on the extreme northeast corner. It also takes into account the County's proposed Power Line Trail. This trail is expected to be a combination of on- and off-road trail segments.

The high priority trail will directly serve a large cross-section of the Township's pedestrian and bicycle traffic. This trail provides linkages to other planned trails, and is designed to provide access between the Township's parks, residential neighborhoods, and the Towamencin Village District.

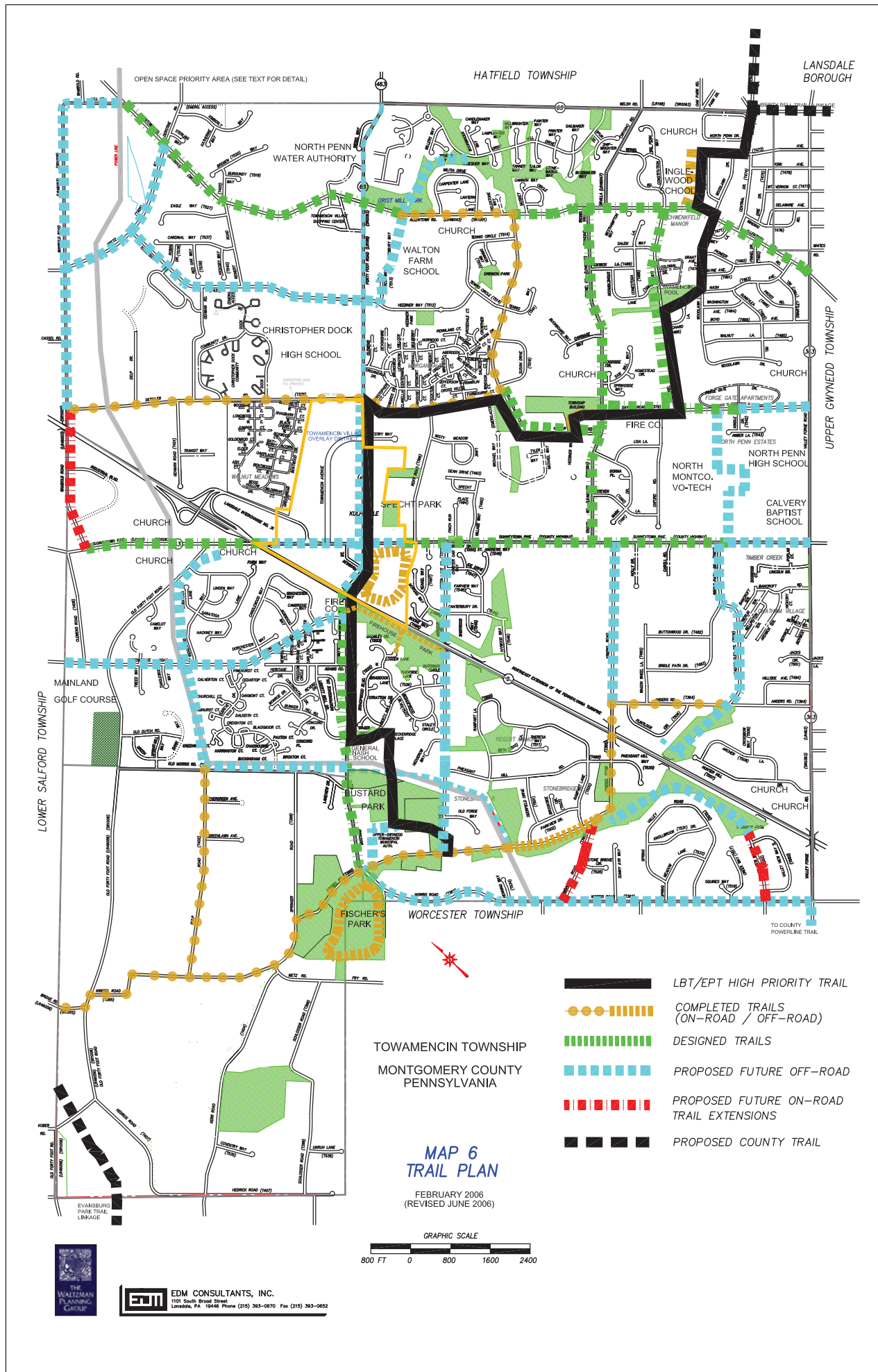
With regard to some specific destinations, the trail network proposed for Towamencin Township will connect the County's Liberty Bell/Evansburg State Park Trails, with two other "spines" connecting various destinations within the Township and provide excellent linkages, both on- and off- road. The first, Bustard Road/Forty-Foot Road nearly divides the Township down the middle. This provides a north-south spine, which generally connects important sites such as Christopher Dock High School, the Walton Farm Elementary School, and the Towamencin Village area through Township parks ending in Evansburg State Park. Leading from this spine, a trail has been planned between the Township Complex, an historic site, and the Towamencin Pool complex, adjacent to the Morgan Log House, also an historic site. The second major spine along Sumneytown Pike (Route 63, west of Forty-Foot Road) provides the east to west portion of the trail network, establishing a connection between the North Penn High School/North MontCO Vo-Tech School area and the Bustard Road/Forty-Foot Road spine, and through Township parklands, and again, ending at Evansburg State Park. It should be noted that Map 6 does not include specific delineation of trails within Evansburg State Park; it is recommended within the Action Plan that the Township work with the State on the development of the trail network within the Towamencin portion of the park.

In addition, all other trails, while still remaining a priority through the "window" of this plan, are planned for long term implementation. Primarily off road trails, the depiction of the trail locations on Map 6 (and Map 7: Open Space Plan) is merely representational; the exact location, ownership (easements or out-right Township acquisition), and exact construction details (materials, width, etc.) will be determined as each trail is programmed.

Various techniques can be used to acquire land for trail development by a municipality; according to the Guidelines for Trail Development within Montgomery County, Pennsylvania (the document is included in full in Appendix E), there are three acceptable methods:

- 1) Fee Simple Acquisition: A complete transfer of land ownership from one landowner to another party, usually by purchase.

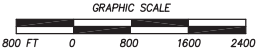
- 2) Easement: Grants the right to use a specific portion of the land for a specific purpose or purposes. Easement may be limited to a specific period of time or may be granted in perpetuity; or the termination of the easement may be predicated upon the occurrence of a specific event. An easement agreement survives transfer of landownership and is generally binding upon future owners until expires on its own terms.
- 3) License/Lease Agreement: the temporary grant of an interest in land upon payment of determined fee. The fee does not have to monetary, but some consideration must be given for the right to use the land, or the lease will not be legally binding.
 - i. License/lease agreements (between public utility agencies) will only be recognized and accepted by the Green Field/ Green Towns Program if the agreement is for 25 years or longer (with renewal options) and the municipality agrees to maintain and police the trail segment for that time span. The above stated condition of approval is to ensure that the municipality is 100% committed to planning, designing, building, and maintaining their public asset and recreation amenity.



TOWAMENCIN TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

**MAP 6
TRAIL PLAN**

FEBRUARY 2006
(REVISED JUNE 2006)



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Chapter 8. Recommendations

The Towamencin Open Space Planning Committee established a series of six goals and multiple objectives to guide open space preservation in the Township. Some of these goals can be implemented immediately by the Township while others will take additional planning, time, and resources. The Township is assisted in this process by their Round 1 municipal allocation of \$1,314,808 from the *Green Fields/Green Towns* Program, which Towamencin is entitled to receive prior to April 2008. This initial funding is a logical vehicle to assist in the implementation of the Township's short-term priorities. The competitive funding provided by the County after 2008, presents an opportunity to assist in the implementation of long-term priorities. Other funding sources are available to assist in both short and long-term priorities.

Short-term Recommendations (2005-2008)

- Design and build the proposed Liberty Bell Trail/Evansburg Park Trail connector Trail (LBT/EPT Trail). The proposed LBT/EPT Trail is shown on Map 6: Trail Plan and Map 7: Open Space Plan.
- Develop the bike trails using previously awarded Congestion Mitigation and Air Quality (CMAQ) funding.
 - Towamencin was awarded this funding from the federal transportation budget through the Delaware Valley Regional Planning Commission. The funding is for bike trails that have already been designed for construction by Schor dePalma Engineers (Township Engineer). Towamencin should move forward with this project and provide matching funds from their Round 1 allocation from the *Green Fields/Green Towns* program.
- Acquire recreation land in the Northwestern Section of the Township, represented on the Open Space Plan, Map 7, using the following criteria:
 - Preference will be given to parcel(s) that are preferably 20 acres or larger (15 acres at a minimum)
 - Land should not have large areas encumbered by environmental constraints that would make it unsuitable for recreational fields or courts.
 - Track the status of private development in the northwest section, and give priority to any land areas that may be donated to the Township.
 - The selected property should be accessible to:
 - Suitable through road(s)

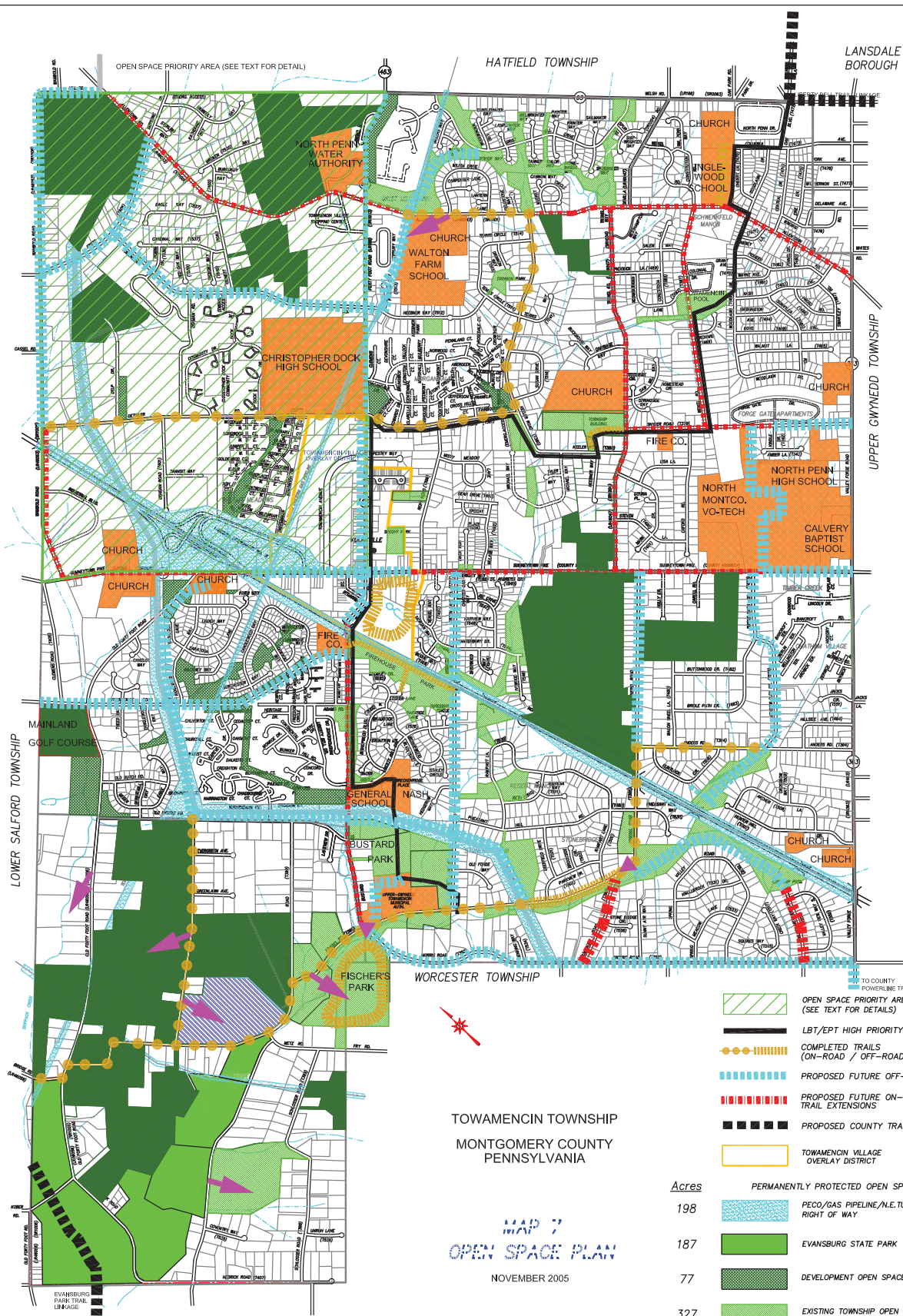
- Pedestrian paths
 - Residential areas
 - Prioritize properties that could be developed in conjunction with:
 - Christopher Dock School
 - Hatfield Township
 - Lower Salford Township
 - North Penn School District
 - Other agencies or organizations.
 - Prioritize properties that can be linked to the PECO power line right-of-way.
- There are several amendments to the Township Zoning Ordinance that the Planning Commission should investigate and if appropriate, draft language for the Board of Supervisors' approval, including:
- Amend the clustering provisions of the ordinance to, at a minimum, expand its use in other districts, reduce the minimum tract size where clustering applies, and increase the minimum open space set aside requirement. In amending the clustering provisions, include application to the R-200 Zoning District parcels with adjacent uses; these provisions should be written so that existing farmland is protected and development on agricultural tracts is not encouraged (with open space required around the periphery of the tract). This amendment will require a commitment for some form of on-site sewer provision; municipal sewer is not planned for this area.
 - Investigate the possibility of amending the clustering provisions to include attached units and permit lot averaging (to allow for farm homes on larger sites). All attached unit provisions should have proper controls that ensure the development will have the appearance of large single homes. Design of the clustering subdivision should also ensure the protection of views.
 - Add a subsection to the General Requirements that the donation or provision of open space or recreation amenities must be reviewed by the existing Township Open Space and Parks Advisory Committee to ensure consistency with this Plan.
 - Add a subsection to the General Requirements creating historic resources performance standards to protect the cultural aesthetic of historic resources.
 - Research legal techniques to fund open space acquisition and maintenance in addition to those currently enforced in the Township.

- There are several amendments to the Township Subdivision and Land Development Ordinance that the Planning Commission should investigate and if appropriate, draft language for the Board of Supervisors' approval, including:
 - Amend Section 136-502. of the ordinance to consider increasing minimum park acreage set-aside requirements per dwelling unit proposed.
 - Review and possibly update the other standards in Section 136-502.
 - Add a subsection that establishes open space design requirements for all developments similar to those in the MRC Zoning District. (These standards should be removed from the MRC District and merged into this proposed section.)
- The Board of Supervisors should authorize the Open Space and Parks Advisory Committee to conduct an audit of existing recreation facilities to determine where demand and maintenance needs are greatest.
- The Board of Supervisors should authorize the Open Space and Parks Advisory Committee to submit annual maintenance and improvement/acquisition priority reports to the Board.
- The Township should provide incentives to direct development into the Village Overlay District and other growth areas (through a streamlined development process) in order to guide growth away from lands to be preserved.
- Review land values and the fee charged as "fee-in-lieu of open space" for both non-residential and residential development. Assuming land values have risen since these fees were established, upward adjustments should be considered.

Long-term Recommendations (beyond 2008)

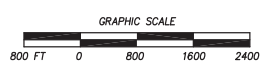
- The Board of Supervisors should request that the existing Agricultural Security Area Advisory Committee submit a status report of lands under Act 319, Act 515, and Agricultural Security Area protection and to prioritize farms that should be targeted for permanent preservation. This report should be shared with area land trusts to foster implementation.
- Design and develop the other Township trails identified on Map 6 and Map 7.
- Continue coordination with surrounding municipalities and the County for trail development and open space linkages.

- Work with the State to develop appropriate locations for the trails within Evansburg State Park and the connection points to those trails planned in Towamencin Township.



TOWAMENCIN TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

MAP 7
OPEN SPACE PLAN
NOVEMBER 2005



- SCENIC VIEW
- SCENIC ROAD

- OPEN SPACE PRIORITY AREA (SEE TEXT FOR DETAILS)
 - LBT/EPT HIGH PRIORITY TRAIL
 - COMPLETED TRAILS (ON-ROAD / OFF-ROAD)
 - PROPOSED FUTURE OFF-ROAD
 - PROPOSED FUTURE ON-ROAD TRAIL EXTENSIONS
 - PROPOSED COUNTY TRAIL
 - TOWAMENCIN VILLAGE OVERLAY DISTRICT
-
- | Acres | PERMANENTLY PROTECTED OPEN SPACE |
|-------|--|
| 198 | PECO/GAS PIPELINE/N.E. TURNPIKE RIGHT OF WAY |
| 187 | EVANSBURG STATE PARK |
| 77 | DEVELOPMENT OPEN SPACE |
| 327 | EXISTING TOWNSHIP OPEN SPACE |
| 42 | DEVELOPMENT RIGHTS EASEMENT |
-
- | OTHER PROTECTED LANDS | |
|-----------------------|--|
| 877 | TEMPORARILY PROTECTED OPEN SPACE AREAS |
| 380 | PUBLIC / INSTITUTIONAL |



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Policies and Methods for Protecting Open Spaces

While outright acquisition is always an option, it is by far the most expensive option. Without actually buying land, there are numerous techniques that communities have available that preserve vulnerable resources. However, while all of the following methods will add to the public open space system, some land may be privately held land, as with permanently preserved agricultural land. The methods that could be used are described below.

[Editor's Note: This narrative has been extracted from documents prepared by Montgomery County Planning Commission. These policies and methods are generally applicable to most open space plans of this type. Editor's notes have been added indicating the specific applicability to the Towamencin Township Plan.]

Agricultural Zoning

This technique substantially lowers the density in rural areas so that only agricultural lots are created or perhaps a few residential lots. The minimum lot size must be large enough to support profitable farm operations (for example, from 10 to 40 acres). Generally 10 acres is used as a minimum farm size, which is consistent with Act 319 and other state and federal criteria. Whatever size is used, it will be a very restrictive minimum lot size and, except for estate lots, will exclude almost all residential development. A variation of this maintains a density of one home per 10 to 40 acres but allows homes to be put on smaller lots of 1 or 2 acres in size. This still limits the area to an agricultural density but allows small lots to be subdivided. As a result, farmers who need some income can subdivide off a few residential lots without changing the agricultural character of the area.

Still another variation relates the minimum lot size to the type of soil located on the property. Areas that have prime agricultural soils and soils of statewide importance would have one home per 10 to 40 acres, depending on the community's desires. Areas with other soil types could have homes on smaller lots (1 to 2 acres). This approach directly relates the zoning to the preservation of agricultural soils.

In order to use any of these zoning techniques, a municipality should have a strong, viable agricultural community and a limited amount of rural residential development. The zoning has to be clearly related to protecting agriculture, not just rural character. In addition, relating the zoning to the preservation of agricultural soils will strengthen the ordinance.

[Editor's note: Although it would appear that this may not be the most appropriate technique for Towamencin, it should be considered given the concentration of non-permanently protected agricultural land in the southwest corner of the Township.]

Create or Join an Agricultural Security Area and Encourage the Sale of Farmland Development Rights

State law allows groups of farmers, with municipal approval, to create agricultural security districts. These districts must comprise at least 500 acres, although the farms do not have to be contiguous. If a municipality has farms but cannot meet the acreage requirement, it can join another municipality's

district. Landowners who join one of these districts have absolutely no obligations whatsoever, but they do receive three distinct benefits. First, farms in agricultural security areas are protected from new ordinances that would restrict normal farming operations or define farms as nuisances. However, the farm operation must use acceptable farming practices that do not threaten the public health, safety, and welfare.

Second, condemning land in agricultural security areas is more difficult. Land condemnations by the Commonwealth or local municipal authorities, school boards, and governing bodies must be reviewed and approved by a state agricultural board before any action can be taken. Third, farms in an agricultural security area can apply to sell their development rights to the county and state. When development rights are sold, farmers receive the difference between the development value of their property and the farm value of their property. In return, a conservation easement is placed on the property permanently restricting any nonfarm development on the property. This program permanently preserves farms.

[Editor's note: As documented in this Plan, the Township already has an active ASA program, Encouraging existing participants, as well as any new ones, to sell their development rights, should be a priority.]

Performance Zoning

With this type of zoning, the minimum lot size in rural areas is directly related to the natural characteristics of a site. Through ratios put into the zoning ordinance, the lot size corresponds to the type and extent of natural features that present development constraints such as high water table soils, floodplain, and steep slopes. When a lot of these features are present, the minimum lot size must be increased. In contrast, where none exist, the minimum lot size will be relatively small, perhaps as small as 1 acre.

This type of zoning, known as performance zoning, has recently been upheld by the Pennsylvania courts as a viable way to controlling the impact of development on natural features. The simplest performance zoning ordinances subtract certain environmental constraints, such as floodplains and wetlands, from the net lot area. The area that is not environmentally constrained must meet the zoning district's minimum lot size. For example, if the zoning district allowed 2-acre lots and an applicant proposed a plan with a 2.5-acre lot but this lot had 1 acre of floodplains, the lot would not be permitted because it only has 1.5 acres of net area after floodplains are subtracted.

More complicated performance zoning ordinances apply ratios, ranging from 1 percent to 100 percent, to a wide range of environmental constraints such as floodplains, wetlands, steep slopes, soils, geology, woodlands, etc. The ratio is multiplied by the constrained portion of the lot. This is subtracted from the lot area to derive net lot area. For example, a 5-acre lot has 1 acre of floodplains and 1.6 acres of steep slopes. The zoning ordinance uses a ratio of 100 percent for floodplains and 50 percent for steep slopes. The 1 acre of floodplain is multiplied by 100 percent, which yields 1 acre. The 1.6 acres of steep slopes are multiplied by 50 percent, which yields .8 of an acre. The floodplain and steep slope constraints are added together, which totals 1.8 acres, and then subtracted from the lot area of 5 acres to yield a net lot area of 3.2 acres.

Reduce the Visual Impact of Rural Development

Communities can reduce the visual impact of rural development that occurs by encouraging or requiring homes to be hidden from view. For example, the zoning could allow a smaller lot size if

homes are located in wooded areas or behind ridgelines. On the other hand, the community could require homes that will be located on existing roads to have a larger lot size, bigger setbacks from the road, or screen buffers between the road and the home.

Often, municipalities require rural subdivisions to provide curbing and to widen the road, even though these improvements may not be necessary. It is necessary to widen streets and provide curbs in some areas. However, when these improvements are required in locations that do not need them, the historic rural character of the roadway is changed. Sometimes, special features of the landscape, such as historic bridges, tree rows, fences, and hedges, are also destroyed in the process.

Cluster Homes

Open space can be preserved within a proposed development by clustering the homes on one portion of the site while keeping the remainder as permanent open space. The overall density of the site remains approximately the same, but homes are put on smaller lots. The preserved open space might contain rural views, historic landscapes, farmland, woodlands, steep slopes, floodplain, wetlands, or any other vulnerable resource. The open space also may be dedicated to the township for parkland.

When homes are clustered on a site, significant portions of the site can be preserved-sometimes as much as 75 percent or 80 percent. Some of this open space can be left in the developed portion of the site so homes face neighborhood open space. In addition to benefiting the community by preserving important natural resources, clustering also benefits the developer by lowering infrastructure cost, usually by reducing the length of roads and utility lines.

[Editor's note: As documented in this Plan, some forms of cluster development already exist in the Township. Some recommendations to strengthen the effectiveness of this technique in the Township have been included in this Plan..]

Incentive Zoning

Communities can encourage developers to provide open space, recreation facilities, trails, and parkland through incentives. The incentive, which is put into specific zoning districts, might be that the developer gets a higher density than otherwise permitted, or perhaps a smaller lot size, or a waiver from certain landscaping requirements. The ordinance must be designed so that the cost of providing the amenity does not exceed the benefit received from the incentive. Otherwise, the developer will not take advantage of the incentive.

Natural Resource Protection Ordinances

These ordinances protect specific natural features such as floodplains, stream corridors, wetlands, groundwater, steep slopes, and woodlands.

- **Floodplains.** Floodplain ordinances, which exist in all of Montgomery County's communities, restrict or prohibit all development within floodplains, especially development within the 100-year floodplain. There are three levels of floodplain restrictions often seen in the county. Some floodplain ordinances, typically found in boroughs, allow development within the floodplain provided buildings are flood-proofed. Many ordinances do not allow most types of development within the floodplain. This approach protects property from flood damage, protects the environment within the floodplain, and reduces the possibility of raising the flood level. Other ordinances not only restrict development within the floodplain but also require a minimum setback from the edge of the floodplain. This approach protects the floodplain and may protect,

depending on its width, the unique wooded habitat, known as riparian woodlands, often located next to the floodplain.

- **Stream Corridors.** Stream corridor protection ordinances go further than floodplain ordinances, which are primarily intended to limit property damage. The intent of stream protection ordinances is to protect the water quality of the stream as well as plant and animal habitats. Typically, these ordinances impose a minimum setback from the stream bank in which no development may occur. For example, a minimum setback of 75 feet from the stream bank will help stabilize the stream bank, control sediment, remove nutrients that would pollute the stream, moderate stream temperature, and provide wildlife habitat. The area within the buffer should be left in its natural state, which will usually be a riparian woodland.

- **Wetlands.** Federal and state governments regulate wetlands and so can municipalities. Sometimes, development occurs on wetlands, and the state and federal governments are unaware of this development. Municipalities that prohibit development on wetlands and require wetlands to be shown on development plans, can stop development of wetlands from slipping through the cracks. Sometimes, developers receive all of the federal and state permits they need, but they locate homes right next to wetland areas. Although this is permitted by state and federal regulations, it can lead to future problems if individual homeowners decide to fill in the wet spot behind their home to have a more usable back yard. Local municipalities can eliminate this problem by requiring a minimum building setback from wetlands. In addition, federal and state regulations only address the filling of wetlands, not the destruction of vegetation within the wetlands. Local municipalities can require the replacement of destroyed wetlands vegetation.

- **Groundwater.** Groundwater quality can be protected with wellhead protection ordinances or aquifer recharge ordinances. Because aquifers are so large, wellhead protection ordinances are more common. These ordinances, which only protect public wells not individual wells, regulate development in an area that could potentially contaminate the groundwater supplying a well. This area, called a wellhead protection area, can be identified in a number of ways. The most accurate method is to conduct a hydrogeologic survey. Development within the wellhead protection area can be regulated by restricting certain uses such as gas stations, limiting the intensity of development (such as limiting the density of single-family detached homes with individual septic systems), and/or by controlling how a land use activity occurs (such as farming with specific types of pesticides, herbicides, and other chemicals). In addition, a community may impose design standards on new construction that might pollute the groundwater. This could include hazardous materials containment structures or areas, surface water runoff collection systems, and large impervious areas such as parking lots and buildings.

- **Steep Slopes.** Steep slope ordinances restrict or prohibit development in steep slope areas, which are typically areas with slopes of 15 percent or more. Usually, on slopes of 15 percent to 25 percent, development is permitted if the minimum lot size is increased and/or the percent of the lot disturbed is limited. Some steep slope ordinances prohibit all development, although this prohibition does not normally occur until the slopes are extremely steep-25 percent or more.

- **Woodlands.** Woodland preservation ordinances are intended to protect existing trees and woodlands. Some of these ordinances provide minimum standards, which must be followed during construction for trees that will remain. Other ordinances allow developers to put up fewer street trees, buffers, or individual lot trees when existing trees are preserved. Some ordinances

require developers to replace trees that are cut down. Other ordinances, which may face legal challenge, prohibit the destruction of any trees.

[Editor's note: Also as documented early in the Plan, the Township already has many regulatory provisions in place to protect sensitive environmental features, such as those discussed above. Recommendations to improve/supplement these regulations with additional ones, is included herein as well.]

Transfer of Development Rights

This method of preserving rural land transfers development from rural areas to growth areas. With a transfer of development rights program, rural landowners can sell their development rights to developers in the township's growth areas instead of developing their rural land.

For example, a rural landowner who has 50 acres might normally be allowed to subdivide them into 20 two-acre lots. Instead, with a TDR program, the landowner sells the right to build these 20 lots to a developer in a growth area. The developer adds those 20 units, or more as appropriate, to the number of units normally allowed to be built. The rural landowner, who has been paid for these development rights, is then required to deed restrict the land against any future development.

Encourage Donations of Properties for Permanent Open Space

Sometimes, landowners want to preserve their land by donating the full title of the property or by donating their development rights to nonprofit land conservation groups. Either of these approaches will permanently preserve land as open space. Landowners who donate development rights will receive tax benefits, but the land must be permanently restricted from future development. There are a number of land conservation groups operating in Montgomery County that would be willing to take these donations. These groups include the Montgomery County Lands Trust, the Brandywine Conservancy, the Natural Lands Trust, the Nature Conservancy, the Conservancy of Montgomery County, and the Wissahickon Watershed Association.

Some land conservation groups can also help local landowners develop some of their land while keeping the majority open and deed-restricted. With this approach, the land is developed in a very sensitive manner. The landowner receives some money, while the most important environmental amenities on the site are preserved.

[Editor's Note: The Township recently was the recipient of a donation of open Space, the 35 acre Kibler Estate. The Township should work with land preservation organization to better educate landowners about donations.]

Require Developments to Provide Open Space or Pay a Fee In Lieu of Such Open Space

Through the zoning and/or subdivision ordinance, municipalities can require developers to provide open space. If this requirement is put into the zoning ordinance, it must be located in specific zoning districts such as the high-density residential district. The zoning ordinance may specify that a certain percentage of a site, perhaps 15 percent to 20 percent, must meet a number of criteria and be maintained as common open space. The municipality cannot require this open space to be dedicated or to be open to the public or to include specific recreational facilities. The community can, however, require the land to meet specific standards such as the open space must consist of flat, open land that is suitable for playing fields.

According to the Pennsylvania Municipalities Planning Code, the subdivision and land development ordinance can also require developers to provide open space, but it can go much further than the zoning ordinance. It can require the land to be dedicated to the township. If a developer does not want to provide land, the ordinance can require fees in lieu of land. In order to have this type of requirement, the community must have an adopted recreation plan, and the ordinance must follow specific standards in the municipality's code. Usually, unless a development includes an area the community wants to use for parkland, it is better for municipalities to accept fees in lieu of open space. This is so large, central parks can be provided rather than a number of small, inaccessible, and limited park sites.

Generally, requiring developments to provide open space allows municipalities to meet the needs of new residents without building new municipal parks. With this technique, for instance, the developer of a large townhouse development or single-family detached development would have to provide parkland for the homeowners in these developments. If there were no land and facilities provided by the developer, these homeowners might eventually put pressure on the township to provide open space and parkland.

[Editor's note: This practice is already in force in the Township. When open space cannot practically be provided, fees in lieu are collected. This plan recommends the amount of these fees be reviewed and adopted as appropriate to account for reviewed land values.]

Historic Preservation Ordinances

Although not directly related to open space preservation, saving historic properties does add to the character of an area. There are a number of techniques communities can use for historic preservation. First, they can amend their building codes to require a review before demolition permits are issued. This approach delays demolition and allows community input but does not stop demolition or encourage preservation of the building. Second, communities can also amend their zoning ordinance to encourage historic preservation. This could be done by creating a village ordinance which gives development bonuses for preserving buildings or restricts the uses that can go into the district. Incompatible uses, such as gas stations, are not permitted in these districts.

The zoning ordinance can also encourage historic preservation by allowing historic buildings to have more uses than normally permitted in a particular district. For example, apartments, bed and breakfast establishments, or offices might be permitted in historic homes located in a single-family detached residential district. Third, communities can create historic districts with the approval of the Pennsylvania Museum Commission. This approach is the most restrictive. After a historic district is created, townships have stringent control over design and preservation of facades. A township architectural review board has to be created to review all proposed changes to historic buildings.

[Editor's note: While a historic district does not appear appropriate for Towamencin, give the dispersal of resources, other zoning techniques could be advantageous. In addition to supplemental uses for some types of historic buildings, a historic and cultural overlay district is a possibility. This would ensure that these resources are properly considered during the development process.]

Chapter 9. Action Plan

On the following pages is an Action Plan which lists the various recommendations contained throughout the Plan. It lists the recommended implementation strategy (or 'action'), the responsible parties to undertake the action (in many cases there will be multiple parties, but the major 'players' are listed), the priority for the action, an estimated cost, and potential funding sources. In each case, Township revenues are possible funding sources, but are not listed since they would apply to all. Specific funding or grant programs which might fund particular types of actions are listed.

In terms of funding sources, the Township has several at its disposal. Currently, Towamencin Township requires that each development pay a fee-in-lieu of open space when none is set aside; the fee is dependant on the number of dwelling units developed or square footage of non-residential area developed (\$1,000 per dwelling unit or \$1,000 per 2,000 square feet for non-residential). Over the past five years, this fund has been averaging over \$40,000 per year in contributions.

Additionally, the Township has investigated and obtained a grant from the Congestion Mitigation and Air Quality Improvement (CMAQ) Program; while this program is possibly a "one-time" funding source, others shall be investigated (as have been identified in the Action Plan Chart following this section).

Action Plan Chart

Implementation Strategies (Actions)	Responsible Parties	Priority	Cost	Potential Funding Sources
<p>Design and build the proposed Liberty Bell Trail/Evansburg Park Trail connector Trail (LBT/EPT Trail).</p>	<p>Board of Supervisors, Open Space Committee, Township Staff, Township Engineer</p>	<p>Short Term</p>	<p>Using the Montgomery County standard linear foot cost for a six foot wide multi-use trail, paved the approximate cost for the 26,035 linear feet of proposed trail would be: \$559,750. *</p> <p>*This figure does not include preliminary or final engineering costs or land acquisition (easements have been assumed). The cost, according to Montgomery County would be \$21.50 per linear foot for "virgin" territory; cost would be less for areas where less earth moving is necessary.</p>	<p>Montgomery County Open Space Funding, Rivers, Trails, and Conservation Assistance Program (Nat'l Park Service)</p>
<p>Develop the bike trails using previously awarded Congestion Mitigation and Air Quality (CMAQ) funding.</p>	<p>Board of Supervisors, Open Space Committee, Township Staff, Township Engineer</p>	<p>Short Term</p>	<p>Using the Montgomery County standard as described in the previous row, and with the estimated 41,706 linear feet of proposed trail, the approximate cost for trails in this category would be \$896,679. *</p> <p>*This figure does not include preliminary or final engineering costs or land acquisition (easements have been assumed). The cost, according to Montgomery County would be \$21.50 per linear foot for "virgin" territory; cost would be less for areas where less earth moving is necessary.</p>	<p>CMAQ (DVRPC), Montgomery County Open Space Funding Rivers, Trails, and Conservation Assistance Program (Nat'l Park Service)</p>



Implementation Strategies (Actions)	Responsible Parties	Priority	Cost	Potential Funding Sources
<p>Acquire recreation land in the Northwestern Section of the Township, represented on the Open Space Plan, Map 6</p>	<p>Board of Supervisors, Open Space Committee, Township Staff</p>	<p>Short Term</p>	<p>The cost to acquire twenty acres in the Northwestern section of the Township would cost approximately \$971,400. This estimate is based on the recent appraisal of the Kibler Estate, at \$1.7 million for 35 acres (\$48,570 per acre); the Kibler parcel is the most recent land donation and appraisal in Towamencin Township. Prices for acquisition will vary depending on market conditions, condition of the land, and numerous other factors. Engineering fees, or other costs for final land development are not included in this figure.</p>	<p>Montgomery County Open Space Funding, Community Conservation Partnership Program (DCNR) PECO Energy "Green Region" Funding</p>
<p>Review land values and the fee charged for "fee-in-lieu of open space."</p>	<p>Board of Supervisors, Township Staff</p>	<p>Short Term</p>	<p>Administrative Cost</p>	



Implementation Strategies (Actions)	Responsible Parties	Priority	Cost	Potential Funding Sources
Zoning Text Changes				
<p>Amend the clustering provisions of the ordinance to, at a minimum, expand its use in other districts, reduce the minimum tract size where clustering applies, and increase the minimum open space set aside requirement. In amending the clustering provisions, include application to the R-200 Zoning District parcels with adjacent uses; these provisions should be written so that existing farmland is protected and development on agricultural tracts is not encouraged (with open space required around the periphery of the tract). This amendment will require a commitment for some form of on-site sewer provision; municipal sewer is not planned for this area.</p>	<p>Board of Supervisors, Planning Commission, Township Staff, Planning Consultant</p>	<p>Short Term</p>	<p>Administrative Costs, possible consultant cost between \$3,500 and \$7,500</p>	<p>PA DCED Land Use Planning and Technical Assistance Program (LUPTAP)</p>



Implementation Strategies (Actions)	Responsible Parties	Priority	Cost	Potential Funding Sources
Zoning Text Changes (cont)				
<p>Investigate the possibility of amending the clustering provisions to include attached units and permit lot averaging (to allow for farm homes on larger sites). All attached unit provisions should have proper controls that ensure the development will have the appearance of large single homes. Design of the clustering subdivision should also ensure the protection of views.</p>	<p>Board of Supervisors, Planning Commission, Township Staff, Planning Consultant</p>	<p>Short Term</p>	<p><u>Note:</u> This action item would be done in conjunction with the item immediately preceding item in this Action Plan; therefore no additional cost figure is included here.</p>	<p>PA DCED Land Use Planning and Technical Assistance Program (LUPTAP)</p>
<p>Add a subsection to the General Requirements that the donation or provision of open space or recreation amenities must be reviewed by the existing Township Open Space and Parks Advisory Committee to ensure consistency with this Plan.</p>	<p>Board of Supervisors, Planning Commission, Township Staff, Open Space and Parks Advisory Committee, Planning Consultant</p>	<p>Short Term</p>	<p>Administrative Costs, possible consultant cost between \$1,500 and \$2,500</p>	<p>LUPTAP</p>
<p>Add a subsection to the General Requirements creating historic resources performance standards to protect the cultural aesthetic of historic resources.</p>	<p>Board of Supervisors, Planning Commission, Township Staff, Historic Society, Planning Consultant</p>	<p>Short Term</p>	<p>Administrative Costs, possible consultant cost between \$3,000 and \$5,000</p>	<p>LUPTAP</p>



Implementation Strategies (Actions)	Responsible Parties	Priority	Cost	Potential Funding Sources
Zoning Text Changes (cont)				
Research legal techniques to fund open space acquisition and maintenance in addition to those currently enforced in the Township.	Board of Supervisors, Planning Commission, Township Staff, Planning Consultant	Short Term	Administrative Costs, possible consultant cost between \$3,000 and \$6,000	LUPTAP
Subdivision and Land Development Ordinance Text Changes				
Amend Section 136-502 of the ordinance to consider increasing minimum park acreage set-aside requirements per dwelling unit proposed.	Board of Supervisors, Planning Commission, Township Staff, Planning Consultant	Short Term	Administrative Costs, possible consultant cost between \$1,500 and \$3,000	LUPTAP
Review and possibly update the other standards in Section 136-502.	Board of Supervisors, Planning Commission, Township Staff, Planning Consultant	Short Term	Administrative Costs, possible consultant cost between \$2,500 and \$4,000	LUPTAP
Add a subsection that establishes open space design requirements for all developments similar to those in the MRC Zoning District.	Board of Supervisors, Planning Commission, Township Staff, Planning Consultant	Short Term	Administrative Costs, possible consultant cost between \$2,500 and \$4,000	LUPTAP
Conduct an audit of existing recreation facilities to determine where demand and maintenance needs are greatest.	Board of Supervisors, Planning Commission, Township Staff, Open Space Advisory Committee	Short Term	Administrative Costs, possible consultant cost	



Implementation Strategies (Actions)	Responsible Parties	Priority	Cost	Potential Funding Sources
<p>The Board of Supervisors should authorize the Open Space and Parks Advisory Committee to submit annual maintenance and improvement / acquisition priority reports to the Board.</p>	<p>Board of Supervisors, Open Space and Park Advisory Committee, Township Staff</p>	<p>On-going</p>	<p>Administrative Costs</p>	
<p>The Township should provide incentives to direct development into the Village Overlay District and other growth areas (through a streamlined development process) in order to guide growth away from lands to be preserved.</p>	<p>Board of Supervisors, Township Staff</p>	<p>Long Term</p>	<p>Administrative Costs, possible consultant cost between \$2,000 and \$4,000</p>	<p>LUPTAP</p>
<p>The Board of Supervisors should request that the existing Agricultural Security Area Advisory Committee submit a status report of lands under Act 319, Act 515, and Agricultural Security Area protection and to prioritize farms that should be targeted for permanent preservation. This report should be shared with area land trusts to foster implementation.</p>	<p>Board of Supervisors, Agricultural Security Area Advisory Committee, Township Staff</p>	<p>On-going</p>		



Implementation Strategies (Actions)	Responsible Parties	Priority	Cost	Potential Funding Sources												
Design and develop the other Township trails identified on Map 6 and Map 7.	Board of Supervisors, Open Space and Park Advisory Committee, Township Staff	On-going	<table border="0"> <tr> <td>Prop. linear feet</td> <td>Cost per linear foot*</td> <td>Total Cost</td> </tr> <tr> <td>On road 44,795</td> <td>\$13.00</td> <td>\$582,335</td> </tr> <tr> <td>Off Road 87,684</td> <td>\$21.50</td> <td>\$1,885,296</td> </tr> <tr> <td colspan="2">Total:</td> <td>\$2,467,631</td> </tr> </table> <p>*cost per linear foot based on Montgomery County Trail standards</p>	Prop. linear feet	Cost per linear foot*	Total Cost	On road 44,795	\$13.00	\$582,335	Off Road 87,684	\$21.50	\$1,885,296	Total:		\$2,467,631	
Prop. linear feet	Cost per linear foot*	Total Cost														
On road 44,795	\$13.00	\$582,335														
Off Road 87,684	\$21.50	\$1,885,296														
Total:		\$2,467,631														
Continue coordination with surrounding municipalities and the County for trail development and open space linkages.	Board of Supervisors, Township Staff	On-going														
Work with the State to develop appropriate locations for the trails within Evansburg State Park and the connection points to those trails planned in Towamencin Township.	Board of Supervisors, Township Staff	On-going														

Notes:

- (1) Some trail costs herein are duplicative since trail categories overlap in some areas (See Map 6).
- (2) Consultant costs are general estimates; should ordinances amendments be done simultaneously, cost would not necessarily be additive.

Chapter 10. Appendices

Appendix A: Meeting Minutes

**Towamencin Township
Open Space Plan Committee
June 28, 2004
7:00 p.m.**

Present:

Thomas Hollenbeck
Tom Shirley
Monica Burcik
Carol Gifford
Brett MacKay
Joe Meehan
Chris Thaler

Absent:

John Minihan

Dr. Hollenbeck welcomed everyone and stated that before the meeting commenced, the members should appoint a Chairman, Vice Chairman and Recording Secretary.

It was the consensus of the Committee to appointment Joe Meehan as Chairman, Monica Burcik as Vice Chairman and Chris Thaler as Recording Secretary.

Dr. Hollenbeck asked Mrs. Burcik if she would give an overview of the Green Fields/Green Towns Program and the purpose of the Committee.

Mrs. Burcik explained the goals and purpose of the program. She stated it is an 80/20 match program with the County funding 80% and the Township funding 20%. She stated that the program was established to expand upon the previous County Open Space Plan.

A discussion was held on the role of the community with this plan.

The Committee discussed their objectives/goals for this Committee.

It was decided that the Committee would ask Santina DeSipio from the Montgomery County Planning Commission to attend the next meeting to answer questions the Committee may have.

The Committee agreed that priority should be focused on hiring a professional consultant for updating the Open Space Preservation Plan.

Mr. Thaler was directed to have a draft of a Request for Proposal together for the Committee's next meeting in July.

The next Committee meeting will be held on July 19 at 7:00 p.m. There being no further business, the meeting adjourned.

Respectfully submitted,

Chris Thaler, Recording Secretary

**Towamencin Township
Open Space Plan Committee
July 19, 2004
7:00 p.m.**

Present:

Thomas Hollenbeck
Monica Burcik
Joe Meehan
John Minihan

Tom Shirley
Brett MacKay
Chris Thaler
Michael Stokes, MontCO Planning Commission

Absent:

Carol Gifford

The meeting was called to order at 7:00 p.m.

Mr. Hollenbeck introduced Michael Stokes of the Montgomery County Planning Commission to the Committee.

The Committee approved the minutes of the June 28, 2004 meeting.

Mr. Stokes reviewed the grant process for the Green Fields/Green Town Programs. He explained the various funding allocations. Mr. Stokes stated the Township has \$1.3 million available through this program and encouraged the Township to seek partnerships.

Mr. Stokes addressed the Committee member's individual questions concerning this grant program and what the money could be used for. He stated the Township was in a good position of receiving funds than other municipalities as it had an advisory committee in place, was an open minded Township, and had a proven tract record of accomplishments.

Mr. Meehan requested the Committee look at the Bustard Road Park baseball/softball Request for Proposals and use it as a guideline for the preparation of the Request for Proposals for the Open Space Plan revision.

The Committee discussed what should be added to the County's proposed Request for Proposal. Mr. MacKay suggested breaking down the Consultant's payments based on the importance of the project completion. The Committee agreed that the following breakdown was to be incorporated into the RFP.

- 5% - Plan audit
- 25% - Update inventory
- 35% - Analysis
- 15% - Recommendations
- 20% - Acceptance by the County and Board of Supervisors

The Committee came to the consensus that goals were needed to be outlined for the Request for Proposals.

The Committee directed Mr. Thaler to have an update to the Request for Proposal for the August 23 meeting.

**Towamencin Township
Open Space Plan Meeting
August 24, 2004
7:00 p.m.**

Present:

Tom Shirley
Tom Hollenbeck
Joe Meehan
Carol Gifford
Chris Thaler
Beth DiPrete

Absent:

Monica Burcik
Brett Mackay
John Minihan

Joe Meehan called the meeting to order at 7:00 p.m.

Approval of Minutes

The Committee approved the minutes of the July 19, 2004.

Request For Proposals (RFP)

The Committee reviewed the proposed RFP and made corrections.

Mrs. DiPrete asked for clarification on the payment schedule outlined in the revised RFP. Mr. Meehan explained the breakdown and how the Committee came to this conclusion.

Mrs. Gifford questioned how the Committee was to get the community involved in the plan. It was decided the Committee would discuss this matter further with the chosen consultants for this project.

Mrs. DiPrete asked Mr. Thaler to contact other municipalities to see what they are doing to get community involvement in the project and at what stage in the process are they incorporated.

Mr. Thaler was directed to update the RFP reflecting the changes made by the Committee. After the Board's approval, Mr. Thaler was directed to distribute the proposal to various consultants.

The next meeting of the Committee will be held on October 11th at 7:30 p.m. to review bids.

There being no further business, the meeting adjourned at 7:30 p.m.

**Towamencin Township
Open Space Plan Meeting
October 11, 2004
7:30 p.m.**

Present:

Robert A. Ford, Township Manager
Thomas M. Hollenbeck, Vice Chairman, Board of Supervisors
Christopher Thaler, Park & Recreation Coordinator
Thomas Shirley
Monica Burcik
Joseph Meehan
Carol Gifford

Mr. Meehan called the meeting to order at 7:40 p.m.

The Committee approved the minutes of the August 23, 2004 meeting.

Mr. Meehan stated the main focus of this evening's meeting was to review the proposals received to update the Open Space, Park and Recreation Preservation Plan.

Mr. Meehan stated that some items were missing from some of the proposals that were received. He asked for clarification on the missing items and how they would affect the reviewing process.

Mr. Ford explained that it is the Committee's decision on how they would like to handle it. He stated that if the firm was asked to participate in the interviewing process, they could be asked about the items that were omitted from the proposal.

Mr. Shirley asked for clarification on the funding for this project.

Mr. Ford explained it was a 60/40 split. The County's portion would be 60% with the Township being responsible for 40%.

Mr. Meehan asked about approaching some of the firms about lowering their cost for professional services.

Mr. Ford explained that firms know what the County expects from these updates and price accordingly. However, prior to the Township entering into an agreement with the selected firm, the Township can try to renegotiate the fee based on clarification of required plan components.

Mr. Ford suggested that Committee bring in the top three firms for a presentation on the proposals.

The Committee agreed with this approach and felt this would be the best way to select the most qualified firm.

The Committee reviewed and discussed the proposals.

Dr. Hollenbeck asked the Committee to consider what they expect from the chosen firm.

Dr. Hollenbeck asked how important a GIS system was.

Mrs. Burcik explained the GIS system was a mapping tool and explained how helpful it would be to this type of project.

It was noted that the Township does not presently have a GIS system in place.

The Committee selected the following candidates for a presentation:

EDM Consultants and Waetzman Planning Group
Barry Isett and Associates
Gannett Flemming

The Committee directed Mr. Thaler to schedule meetings with the candidates for their next meeting on October 26, 2004.

There being no additional business, the meeting adjourned at 9:20 p.m.

Towamencin Township
Open Space Plan Advisory Committee
February 21, 2005
7:30 p.m.

Present:

Bill Dingman, EDM Consultants
Charlie Guttenplan, Waetzman Planning Group
Robert A. Ford, Township Manager
Chris Thaler, Program Coordinator
Monica Burcik
Joe Meehan
Brett MacKay
John Minihan
Carol Gifford

Absent:

Tom Shirley

Joe Meehan called the meeting to order at 7:30 p.m.

Charlie Guttenplan introduced himself and Mr. Dingman and explained what he would like to accomplish this evening. He reviewed the outline of the agenda for the evening.

Mr. Guttenplan discussed the organization of the group. Mr. Guttenplan asked Mr. Thaler to record the minutes with Mr. Ford assisting. The Committee decided that email was the best method of communication and asked that they be contacted in this fashion.

Mr. Guttenplan discussed the in-process audit of the 1995 Open Space Preservation Plan. Mr. Guttenplan asked the Committee to review the goals and objectives of the 1995 Open Space Preservation Plan and determine what portions of the Plan was achieved over the past ten years and what was not.

Mr. Dingman reviewed what he felt was achieved from the 1995 Plan and asked the Committee to review the Master Trail Plan.

The Committee requested a copy of the "trail map" prior to the next meeting.

Mr. Meehan asked if the Committee wanted to eliminate the primary seven plan areas within the Township identified in the 1995 Plan and start new as open space and community needs have changed since the adoption of the Plan. The Committee agreed that the seven areas should be eliminated and the Township be looked at as a whole.

Mr. Guttenplan reviewed the 1995 Goals and Objectives and requested the Committee create new goals and objectives more specific to the Township's present needs.

Mr. Guttenplan also asked the Committee to consider partnership with other Townships and Township groups such as TYA when doing the new plan. He noted that the original plan did not address goals for funding and that the updated plan would need to address this.

Mr. Guttenplan suggested the Committee meet prior to meeting with the Consultants again to formulate the new goals and objectives and have them ready for discussion at the next Consultant's meeting.

Mr. Guttenplan also suggested that the Committee look into connecting to the Countywide trail system.

Dr. Hollenbeck asked about timelines for grants.

Mr. Ford explained the matching requirements for grants.

Mr. Guttenplan stated that it was important for the Township to budget money for grant matches. He stated the Township needed to meet and decide what grants they wished to pursue and what matching funds would be required.

Mr. Guttenplan requested a record of time spent by the Committee members and staff. Mr. Ford stated he would create a standard form for everyone's convenience.

Mr. Guttenplan reviewed the past and current demographic profile. He suggested that the Committee look at a balance of passive and active recreation based on current demographics.

Mr. Dingman suggested that the Committee incorporate TYA into discussions. Mr. Guttenplan also suggested that the Township look at partnerships with TYA and other similar organizations to discuss their needs.

Mr. Guttenplan reviewed the revised timeline for updating the plan and the Committee concurred with the timeframe.

The next meeting of the Committee will be held on March 9, 2005 at 7:30 p.m. to discuss the new goals and objectives.

Mr. Dingman requested the Township review the open space plan his office had prepared and make any corrections.

There being no further business, the meeting adjourned at 9:10 p.m.

Respectfully submitted,

Chris Thaler
Program Coordinator

**Towamencin Township
Open Space Plan Advisory Committee
March 9, 2005
7:30 p.m.**

Present:

Joseph Meehan, Chairman
Monica Burcik
Tom Shirley
Brett MacKay

Absent:

John Minihan
Carol Gifford

Staff:

Robert A. Ford, Township Manager
Chris Thaler, Park and Recreation Coordinator

Mr. Meehan called the meeting to order at 7:30 p.m.

Approval of Minutes

The Committee approved the minutes of February 21, 2005.

Mr. Meehan reviewed the goal of the meeting to audit the 1994 Plan and formulate goals and objectives for the current plan to present to the consultants.

The Committee reviewed and discussed the 1994 Parks and Open Space Preservation Plan.

Mr. MacKay stated that the goals and objectives from the 1994 Plan are still valid. The Committee agreed and felt however, that additional objectives need to be added to meet the changing needs of the community since the 1994 Plan was developed.

Mr. Shirley stated he felt that the Committee should look at partnerships with local businesses.

Mr. Meehan agreed based on the current financial situation of the Township.

Ms. Burcik stated that there possibly is land available at Orvilla and Route 63 in Hatfield. She wondered about a joint venture.

Mr. Ford stated he will contact Hatfield Township and inquire about the property.

Mr. Shirley stated that importance of discussion with the North Penn School District and TYA and that the Committee needed to anticipate for lost field space in our goals and objectives.

Ms. Burcik concurred that the Committee needed to look at additional recreational needs to meet the objectives of the growing community.

Mr. Thaler handed out a sample of the Lansdale Borough 2005 Goals and Objectives for the same plan. The Committee discussed what goals and objectives they felt needed to be added to this plan.

The Committee noted that one of the objectives in the Lansdale Plan was to pursue rights of first refusal for vulnerable parcels. They questioned whether Towamencin should consider this, especially for properties immediately adjacent to existing Township parks. Mr. Ford indicated that he would discuss this concept with the Township Solicitor to obtain further details required for such an approach.

Mr. Thaler was directed to prepare a draft of goals and objectives for the Committee members to review.

There being no further business, the meeting adjourned at 9:00 p.m.

2005 Goals and Objectives

Goal 1 Provide open space opportunities within the Township

1. Adopt methods to require useful and sustainable green space in redeveloped areas.
2. Add various types of playing fields and additional recreational facilities to meet the current and growing needs of the community.

Goal 2 Expand and maintain existing parks, open space and recreational areas

1. Plan new and existing parks and recreational areas to address a variety of ages and uses.
2. Develop public and private partnerships to enable services and commercial ventures within our parks and recreational areas.
3. Work with local organizations to carry out similar open space goals.

Goal 3 Protect Historic and Cultural Resources

1. Identify potential historical structures and sites within the Township.
2. Promote existing historical areas within the Township.
3. Partner with similar Township organizations to preserve these areas.

Goal 4 Coordination with regional open space network

1. Work with county on regional trail planning.
2. Continue to develop Township trails and linkages to the countywide trail system.

Goal 5 Protect and preserve open space

1. Minimize the loss of open space from development through changes in zoning requirements.
2. Pursue the rights of 'first refusal' for vulnerable parcels.
3. Continue to preserve and enhance the Township's existing green spaces.

Open Space Plan Advisory Committee
April 20, 2005
7:30 p.m.

Present:

Joseph Meehan, Chairman
Monica Burcik
Brett MacKay
Tom Shirley
Thomas Hollenbeck, Liaison, Board of Supervisors
Robert A. Ford, Township Manager
Michael Stokes, Montgomery County Planning Commission
Charles Guttenplan, Consultant
Bill Dingman, Consultant

Absent:

Carol Gifford
John Minihan
Chris Thaler, Recreation Coordinator

Chairman Meehan called the meeting to order at 7:30 p.m.

Approval of Minutes – March 9, 2005

On motion of Tom Shirley, seconded by Monica Burcik, the minutes of March 9, 2005 meeting were approved as written.

Chairman Meehan turned the meeting over the Planning Consultant, Charles Guttenplan of the Waetzman Planning Group.

Mr. Guttenplan had indicated that he spoke with Mr. Ford prior to the meeting regarding the audit of the 1995 Towamencin Township Open Space Plan. Mr. Ford advised that he had spoken with Sandy DiSipio of the County Planning Commission that afternoon and had received a copy of a sample audit that was completed by Lansdale Borough. It was noted that the audit was fairly simple being only two pages in length and Mr. Ford indicated that he and Mr. Thaler would complete the audit within the next week and distribute it to the Committee.

Mr. Meehan and Mr. Dingman commented that they would also be able to provide comments on the audit.

Goals and Objectives

A new set of Goals and Objectives had been distributed with the agenda based on the document prepared by Chris Thaler following the Committee's March 9, 2005 meeting. The Committee as a whole reviewed the draft Goals and Objectives documents and included comments from Carol Gifford that were provided through Mr. Guttenplan. Based on the comments received from the Committee, Mr. Guttenplan advised that he would redraft the Goals and Objectives and distribute them for the subsequent meeting.

Discussion of Township Development Trends

Mr. Guttenplan informed the Committee that he and Mr. Dingman were still working on the plan and would bring this to a later meeting. He would also like to include what neighboring Townships are doing with their development and Open Space Plans.

Mr. Ford briefed the Committee that he and Dr. Hollenbeck attended a meeting at Skippack Township that established the Evansburg State Park Trail Task Force. He noted that they would be meeting again in July but in the meantime they will be getting together with Lower Salford Township to compare common ground where trails could possibility link up.

Public Meeting

The Committee decided that it was appropriate to hold a meeting at the early stages of the project to obtain public input on the Goals and Objectives and the overall Open Space Plan concept. To this end, they decided to hold a public meeting at 8:00 p.m. on Monday, May 23, 2005. Prior to that meeting, the Committee will meet on May 18th as preparation for the public presentation.

There being no further business, the meeting adjourned at 9:21 p.m.

Respectfully submitted,

Robert A. Ford, Township Manager

**Open Space Plan Committee
May 19, 2005
7:30 p.m.**

Present:

Bill Dingman, Consultant	Carol Gifford
Charles Guttenplan, Consultant	Brett MacKay
Joseph Meehan, Chairman	Chris Thaler, Park and Recreation
John Minihan	
Monica Burcik	

Absent:

Thomas Shirley
Robert A. Ford, Township Manager
Thomas Hollenbeck, Vice Chairman, Board of Supervisors

Mr. Meehan called the meeting to order at 7:35 p.m.

The Committee approved the minutes of the April 20, 2005 meeting.

Mr. Meehan turned the meeting over to Mr. Guttenplan.

Mr. Guttenplan reviewed the agenda and handed out updated maps and a proposed meeting agenda for Monday night's public meeting.

Mr. Guttenplan then turned the meeting over to Bill Dingman to review the 1995 open space map, the existing open space map, existing open space areas and trails.

Mr. Dingman asked the township to check on existing on-road trails on Keeler Road and at the pool complex to see if they are part of the current trail plan. Mr. Thaler stated he would check on this and report back to him.

The Committee asked Mr. Dingman to identify the Fire Company properties as open space on the maps as well as all churches.

Mr. Guttenplan asked if there was a trail plan done in 1995. Mr. Meehan stated and Mr. Dingman confirmed that one was not in place at that time.

Mr. Minihan asked that all items listed on the maps as HOA open space be recognized as development open space.

Mrs. Burcik asked that new acreage be included on the current map. Mr. Dingman stated he would also outline the open space that has been acquired since 1995 so it will be easily identified.

Mr. Dingman said he would make these changes for Monday night's public meeting.

Mr. Dingman asked Mr. Thaler to see if the Township has any old aerial photos of the Township. Mr. Thaler stated he would look into this.

Mr. Guttenplan reviewed the agenda for the public meeting. He stated that there will be four areas set up for public comment and will be staffed by Committee members. They are Goals and Objectives, maps, general suggestions and photos of existing open space.

Mr. Thaler was asked to produce a public comment sheet for this meeting.

Mr. Guttenplan reviewed the revised Goals and Objectives with the Committee and asked for feedback.

Mr. Minihan suggested some verbiage changes, which Mr. Guttenplan will make prior to the public meeting.

Mr. Guttenplan asked the Committee what format they would like to see at the public meeting.

Mr. Meehan stated that it would be important to get comments on Goals and Objectives and what resident thought this early in the planning process.

Mr. Meehan asked Mr. Guttenplan if he would give an overview of the County Open Space Program so the residents not familiar with the program would have a better understanding.

Mr. Guttenplan stated he would put together opening comments for the meeting.

Mr. Guttenplan asked the Township to publicize Monday's meeting.

The meeting of the Open Space Plan Committee is scheduled for Monday, May 23, 2005 at 8:00 p.m. followed by a Committee meeting on Wednesday, June 29, 2005 at 7:30 p.m.

There being no further business, the meeting adjourned at 9:05 p.m.

Respectfully submitted,

Chris Thaler, Park and Recreation Coordinator

Public Meeting Debriefing
Meeting Held May 23, 2005

The majority of the comments from the public meeting fall into two categories. There were several comments recommending increased active recreational opportunities in the Township. The other major concern was about financing open space. Various funding options were commented on including a citizen funded open space account and an increase in taxes. Another popular suggestion was to prioritize the goals. Below is a synopsis of the comments received.

1. Goals need to be prioritized
2. Create a separate fund for citizens to donate to – green space fund???
3. There was a question as to why Fischer’s park is considered to be only passive. Why no basket ball, volley ball or other courts?
4. There was a question and discussion about how to connect into Fischer’s Park from across the stream on the Amen property and to connect the park to Bustard Road Park without using Bustard Road Bridge.
5. There was a suggestion to develop (or increase) a township open space tax.
6. There is a request to consider ball fields in addition to trails for the future open space needs of the community.
7. Another request for more active recreation opportunities – for children specifically.
8. Recommendation to create a central active recreational facility NOT on residentially zoned land.
9. Recommendation to incorporate the Green Lane parcels into the trail system.
10. Retain Specht fields and the old Township Building to preserve open space in the heart of the “Town Center”. Fields and parking exist and is already Township owned.
11. A goal could be to eliminate use of neighborhood parks for more intense uses and make them quiet space for residents. Try and assemble unbuilt lands in center and on main roads for another active park if Bustard Road Park is not sufficient; this could be done by coordinating land that is donated and possibly working with adjacent municipalities.

**Towamencin Township
Open Space Plan Committee
June 29, 2005
7:30 p.m.**

Present:

Joseph Meehan, Chairman
John Minihan
Monica Burcik
Brett MacKay
Carol Gifford

Absent:

Thomas Shirley

Staff:

Robert A. Ford, Township Manager
Chris Thaler, Parks and Recreation Coordinator
Dr. Thomas M. Hollenbeck, Liaison, Board of Supervisors
Charles Guttenplan, Consultant
Bill Dingman, Consultant

Chairman Meehan called the meeting to order at 7:30 p.m.

Approval of Minutes – May 19, 2005

The Committee approved the minutes of the last meeting of May 19, 2005.

Mr. Guttenplan reviewed the comments from the residents that was received from the public meeting. He felt that the two important comments from the meeting were (1) more active recreation space and (2) funding.

Dr. Hollenbeck stated he thought one comment was made regarding accuracy.

Mr. Guttenplan stated he would go back and look at the original comment sheet to check for accuracy.

Mr. Guttenplan asked the Committee if the public comments changed any of the Committee's established goals.

The Committee and consultants agreed that the established goals addressed the comments made at the first public meeting.

Mr. Dingman reviewed the updated Open Space and Trail Plan.

He reviewed the links and trails:

Township Trails
Liberty Bell Trail
Evansburg Trail
Power line Trail

Mr. Dingman stated the current township trails and proposed trails, link to the proposed Evansburg and power line trails.

Mr. Dingman recommended the Committee look at connecting the Township trails to the Liberty Bell Trail.

The Committee asked Mr. Dingman to add the Trefoil trail loop, pool trail, and the adopted Bustard Road Park Plan trail to the trail map.

Mr. Guttenplan asked Mr. Dingman to prepare a map showing short and long term trail linkage plans.

Dr. Hollenbeck stated he felt that long and short term trail plans was a high priority for the plan.

There was a group discussion on a way to link Fischer's Park to the Liberty Bell trail.

Ms. Burcik asked that future trail maps be posted on the website.

Mr. Meehan stated that it is key to connect as many township facilities along the trail route.

The Committee agreed on a connection route from Fischer's to the Liberty Bell trail and requested Mr. Dingman to draft a map to include this link.

Mr. Guttenplan asked if there were any parcels of land along the proposed linkages or within the Township that should be considered for preserving.

The Committee agreed that the northeast corner of the Township needed more open space.

Mr. Dingman suggested that the Committee look at partnerships in this sector.

Mr. Guttenplan handed out a draft report on the Open Space Plan for the Committees review.

The Committee decided the next meeting of the Open Space Plan should be held on July 27, 2005.

There being no further business, the meeting adjourned at 9:35 p.m.

Respectfully submitted,

Chris Thaler
Parks and Recreation Coordinator

**Towamencin Township
Open Space Plan Committee Meeting
July 27, 2005
8:00 p.m.**

Present:

Joe Meehan, Chairman
Monica Burcik
Brett MacKay
Bill Dingman, EDM Consultants
Chris Thaler, Parks and Recreation
Charlie Guttenplan – Waetzman Planning Group
Oliver Carley – Waetzman Planning Group
Thomas Hollenbeck, Liaison to the Board of Supervisors

Absent:

John Minihan
Tom Shirley
Carol Gifford

Chairman Meehan called the meeting to order at 8:00 p.m.

Approval of Minutes – June 29, 2005

The Committee approved the minutes of June 29, 2005 as written.

Plan Overview

Mr. Carley reviewed the highest priority trail alignment development the Committee discussed at the previous meeting. He stated that the Committee discussed the Liberty Bell Trail and the Evansburg State Park Trail at the previous meeting.

Mr. Carley mentioned that after speaking with Mr. Ford, that CMAQ funding may be available for a portion of this proposed trail. Mr. Carley stated he would speak with Mr. Ford further on this option.

Mrs. Burcik asked about a connection on Sumneytown Pike and Green Lane Road for the trail. It was noted that the Committee decided last meeting that due to traffic concerns, the present drafted trail linkage is more suitable.

Mr. Carley stated he spoke with Mike Stokes from the Montgomery County Planning Commission and that Mr. Stokes stated that it was important to set parameters for acquisition of land. (i.e. identifying use and size)

The Committee identified what they felt were active open space priorities:

1. Parcel of land needs to be at least 20 acres.
2. Locate potential properties in the northwest sector of the Township.
3. The use of power lines as a means of trail linkages.

The Committee discussed the type of use for active open space land such as basketball courts, tennis courts, volleyball courts, etc.

It was decided that the Committee would look for active recreation space during the overall process of putting together the master plan and determine the types of activities to be utilized.

Mr. Guttenplan that partnering with other entities would look favorably by the County Planning Commission.

Mr. Guttenplan handed out the first draft of the Open Space Master Plan.

Mr. Meehan questioned the requirements for park areas.

Mr. Guttenplan stated he will compare the Township's requirements to that of neighboring municipalities to see where the Township stands in comparison.

Mr. Carley asked that each Committee member give any suggestions for changes to him.

Mr. Dingman reviewed the changes made to the map since the Committee's June meeting.

Mr. Dingman stated he will draft a specific map identifying the Liberty Bell Trail and the Evansburg State Park Trail link and the important historic Township landmarks along these trails for the Open Space Plan.

Mr. Carley reviewed the Freddy Hill preservation options.

Mrs. Burcik suggested a meeting with the owners of the Freddy Hill properties.

Mr. Guttenplan suggested that the Supervisors should lead this discussion.

Mr. Hollenbeck will discuss this issue further with the Supervisors and Mr. Ford.

It was determined that the consultant team will draft a possible ordinance outlining changes for discussion at the next meeting.

It was decided that the next meeting of the Open Space Plan will be held on September 8th at 7:30 p.m.

There being no further business, the meeting adjourned at 9:55 p.m.

Respectfully submitted,

Chris Thaler, Park and Recreation Coordinator

Open Space Plan Meeting
October 20, 2005
7:30 p.m.

Present:

Robert A. Ford, Township Manager
Chris Thaler, Park and Recreation Coordinator
Charles Guttenplan, Waetzman Planning Group
Joe Meehan
Monica Bursik
Brett MacKay

Absent:

Dr. Tom Hollenbeck, Liaison – Board of Supervisors
John Minihan
Bill Dingman, EDM Consultants

Mr. Meehan called the meeting to order at 7:35 p.m.

Mr. Meehan turned the meeting over to Mr. Guttenplan who handed out a copy of a letter from the Montgomery County Planning Commission requiring that open space plans include a build-out analysis.

Mr. Guttenplan stated this analysis has to be completed and added to our revised Open Space Plan.

This analysis must have the following:

1. An existing development property map.
2. Identify potential development.
3. Calculate potential development.
4. Map potential development.

Mr. Guttenplan will discuss this with Bill Dingman and work on constructing the maps reflecting this analysis.

Mr. Guttenplan explained that the rehabilitation of the trails at Evansburg State Park has been pushed back by the State. He stated this does not change our priorities and we can continue to plan for linkages to the park.

The Committee discussed the Township's existing land use map. Mr. Guttenplan asked that the Township look at this map to check its accuracy. The Township staff will review and update.

The Committee reviewed the existing Open Space Map. The map will be updated indicating Ginny Kibler's property that the Township will acquire.

The Committee reviewed the Township's Environmental Features map. The Committee had no comment concerning this map.

The Committee reviewed the Township's Historical Map. Mr. Guttenplan stated this map should be combined with another map. The Committee agreed that there was no need for separate maps.

The Committee reviewed the current Open Space Plan Map. Mr. Guttenplan recommended identifying land and property that the Committee would be interested in for open space on the current Open Space Map. The Committee decided that they could call this area the “Open Space Priority Areas”.

Mr. Guttenplan stated that money was available through the Congestion Management Air Quality (CMAQ) grant program which could be applied to the Open Space Plan.

Mr. Ford stated he would set up a meeting to discuss the use of these funds for this grant and to gain a better understanding from all groups involved on how this can move forward.

The Committee discussed and agreed that the Liberty Bell/Evansburg Trail would be listed as a high priority on the open space map.

Mr. Ford will draft and send a letter to all Township property owners who own twenty plus acres or more them to attend the public meeting

Mr. Guttenplan handed out a sample agenda for this meeting.

The Committee agreed that the next meeting they would like to have a summary of the Open Space Plan done in Power Point. They would also like an updated copy of the Open Space Map for handouts.

Mr. Ford advised that there is a conflict with having the Open Space public meeting on November 16th previously planned as the Board of Supervisors have a meeting that same night. Mr. Ford indicated that he would check other possible dates and notify the Committee and Mr. Guttenplan.

There being no further business, the meeting adjourned at 9:00 p.m.

Respectfully submitted, Chris Thaler
Park and Recreation Coordinator

**Public Presentation of Draft Plan and Recommendations
November 29, 2005
7:30 p.m.**

The following PowerPoint Presentation was presented at a public meeting prior to the adoption of the draft plan.

Towamencin Township
*Park, Recreation, and Open Space
Preservation Plan Update*

Presentation of Draft Plan and
Recommendations

November 29, 2005



The Draft *Park, Recreation, and Open Space Preservation
Plan Update* was Prepared by the
Towamencin Township Open Space Planning Committee

Joseph F. Meehan, Chairman

Monica Burcik, Member

Carol Gifford, Member*

Thomas M. Hollenbeck, Member

Brett H. MacKay, Member

John E. Minihan, Member

Thomas Shirley, Member*

Township Staff Liaisons

Robert A. Ford, Township Manager

Chris Thayler, Recreation Coordinator

With Technical Assistance by:
THE WAETZMAN PLANNING GROUP
&

EDM Consultants, Inc.

Montgomery County Planning Commission Liaison:

Michael Stokes, Assistant Director

*Former Member



Montgomery County *Green Fields/Green Towns*

- Phase 2 of Montgomery County's Open Space Program
- Began January 2004 and Runs for 10 Years
- Funded by \$150 Million Referendum Passed in November 2003
- Overseen by Montgomery County Open Space Board
- **Requires Open Space Plan Update**

Under Phase 1, Towamencin Township Received \$817,398 in County Grants and Preserved Seven Properties Totaling over 90 Acres



Green Fields/Green Towns

Program Goals

- Providing Recreation Opportunities
- Conserving Natural Lands
- Preserving Historic and Cultural Landscapes
- Maintaining Scenic Quality
- Protecting Water Resources
- Providing Green Infrastructure for Developed Communities
- Shaping the Form of Land Use and Development
- Preserving Agricultural Land



How this Plan Update was Funded

County Grant	\$25,000
Township Cash Contribution	\$8,333
Township In-Kind Services	\$8,333
Total	\$41,666



Green Fields/Green Towns County Grants

Round I

Open Space Plan Update	\$25,000
Implementation Allocation (To be Spent by April 2008)	\$1,289,808

Total	\$1,314,808
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Round II

Additional Competitive Funding will be Available after
April 2008

All Implementation Grants (Round I and II) Require a 20%
Local Match (10% for Jointly Sponsored Projects)



Open Space and Environmental Resource Protection Plan Update

- Audit of 1995 Plan
- Background Data – Existing Land Use, Environmental Conditions, Demographics, Etc.
- Goals and Objectives
- Existing Open Spaces (Temporary and Permanent Protection)
- Comparison to Plans in Abutting Municipalities
- **Optional Element – Municipal Trail and Pathway Development**
- **Recommendations**
- **Implementation/Priorities**

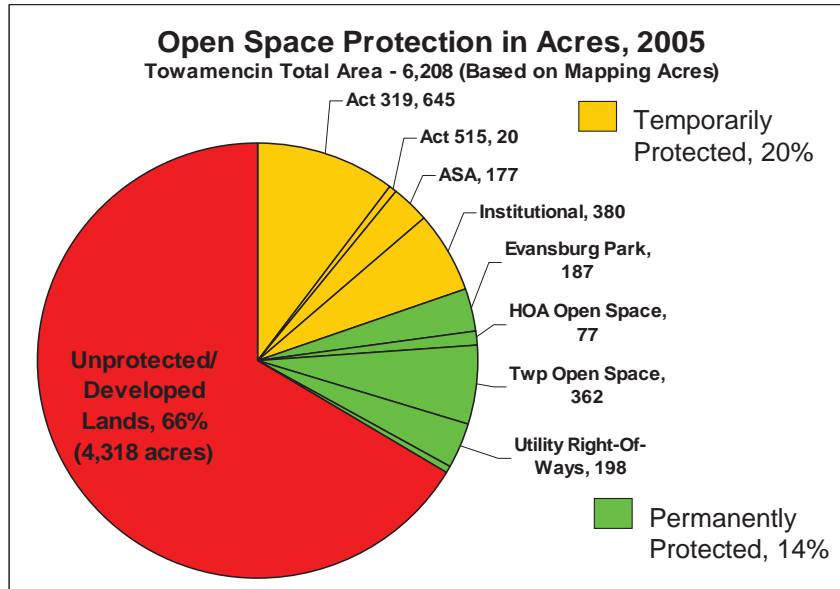


Plan Audit - Progress Since 1995 Plan

- Open Space Planning
 - Township Wide Trail Master Plan (1996)
 - Fisher’s Park Master Plan (1998)
 - Grist Mill Park Master Plan (2000)
 - Bustard Road Park (2005)
- Environmental Conservation Amendments
 - Zoning Ordinance
 - Subdivision and Land Development Ordinance
- Acquired New Land
 - County Grants (4 Properties)
 - Additional Township Lands (Other Means)
 - Farmland Easement Secured



Existing Open Space



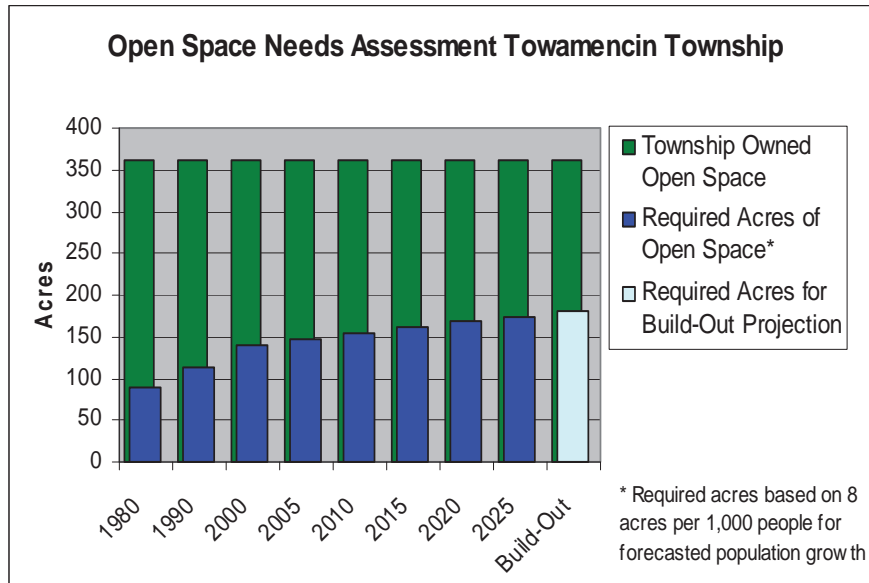
Build Out Analysis

Zoning District	Gross Acres	% Reduction Environmental	% Reduction Infrastructure	Net Acres	Units/Acre	Units Produced
MRC/R50	17	10	20	12	3	36
R125/R175	373	10	20	269	1.3	349
R180/R200	402	20	20	257	0.5	128
Village Overlay	152	5	10	130	8	1,040
Total	944			668		1,553
Non-Residential					% Bldg Cov.	Square Feet
Light Industrial	99	10	20	71	30%	928,000

1,553 Units would House 3,960 Additional People Using Towamencin's 2000 Average Household Size of 2.55 People per Household.



Open Space Needs Assessment



Plan Goals

- Goal 1 Actively pursue new open space opportunities within the Township
- Goal 2 Expand and maintain existing parks, open space and recreational areas
- Goal 3 Protect Historic and Cultural Resources
- Goal 4 Coordinate Township efforts with the regional open space network
- Goal 5 Protect and preserve natural resources
- Goal 6 Maximize the use of scarce financial resources available for open space and recreation

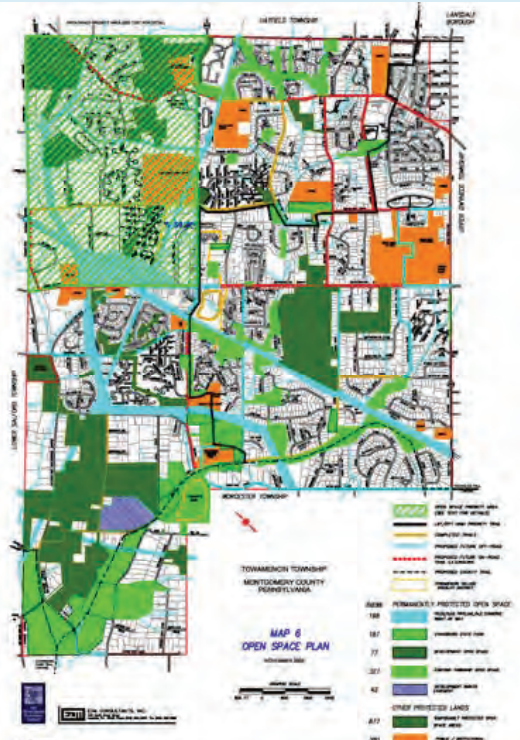


Plan Recommendations

- Amend the Township Zoning and Subdivision and Land Development Ordinances to Increase Open Space Preservation from Land Development
- Provide Incentives to Direct Development into the Village Overlay District and Other Growth Areas
- Conduct an Audit of Recreation Facilities and Submit Annual Reports to the Board of Supervisors



- Acquire New Open Space for Recreational Use
- Design and Build the Proposed Liberty Bell Trail/Evansburg Park Trail Connector
- Develop the Bike Trails Using Previously Awarded Congestion Mitigation and Air Quality (CMAQ) Funding



Implementation

- **Priorities will be Finalized**
 - Short-Term (Through April 2008)
 - Long-Term (Through the End of *Green Fields/Green Towns Program*)
- **Action Plan to be Completed Based on Open Space Plan Recommendations**



Appendix B: Audit Notes

CHAPTER 7 ACTION PLAN AND IMPLEMENTATION APPROACHES

One of primary missions of the Park, Recreation and Open Space Plan is the articulation of the desired goals of the Township with respect to parks, recreation facilities and recreation programs. The goals help to focus the concepts and implementation plan to meet the needs of the Township residents. The primary goals are described below, with several associated implementation strategies for each.

GOAL 1: Maintain a clean aesthetic natural environment for the enjoyment of present and future populations.

Acquisition of Land

The Township has acquired several parcels of land since the 1995 Open Space Plan was adopted. These acquisitions, through grant programs and purchases include:

Schnabel property (4.4 acres) acquired in 2002 at a cost of \$352,000. This property is immediately adjacent to the Township's Bustard Road Park and helps expand that facility.

Arneith House & property (22.98 acres) was purchased in 1996 for \$272,547 (\$247,500 from Montgomery County Open Space Grant Program). This acquisition significantly expanded the Fischer's Park facility that was purchased by the Township in 1989.

Rittenhouse Farm (15.26 acres) was purchased in 1996 for \$431,979 (\$270,000 from Montgomery County Open Space Grant Program). This partially preserved active farmland as well as providing the site of the new municipal complex.

Reiff Road Properties (4.42) The Township acquired two small lots from PennDOT along Reiff Road.

Ellis Tract Tree Farm (6.92 acres) The Township acquired the tree farm located on Kreibel Road south of Pheasant Hill Road.

Christy Tract. The Christy tract was acquired by the Upper-Gwynedd Towamencin Municipal Authority as a buffer and is used by the Township as open space.

Performance Zoning

To protect the significant natural features of the township, Towamencin may impose performance zoning standards on potential developments. These standards set guidelines for how individual sites with natural features are developed by protecting the natural features and adjusting the carrying capacity or net density of the site. The standards may calculate the area of natural features protection and subtract it from the gross site area to arrive at a net developable lot area.

Although the Township does have cluster provisions within its Zoning Code and Subdivision / Land Development Code, it has not enacted Performance Zoning or other such design features such as the Natural Lands Trust "Growing Greener" models.

Expand Cluster Development

Cluster Zoning permits the reduction of lot area while holding the development density so that significant natural features of the area may be preserved. The open space then may be held by a home owners association or dedicated to the municipality for public use. Presently, Towamencin has a zoning ordinance for Mixed Residential Types Cluster Development. This ordinance requires a minimum of 100 acres and a mixture of three housing types to be eligible for this clustering. The township may elect to expand the ordinance to reduce the required acreage and number of types of units so that more clustering can result in more natural features protection.

Although the Township does have cluster provisions within its Zoning Code and Subdivision / Land Development Code, it has not enacted Performance Zoning or other such design features such as the Natural Lands Trust "Growing Greener" models.

Visual Impact Zoning

To protect the rural character of the township, Towamencin could develop and enforce more restrictive front yard setbacks and landscaped buffers from highly visible roadways. This can be accomplished by requiring deeper lots and longer front yards, and increasing the amount and location of vegetative buffering required for all developments in the township.

The Township adopted enhanced landscape buffer yard requirements within its Subdivision / Land Development Code in 2001.

Woodland & Tree Protection Measures

Towamencin has enacted some tree protection measures in its zoning ordinance. These measures call for protection of individual 60" caliper trees to the drip line. Expansion of this ordinance may further protect the existing woodlands and trees of the township.

This could be accomplished by reducing the limit of the size of the existing trees to be protected, and also by incorporating a re-vegetation component to the ordinance. This will ensure more significant trees will be preserved and the planting of new vegetation will be continued.

All land development shall be designed so as to minimize loss of mature trees over six inches (15.24 centimeters) in caliper, hedgerows and woodlands.

The developer is required to plant the identical number of trees to be removed elsewhere on a development site or plant the identical number of trees to be removed in Township parks in accordance with a plan prepared by the developer and approved by the Township Engineer. All replacement trees shall be a minimum of 2 1/2 inches (6.35 centimeters) as measured one foot (0.3048 meters) above the ground level.

Develop site specific master plans for the Townships parks and recreation areas

Establish recreation master plans that pertain directly to the needs of each community within the Township. This would allow for a well balanced variety of leisure time experiences while also maintaining the aesthetic quality of the individual parks. A hierarchy between physical and environmental recreation activities would be derived through these plans.

The Township has prepared and adopted several master plans since 1995. Each plan went through a comprehensive process that included site visits, environmental analysis, significant public participation, and public and work session meetings. The resulting products included the following:

- Township Wide Trail Master Plan (1996)

- Fisher's Park Master Plan (1998)

- Grist Mill Park Master Plan (2000)

- Bustard Road Park (2005)

GOAL 2: Preserve significant cultural resources within the Township.

Agricultural Preservation

The remaining farms in Towamencin hold the legacy of past generations dedicated to agriculture and the Township's past. The preservation of these farms as cultural resources should be as major focus for implementation and should be incorporated into the budgetary planning of the Township.

Encourage the Expansion of the Agricultural Security District

State Law permits groups of farmers to create agricultural security districts provided there are over 500 acres of land not necessarily contiguous and that their farming

practices are not a threat to public health, welfare and safety. Montgomery County has a number of these districts and encourages the development of more.

Towamencin Township has a rich heritage of being a farming community. Since 1993, over 276 acres of farmland has been secured under the Agricultural Security Area. Forty five of these acres have been included since 2000.

GOAL 3: Provide a sufficient number and variety of recreational sites for present and future activities, for residents of all ages, abilities, and interests.

Acquire Lands

The easiest and simplest way for a municipality to acquire land is to purchase it. It is recommended that the Township acquire the highest, most immediate prioritized land for open space and recreation expansion. Towamencin should utilize the county grant mechanism to acquire land, and research other acquisition options such as other grants and/ or increased dedicated open space.

The Township has acquired several parcels of land since 1995, including the “Hanks & Arneith” property (20 acres), the Towamencin Township Tree Farm (5 acres), and the Rittenhouse Farm (15 acres).

Encourage donation of land for tax incentives.

The Township will encourage landowners to donate land to various conservation groups throughout the County, permanently restricting future development from occurring on the property. The landowner would, in return, receive various tax benefits from their donation. This land would then be completely preserved or developed in a manner that would preserve the ecologically important areas on the site.

In 2005, the Township was named as a beneficiary in the will of a long time resident, Ms. Virginia Kibler, to receive 35 acres of land in the pan-handle section of the Township to be preserved in perpetuity as open space.

Encourage transfer of development rights.

The Township could preserve rural land by transferring development rights from rural areas to growth areas. Private land owners could sell their development rights to designated growth areas instead of developing their property. This would deed restrict these areas from future development and confine development within a certain boundary. The farm land within the Township is at greatest risk for future

development, so the price of these rights must be high enough to discourage the development of these locally important areas.

In early 2005, the Halteman Farm, a 73-acre property located in the panhandle section of the Township, was preserved from future development through the Montgomery County Agricultural Land Preservation program.

Mandatory dedication of open space.

The Municipalities Planning Code Requires development to provide open space, or pay a fee in lieu of such open space. Establish a structure so that fees to be paid in lieu of open space are equal to and not less than a certain amount of dedicated open space. This fee should be evaluated regularly to maintain a proper structure. The municipality cannot require a developer to dedicate open space but they can require that the land be flat and suitable for recreation purposes.

The Township Code requires the provision of suitable open space for parks, playgrounds and recreational areas with every subdivision / land development plan. Consideration must be given to the preservation of natural features, including large trees, groves of trees, waterways, historic points, and other community assets. The amount of land to be set aside 2,000 square feet for every dwelling unit and 10% of the gross area for non-residential developments.

Should the development not allow for the actual preservation of land on-site, the Township requires the submission of various Development Impact Fees as permitted by the Pennsylvania Municipalities Planning Code. These include an Open Space fee of \$1,000 per dwelling unit for residential properties and \$1,000 for every 2,000 square feet of floor area for non-residential developments. To date, the Township has acquired over \$1,116,500.00 in Open Space Impact Fees.

Continue to build partnerships with the Township schools.

This option would keep a wide variety of open space available, to the Township, on a limited basis. Such activities as field hockey or lacrosse fields, included in these spaces and are not present in the Township parks, could be reserved for use at the local schools.

Recently, the North Penn School District has started to limit access to use of their athletic fields to outside organizations. The School District has advised that this is necessary to allow the over-used fields down periods to allow for re-growth. However, a recent project represents the combined efforts of Towamencin Township and the North Penn School District, which includes work on tee-ball and soft ball fields on areas

adjacent to the North Penn School District's General Nash Elementary school to allow the development of connecting trails and parking as shown on the Bustard Park Master Plan.

Assess the need for a community center

If the need for active recreation in the winter months increases, then the construction of a gymnasium/ community center will be considered. This will be a multi-purpose building, providing not only active recreation facilities but also educational classes. The location of this complex will be analyzed to determine whether the Town Center is a suitable area for developing this use, or if the location should be established elsewhere in the Municipality.

Due to various funding constraints, this has not been pursued.

Establish a uniform pedestrian trail throughout the Township.

The present trail system should be expanded to make the Township parks more easily accessible by walking and biking. The Township will also look beyond its boundaries to link their trails to the proposed county trails, making Towamencin more accessible to the surrounding communities.

In 1996, Towamencin adopted the "Township-Wide Trail Master Plan." The plan provides for alternative, non-automobile oriented transportation and recreation opportunities, with a goal to identify a network of existing and potential trails across the Township. Since the adoption, several on and off-road pedestrian and bicycle trails (with signage) have been established, including trails throughout Fischer's Park, a nature walkway along Towamencin Creek off Kreibel Road, and various dedicated bicycle lanes along rights-of-way.

In May 2005, the Township joined the Evansburg Task Force. The Bureau of State Parks is developing a program to rehabilitate Evansburg State Park's network of trails and are looking to shape the park's internal trails that could connect to a sustainable trail system that reaches local communities.

GOAL 4: Manage growth to achieve these goals.**Concentrate development into specific growth areas.**

The establishment of growth boundaries would limit a certain type of development to occur within those boundaries. This type of planning would limit the encroachment of suburban sprawl onto valuable open space such as farmland. This would encourage development to occur away from the existing agricultural lands while establishing growth areas that foster a community identity within these areas. For this principal to work, these boundaries need to be maintained. Should a developer own property outside the boundary of a specific land use and want to develop it as a different use, the Township should deny their proposal to preserve the integrity of this plan.

In the mid 1990's, Towamencin Township started developing a Town Center Plan for the Kulpville section of the Township located near the crossroads of Sumneytown Pike and Forty Foot Road. This vision evolved into the Towamencin Village Overlay Zoning District and its own associated Land Use and Design Manual. This District is intended to provide the opportunity for the re-development of the Village of Kulpville in accordance with a Master Plan.

Review and modify the Township Ordinances to achieve this goal

The Townships major tool in managing growth is the zoning ordinance and subdivision/ land development ordinance. The Township should conduct periodic reviews and modifications to ensure that the ordinances are established according to the goals and objectives set forth by the Open Space Committee.

Protecting community character and encouraging appropriate development are twin goals for Towamencin Township. The zoning and land development codes can be a chief tool or, if not properly updated when needed, a chief barrier to effectively meeting the community's goals. Consequently, the Township reviews and considers amendments to both codes on a routine basis.

Establish a Historical Society.

To preserve the dwindling cultural and historic features of the township, a Historic Architectural Review Board may be created. This board would conduct activities such as: inventory the existing resources, establish historic areas, review architectural modification to significant structures and the like.

Strive to have historic or culturally important sites, within the Township, placed on the national or local register.

This would protect historic sites from future demolition or major alterations to the original quality of the building. This would also preserve elements of a specific era in history, providing the Township with a historic identity unique to this area.

Look for alternative ways to preserve historic sites, possibly through commercial or office uses locating within them.

This alternative would allow different uses to establish within a historic building, such as a restaurant or a medical office, while retaining the old facades and interior layouts that were specific to that time period. This could also exist as an option to maintaining these buildings, other than through expending Township funds.

Look to acquire land surrounding a historic site and incorporate it into a park design. To allow for other ways of maintaining historic buildings, parks could be located around historic and cultural sites to act as a community meeting places. This would preserve the historic nature of the building while combining two uses into one area. This allows for easier maintenance and better protection.

The Towamencin Historical Society was incorporated in perpetuity on November 2, 1970 in Lansdale Borough, Montgomery County, Pennsylvania as a private, non-profit corporation in response to the threatened demolition of the Morgan Log House structure. It was organized exclusively for charitable, educational and scientific purposes as defined and limited by Section 501 (c) (3) of the Internal Revenue Code. Its stated mission was "The study and preservation of the history of Towamencin Township and Montgomery County, Pennsylvania, as well as the promotion of the study of history, local, national, and of the World."

On December 6, 1985, The Towamencin Historical Society filed Articles of Amendment changing its name to the Welsh Valley Preservation Society. This was in response to a need to expand its area of geographical association for fund-raising purposes. The W.V.P.S. is governed by a Board of Trustees consisting of not less than five members.

The W.V.P.S employs a full-time professional curator to implement the policies set by the Board of Trustees. The curator oversees and administers all operations at The Morgan Log House. These operations include curator duties, conservation, registration, research, education, public relations, development, security and maintenance. The curator is assisted by a corps of dedicated volunteers. The current curator began work in 1994.

A separate Towamencin Historical Society was established in 1995.

Appendix C: Adoption Resolutions

RESOLUTION 06-51

**ADOPTION OF REVISED
PARKS, RECREATION AND OPEN SPACE PRESERVATION PLAN**

WHEREAS, on December 27, 1989, By Resolution 89-50, the Board of Supervisors of Towamencin Township adopted the Township Open Space Plan; and

WHEREAS, on December 18, 1995, the Board of Supervisors, adopted Resolution 95-70 which revised the Open Space Plan, now known as the Parks, Recreation and Open Space Preservation Plan; and

WHEREAS, Phase Two of the Montgomery County Open Space Program adopted the Green Fields/Green Towns Program on December 18, 2003 that provided \$150 million in grant funds to be made available to municipalities within the County; and

WHEREAS, the Board of Supervisors authorized and requested the preparations of a revision of the said Parks, Recreation and Open Space Preservation Plan in order to incorporate and reflect the changing needs of the Township's Community and the requirements of the Montgomery County Green Fields/Green Town's Program; and

WHEREAS, the said revised plan was prepared through a series of public meetings with the participation of staff, public volunteers and consultants;

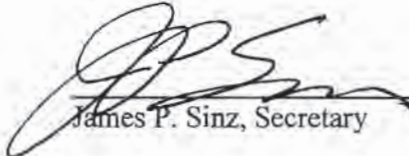
WHEREAS, the said Plan and any amendment thereto will be used to guide the Township in its development of future park and recreation facilities and in the expenditure of Open Space Impact Fees.

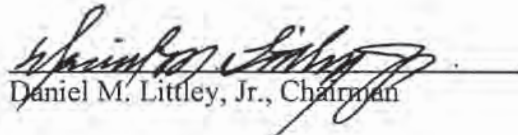
NOW, THEREFORE, BE IT HEREBY RESOLVED by the Board of Supervisors of Towamencin Township that the revised Parks, Recreation and Open Space Plan is hereby adopted by the Board of Supervisors.

RESOLVED this 27th day of September 2006.

**Towamencin Township
Board of Supervisors**

ATTEST:


James P. Sinz, Secretary


Daniel M. Little, Jr., Chairman

RESOLUTION # 2006- 31

**MONTGOMERY COUNTY OPEN SPACE BOARD
APPROVAL OF THE TOWAMENCIN TOWNSHIP MUNICIPAL OPEN SPACE
PLAN**

WHEREAS, On December 18, 2003 the Commissioners of Montgomery County established the Green Fields/ Green Towns Program which provides grant fund for open space preservation; and

WHEREAS, the Green Fields/ Green Towns Program requires the preparation of municipal open space plans and provides grants which may be used by any municipality in Montgomery County for the preparation of an open space plan; and

WHEREAS, Towamencin Township has prepared an open space plan in accordance with guidelines established for the Green Fields/ Green Towns Program; and

WHEREAS, the Montgomery County Open Space Board has reviewed the plan in accordance with the guidelines established by the county.

NOW THEREFORE BE IT RESOLVED that the Open Space Board hereby approves the Towamencin Township Open Space Plan subject to final adoption by Towamencin Township.

Resolved and Adopted by the Open Space Board June 27, 2006

Appendix D: Other Funding Sources

Federal

Catalogue of Federal Domestic Assistance
-Available at public libraries or at www.cfda.gov.

National Park Service

www.nps.gov/ncrc/programs/rtca/

Rivers, Trails, and Conservation Assistance Program – The program offers technical assistance only to nonprofit organizations, community groups, and local or state government agencies. Rivers and Trails technical staff offers the following types of assistance for recreation and conservation projects:

- Building partnerships to achieve community-set goals;
- Assessing resources;
- Developing concept plans;
- Engaging public participation;
- Identifying potential sources of funding;
- Creating public outreach;
- Organizational development; and
- Providing conservation and recreation information.

Commonwealth of Pennsylvania

Department of Environmental Protection

www.dep.state.pa.us

Stormwater management

- Assist or reimburse counties for costs involved in preparing or revising watershed stormwater plans
- Reimburse municipalities for costs associated with the preparation, administration, enforcement, and implementation of ordinances and regulations as required by the Stormwater Management Act.

Department of Community and Economic Development

www.inventpa.com

- **Community Development Block Grant Program (CDBG): Provides grant assistance and technical assistance to aid communities in their community and economic development efforts**
- **Community Revitalization Program (CR)**: Provides grant funds to support local initiatives that promote the stability of communities
- **Elm Street Program**: Grant funds for planning, technical assistance and physical improvements to residential and mixed use areas in proximity to central business districts.
- **Industrial Sites Reuse Program**
<http://www.inventpa.com/default.aspx?id=291> Grant and low-interest loan financing to perform environmental site assessment and remediation work at former industrial sites.
- **Main Street Program**: This program provides assistance for revitalization planning and projects. Visit the DCED website as well as www.padowntown.org for more information.

Department of Natural Resources and Conservation

www.dcnr.state.pa.us/grants

Community Conservation Partnerships Program (C2P2) - The Community Conservation Partnerships Program provides state and federal grant dollars to help fund Community Recreation, Land Trust, Rails-to-Trails, Rivers Conservation and PA Recreational Trails projects.

Contact: Southeast Field Office (Philadelphia)
Don Gephart and Fran Rubert
908 State Office Building
1400 Spring Garden Street
Philadelphia, PA 19130
E-mail: dgephart@state.pa.us or frubert@state.pa.us
Phone: (215) 560-1182 or (215) 560-1183
Fax: (215) 560-6722

Pennsylvania Infrastructure Investment Authority (PENNVEST)

<http://www.pennvest.state.pa.us/pennvest/site/default.asp>
(for brownfield redevelopment and water / sewer issues)

Pennsylvania Historical and Museum Commission

www.phmc.state.pa.us

- Certified Local Government Grant Program – Provides funding for cultural resource surveys, national register nominations, technical and planning Assistance, educational and interpretive programs, staffing and training, and pooling CLG grants and third party administration
- Keystone Historic Preservation Grant Program - Funding for preservation, restoration, and rehabilitation
- Pennsylvania History and Museum Grant Program - Funding under this program is designated to support a wide variety of museum, history, archives and historic preservation projects, as well as nonprofit organizations and local governments. There are 10 types of grants.

Pennsylvania Emergency Management Agency

www.pema.state.pa.us

Pennsylvania Dept. of Transportation

www.dot.state.pa.us

- Safe Routes to School
This category includes projects for bicyclists and pedestrians that permit safe passage for children to walk or bike to school. This includes activities that enhance the transportation system through the construction of new facilities or the improvement of existing facilities to make them more usable for pedestrians and bicyclists. Some examples of eligible activities include: sidewalk improvements, pedestrian/bicycle crossing improvements, bike lanes, traffic diversion improvements, off-street bicycle and pedestrian facilities. In addition, this program may fund traffic calming measures to slow the speed of cars such as the following: curb extensions, bulb-outs, traffic circles, raised median islands, speed humps, textured or raised crosswalks. Funds cannot be used for bicycle and pedestrian facilities that are solely for recreational use.

<http://www.dot.state.pa.us/PennDOT/Bureaus/CPDM/Prod/Saferoute.nsf>

- Home Town Streets
This category includes a variety of streetscape improvements that are vital to reestablishing our downtown and commercial centers. These will include activities undertaken within a defined "downtown" area that collectively enhance that environment and promote positive interactions with people in the area.

Projects may include sidewalk improvements, planters, benches, street lighting, pedestrian crossings, transit bus shelters, traffic calming, bicycle amenities, kiosks, community "gateway" plantings, signage and other visual elements.

- Transportation Enhancement Program
Trails – Construction, Maintenance and Improvement
Historic Resource preservation and enhancement
Streetscape improvements
Public Transit Facility improvements
Traffic Calming
Trees/Planting

Contact: Greg Brown
7000 Geerdes Boulevard
King of Prussia, PA 19406
(610) 205-6950
gregbrown@state.pa.us

Pennsylvania Infrastructure Bank

<http://www.dot.state.pa.us/pennDOT/bureaus/pib.nsf/homepagepib?readform>
(low interest loans for capital improvement and construction projects)

WREN – Water Resources Education Network

www.pa.lwv.org/wren

Administered through the League of Women Votes of PA

Grants available for water resources education projects – especially projects that raise awareness about protecting drinking water sources and preventing non-point pollution.

Regional

Delaware Valley Regional Planning Commission
www.dvrpc.org

Transportation and Community Development Initiative - The TCDI program is intended to assist in reversing the trends of disinvestment and decline in many of the region's core cities and first generation suburbs by:

- Supporting local planning projects that will lead to more residential, employment or retail opportunities;

- Improving the overall character and quality of life within these communities to retain and attract business and residents, which will help to reduce the pressure for further sprawl and expansion into the growing suburbs;
- Enhancing and utilizing the existing transportation infrastructure capacity in these areas to reduce the demands on the region's transportation network; and
- Reducing congestion and improving the transportation system's efficiency.

Congestion Mitigation and Air Quality Improvement (CMAQ) Program seeks transportation-related projects that can help the region reduce emissions from highway sources and meet National Clean Air Act standards. The program covers the DVRPC region of Bucks, Chester, Delaware, Montgomery, and Philadelphia counties in Pennsylvania; and, Burlington, Camden, Gloucester and Mercer counties in New Jersey.

Schuylkill River Heritage Area

www.schuylkillriver.org

Grants are available to counties, municipalities and non profit organizations to develop projects and programs that address SRHA's five core goals:

1. resource conservation (natural and cultural)
2. education and interpretation
3. recreation
4. community revitalization
5. heritage tourism

Projects should be consistent with criteria established in the Schuylkill River Heritage Area Management Plan and Environmental Impact Statement, *Living with the River*, 2003, available on their website.

Contact: Cory Kegerise, Heritage Coordinator at 484-945-0200

Private

PECO Energy "Green Region" (administered by Natural Lands Trust)

www.natlands.org

Grants for municipalities in Southeastern Pennsylvania

- Up to 50% of the planning expenses associated with developing or updating municipal open space protection plans.

- Up to 75% of the direct and indirect expenses associated with the fee simple purchase (or receipt by donation) of open space properties identified in a municipal open space plan.
- Up to 75% of the direct and indirect expenses associated with the purchase (or receipt by donation) of conservation easements (also known as “development rights”) on properties identified in a municipal open space plan.
- Up to 75% of the planning expenses to improve municipally-owned open spaces, or lands to be acquired by a municipality.
- Up to 50% of the cost of materials and labor to install habitat improvements and capital improvements for passive recreation similar to those in item 4, above, on municipally-owned open space, when such improvements are identified in a municipal open space plan.

Contact: Elizabeth Robb, Administrator
Green Region
c/o Natural Lands Trust
1031 Palmers Mill Road
Media, PA 19063
610-353-5587
e-mail: brobb@natlands.org

The Conservation Fund

www.conservationfund.org

Watershed *Action* Grant Program

Watershed Action Grants aid nonprofit organizations and their partners *implement conservation plans* to protect watersheds, improve water quality and promote watershed stewardship. Specific watersheds are targeted in southeastern Pennsylvania and southern New Jersey for grant awards during this 2005 grant cycle.

For complete information, please refer to the program’s website: www.conservationfund.org, then go to “Award Programs” and to “Watershed Action Grants” or, alternatively, go directly to <http://www.conservationfund.org/?article=2829>.

William Penn Foundation

<http://www.wpennfdn.org/>

Grants for private non-profit 501(c)3 organizations in Southeastern PA

Funding Priorities:

Promote Sustainable Watershed Assets

Promote strategic, coordinated policies and investments to ensure land and water protection.

Implement projects in targeted areas that demonstrate model practices and policies.

Promote Sustainable Regional Development

Promote coordinated, strategic public redevelopment policies and investments that build on existing infrastructure and regional assets of older communities.

Foster innovation and implement community redevelopment models in the urban core - targeted communities in Philadelphia and Camden.

The Pew Charitable Trusts

<http://www.pewtrusts.org>

Grants for private non-profit 501(c)3 organizations

Environment program

Contact: Josh Reichert
c/o The Pew Charitable Trusts,
2005 Market Street, Suite 1700,
Philadelphia, PA 19103
215.575.4740 envimail@pewtrusts.org

Claneil Foundation, Inc.

Purpose and activities: Giving primarily for the arts, education, health, the environment, and community development. Geographic focus: Pennsylvania

Contact: Cathy M. Weiss, Exec. Dir
630 W. Germantown Pike, Ste. 400
Plymouth Meeting, PA 19462-1059

Foundation Grants

www.fdncenter.org

Contact the Foundation Center at 79 Fifth Avenue, New York, NY 10003

This website has a large database of organizations that make grants for many different types of projects.

Appendix E: Montgomery County Trail Guidelines

Guidelines for Trail Development Within Montgomery County, Pennsylvania



Montgomery County Commissioners

James R. Matthews, Chairperson

Thomas Jay Ellis, Esq.

Ruth S. Damsker

Table of Contents

Trail Notes	3
The Open Space Program, Trails & You	3-4
Preferred County Trail Standards	3
Trail Terms and the Trail Ahead (Access & Ownership)	4-5
Trail Design Standards	6
Estimated Trail Construction Costs	7
Cross Section Illustrations of Trail Classification Types	8-10
Minimum Signage Dimensions and Examples	11-14
Trail & Bicycle Facilities Resource References	15
Appendix A – Potential Open Space Funding Sources	16-23

Trail Notes







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

The Open Space Program, Trails & You

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

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

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

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

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

- *Multiuse
- *Retrofit Sidewalk
- *Pathway
- *On Road Improvements for Bicyclist

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

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

Trail Terms and the Trail Ahead

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

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

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

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

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

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

The Trail Ahead...Access & Ownership

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

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

a) *Fee Simple Acquisition:* A complete transfer of land ownership from one landowner to another party, usually by purchase.

b) *Easement:* Grants the right to use a specific portion of land for a specific purpose or purposes. Easements may be limited to a specific period of time or may be granted in perpetuity; or the termination of the easement may be predicated upon the occurrence of a specific event. An easement agreement survives transfer of landownership and is generally binding upon future owners until it expires on its own terms.

c) *License/Lease Agreement:* The temporary grant of an interest in land upon payment of a determined fee. The fee does not have to be monetary, but some consideration must be given for the right to use the land, or the lease will not be legally binding.

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

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

Design Standards

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

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

Montgomery County Trail Design Standards

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

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

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

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

Estimated Trail Construction Costs

Baseline Estimates for Constructing Trail Type Surfaces*

12' Multiuse Wide Trail - Cost Range Per Linear Foot			
Macadam	Concrete	Cinder	Road Improvements (Macadam)
\$43.00	\$77.00	\$21.00	Variable dependent on scope and design of improvements.
\$26.00	\$53.00	\$11.00	
6' Multiuse Wide Trail - Cost Range Per Linear Foot			
Macadam	Concrete	Cinder	Road Improvements (Macadam)
\$21.50	\$38.50	\$10.50	Variable dependent on scope and design of improvements.
\$13.00	\$26.50	\$5.50	

- All estimated figures were calculated in 2005 dollar amounts -

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

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

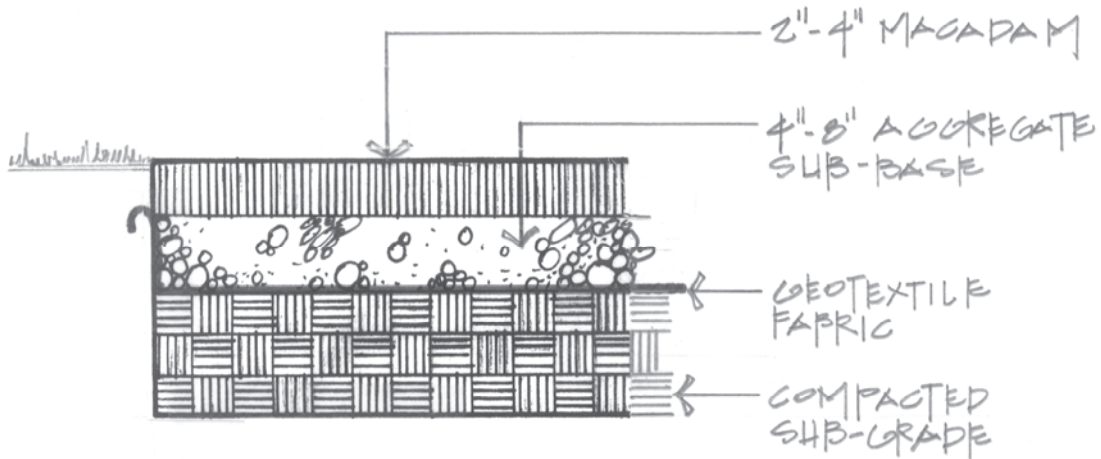
The cost of constructing a paved, concrete or cinder (gravel-surfaced) trail varies depending on whether the trail is built where there already exists a suitable base. For example, trail construction along an abandoned railroad corridor or a former roadway typically requires less site preparation work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

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

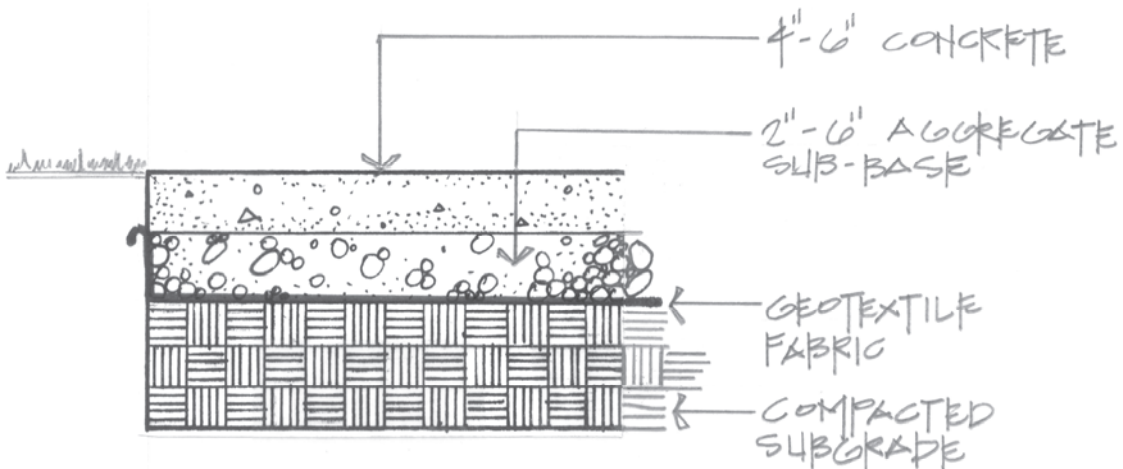
Lastly, a final variable that will affect typical trail development costs is labor. If an outside contractor is used, then local prevailing rates for construction crews can make the project more expensive than if public employees were to be used to perform the construction work. For example, a government-sponsored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

Cross Section Illustrations of Trail Classification Types

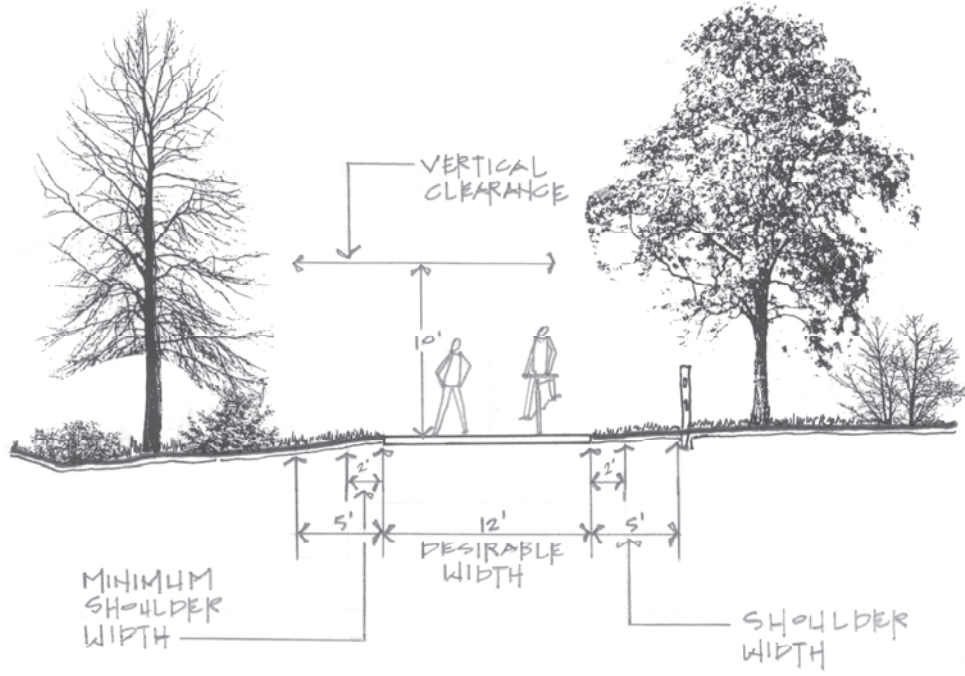
The trail cross sections and detail illustrations (pages 7-9) are visual examples of the County's recommended desirable and minimum principle standards which correspond with the trail design chart on page 5 of this document. Each trail classification illustration may depict multiple scenarios between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



TYPICAL MACADAM TRAIL DETAIL

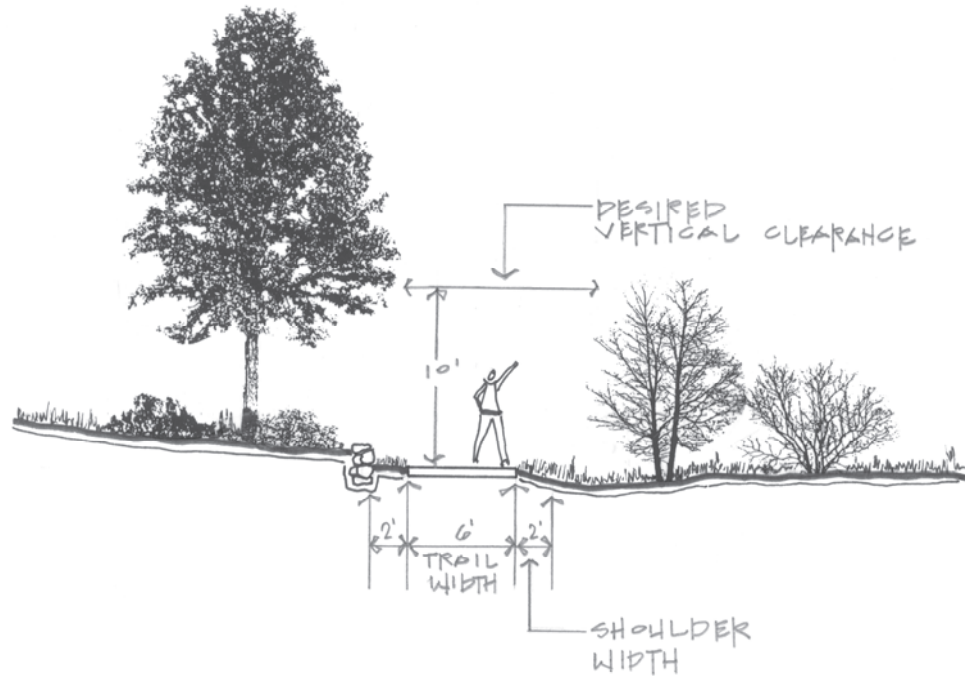


TYPICAL CONCRETE TRAIL DETAIL



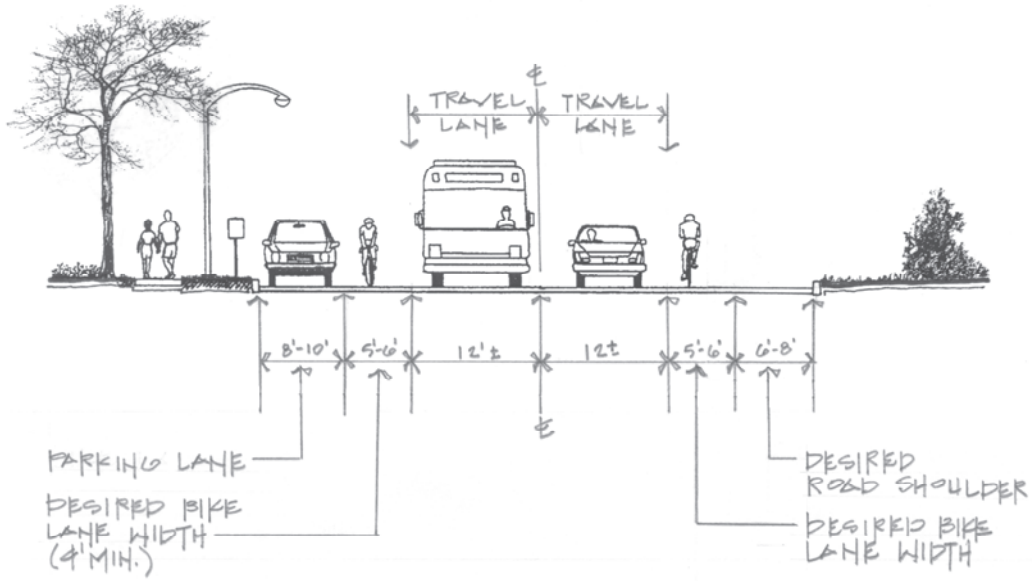
TYPICAL MULTIUSE TRAIL SECTION

NTS



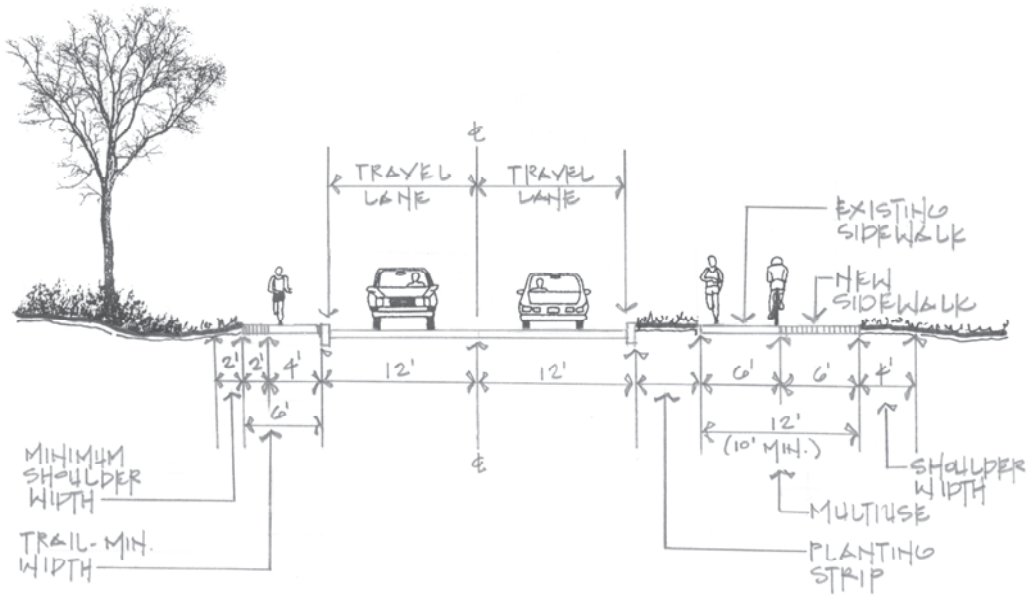
TYPICAL PATHWAY SECTION

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ON ROAD IMPROVEMENTS FOR BICYCLES

NTS



SIDEWALK RETROFIT

NTS

Minimum Signage Dimensions

Sign Dimensions for Trail & Bicycle Facilities

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



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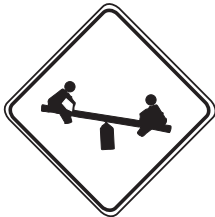
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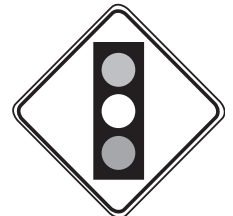
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Sign Dimensions for Trail & Bicycle Facilities

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

TRAIL NOTE: For additional design details, sign materials and further examples please reference the *Manual on Uniform Traffic Control Devices for Streets and Highways* written and published by the Federal Highway Administration.

These design standards will guide the county in future trail developments, as well as the municipalities applying for open space funds. Montgomery County and the 62 municipalities are pioneering ahead to develop a first-rate integrated trail system on a local and regional level, while creating an innovative recreational and preservation program for all others to accredit and pursue.

Trail & Bicycle Facilities Resource References

Bicycling Road Map, Montgomery County Planning Commission, Norristown, PA, 1999.

Community Trails Handbook, Brandywine Conservancy, Chadds Ford, Pennsylvania, 1997.

Guide for the Development of Bicycle Facilities, American Association of State Highway and Transportation Officials (AASHTO), Washington, D.C., 1999.

Guide for the Planning, Design, and Operation of Pedestrian Facilities, American Association of State Highway and Transportation Officials (AASHTO), Washington, D.C., July 2004.

Manual on Uniform Traffic Control Devices for Streets and Highways, 2003 ed., Federal Highway Administration, Washington, D.C., 2003.

Rails-to-Trails Conservancy, *Trails and Greenways Clearinghouse*, < <http://www.trailsandgreenways.org/resources/> >, accessed in 2005.

Ryan, Karen-Lee (ed), *Trails for the Twenty-First Century*, Island Press, Washington, D.C., 1993.



Appendix A – Potential Open Space Funding Sources

Potential Funding Sources from DCNR {Contact Info. Source– DCNR: www.dcnr.state.pa.us/brc/grants }

Six grant programs are administered by the PA Department of Conservation and Natural Resources, Bureau of Recreation and Conservation:

1. **Community Grant Program** – Grants require a 50 percent match except for Small Community Development type projects and certain technical assistance projects. Grants are awarded to municipalities for recreation, park and conservation projects. Projects types funded under the Community Grant Program include:

Rehabilitation and Development Projects - These projects involve the rehabilitation and development of public indoor and outdoor park, recreation and conservation areas and facilities; and renovation of existing parks and indoor/outdoor recreation facilities to improve safety and accessibility to individuals with disabilities and special populations such as minorities, low income and the elderly.

Acquisition Projects - These projects involve the acquisition of real property for park, recreation, conservation and open space purposes by fee simple title or other lesser interest that will insure the desired public benefit. Acquisition projects may be for the purchase of new park and recreation areas or expansion of existing sites.

The Small Community Development Projects - These projects provide a municipal applicant with a population of 5,000 or less with an alternative method of funding for rehabilitation and development of minor indoor and basic outdoor park, recreation and conservation areas and facilities. The maximum grant under this project type is \$40,000.

Planning and Technical Assistance Projects - These projects involve studies completed by professional consultants to help develop planning strategies and courses of action to address local park, recreation, and open space and conservation concerns. Long-range recreation plans, pre-studies, feasibility studies, and master site plans are eligible project types.

2. **Rails-to-Trails Grant Program** - This program provides 50/50 matching grants to municipalities and nonprofit organizations for the planning, acquisition and development of rail-trail corridors. Eligible corridors include abandoned railroad rights-of-way or lands available for trail purposes under railbanking. Lands abutting rights-of-way which provide opportunities to form trail linkages and create trailheads and related support facilities are also eligible:

Rehabilitation and Development Projects - Eligible projects include the construction of trails and associated structures as well as support facilities.

Acquisition Projects - Land may be purchased through fee simple or a less than fee interest such as an easement.

Planning and Technical Assistance Projects - Rail-trail feasibility studies, rail-trail master plans and special purpose studies are eligible project types.

- 3. River Conservation Grant Program** - This program provides grants on a 50 percent matching basis to municipalities, counties, municipal and intermunicipal authorities, and river support groups to foster the conservation, restoration and enhancement of river resources:

Planning Projects - These projects involve the preparation of a river conservation plan which inventories the environmental, cultural and recreational values of a waterway or watershed; identifies potential threats or opportunities to the water resource; and defines the policies and actions necessary to conserve, restore, or enhance the resource. Once a plan is approved by DCNR, the waterway can be listed on the PA Rivers Conservation Registry to enable it to be eligible for implementation, acquisition and development funds.

Implementation Projects - These projects involve implementation of a non-development and non-acquisition type projects defined in a river conservation plan for a waterway that has been listed on the registry. Examples of eligible projects include investigations into river access, water quality monitoring and preparation of ordinances and zoning documents.

Development Projects - Grants are limited to a maximum of \$40,000 for development projects recommended in a river conservation plan for a registered waterway. Projects which involve river bank stabilization, riparian land improvement, stream improvement, and the provision of river access and recreation facility development (i.e., parking areas, restrooms, utilities, landscaping, etc.) are eligible.

Acquisition Projects - Grants are limited to a maximum of \$40,000 for the acquisition of land recommended in a river conservation plan for a registered waterway. Fee simple title or a less than fee interest such as an easement are eligible for purchase.

- 4. Heritage Parks Grant Program** - In April 1995, Governor Ridge designated the Schuylkill River Heritage Corridor a State Heritage Park. Grants require a 25-50 percent match, depending on project type.

Grants are available to municipalities, nonprofit organizations or federally designated commissions acting on behalf of the municipalities in a heritage park area. This designation allows grants to be awarded to further the objectives of the approved Management Action Plan for the heritage park area:

Special Purpose Study Projects - Grants awarded may be used to conduct feasibility studies, develop management action plans for heritage park areas, carry out specialized studies and the possible hiring of state heritage park managers.

Implementation Projects - Projects primarily include those related to acquisition, preservation, rehabilitation and development of sites and buildings and interpretive/educational exhibits and materials.

5. **Pennsylvania Recreational Trails Program** - Grants (range: \$2,500 to \$100,000) may range up to an 80/20 percent match except acquisition projects require a 50/50 match from the applicant. Eligible applicants include federal and state agencies, local governments and private organizations.

The grants provide funds to develop and maintain recreational trails and trail related facilities for motorized and nonmotorized trail use. The wide array of projects eligible for funding includes:

TRAIL NOTE: Montgomery County will not fund trail development projects for motorized vehicles.

- ❑ redesigning, reconstructing, nonroutine maintenance, and relocating trails in order to mitigate and minimize the impact to the natural environment;
- ❑ developing urban trail linkages near homes and workplaces;
- ❑ maintaining existing recreational trails, including the grooming and maintenance of trails across snow;
- ❑ restoring areas damaged by usage of recreational trails and backcountry terrain;
- ❑ developing trail side and trail head facilities that meet goals identified by the National Recreational Trails Advisory Committee;
- ❑ providing features, which facilitate the access and use of trails by persons with disabilities;
- ❑ acquiring easements for trails or for trail corridors identified in the state trail plan;
- ❑ acquiring fee simple title to property from a willing seller, when the objective of the acquisition cannot be accomplished by acquisition of an easement or by other means;
- ❑ constructing new trails on state, county, municipal or private lands, where a recreational need for such construction is shown; and
- ❑ only as otherwise permissible while abiding to all restrictions and regulations, construction of new trails on federally owned land.

6. **Land Trust Grant Program** - This program is a source of funding for non-profit conservation or preservation organizations, conservancies and land trusts.

Grants provide 50 percent funding for acquisition and planning of open space and natural areas, which face imminent loss. Lands must be open to public use and priority is given to habitat for threatened species.

Acquisition Grants - Acquisition of lands which serve as critical habitat for rare, threatened or endangered plant or animal species or communities which are at risk of destruction or substantial degradation receive funding priority over other natural area acquisitions.

Planning Grants – Grants may be utilized for the preparation of documents useful in planning, developing, operating, protecting and managing natural areas and programs. Examples of eligible projects include: preservation and management plans for critical habitat, open space and natural areas; natural area inventories and studies; greenway and open space plans and feasibility studies.

Potential Funding Sources from PA DOT {Contact Info. Sources – DVRPC/PA DOT: www.dvrpc.org/transportation/capital / www.dot.state.pa.us }

Funds made available from the Pennsylvania Department of Transportation (DOT) are monies apportioned to the state from the federal government as a result of the Transportation Equity Act for the 21st Century (TEA-21). TEA-21 is the successor to the 1991 federal transportation bill commonly referred to as ISTEA. Projects which adhere to the following requirements are eligible for funding assistance on an 80/20 cost share basis, with 20% being the local share:

- ❑ Facilities must be located and designed pursuant to and incorporated within long range plans for the metropolitan planning area and the state.
- ❑ In general, no motorized vehicles shall be permitted to make use of the trails and pedestrian walkways.
- ❑ A bicycle project may only be carried out if it is determined that the project will be primarily for transportation purposes.

Below are three programs that relate to providing corridors for pedestrian and bicycle travel through surface transportation improvements:

1. **Surface Transportation (Transportation Enhancements: TE) Program** - The TE Program funds 'non-traditional' projects that enhance the transportation experience, mitigate the impacts of transportation facilities on communities and the environment, and enhance community character through transportation-related improvements.

Funding can be either 80/20 if the project entails design, engineering and construction or 100% for construction-only projects. Eligible applicants include any federal or state agency and county or municipal governments. Types of improvements eligible for funding include:

- ❑ provision of facilities for pedestrians and bicyclists; familiar
- ❑ provision of safety and educational activities for pedestrians and bicyclists;
- ❑ acquisition of scenic easements and scenic or historic sites;
- ❑ scenic or historic highway programs;
- ❑ landscaping or other scenic beautification;
- ❑ historic preservation;
- ❑ rehabilitation and operation of historic transportation buildings, structures or facilities;

- ▣ preservation of abandoned railway corridors, including the conversion and use thereof for trails;
- ▣ control and removal of outdoor advertising;
- ▣ archeological planning and research;
- ▣ mitigation of water pollution due to highway runoff, or reduction of vehicle-caused wildlife mortality; and
- ▣ establishment of transportation museums.

2. **Congestion Mitigation and Air Quality (CMAQ) Improvement Program** - Projects providing facilities for pedestrians and bicycles may be funded under CMAQ if it is either determined to contribute to the attainment of a national ambient air quality standard or included in the states implementation plan designed to comply with the Clear Air Act.

Projects are selected for there ability to cost effectively reduce emissions from highway sources. CMAQ is an 80/20 reimbursement program open to public agencies, incorporated private firms and non-profit entities.

3. **Home Town Streets and Safe Routes to School (HTS & SRS) Program** – The overall program has two primary objectives: a) enhancing and improving streets that run through the centers of cities and towns to promote pedestrian circulation and safety; b) establishing safe pedestrian (student) routes and connections to and from schools.

HTS and SRS is an 80/20 reimbursement program open to any federal or state agency, county or municipal government, school district and non-profit organization. Improvements under the following programs may include:

HTS

Benches;
 Sidewalk improvements;
 Street Lighting;
 Transit bus shelter;
 Traffic calming;
 Crosswalks;
 Planter;
 Kiosks;
 Signage; and
 Bicycle amenities

SRS

Sidewalk construction;
 Crosswalks;
 Bike lanes;
 Trails;
 Traffic diversion improvements;
 Curb extensions;
 Traffic circles; and
 Raised median island

Potential Funding Source from the National Park Service (NPS)

{Contact Info. Source – NPS: www.nps.gov/ncrc/programs/rtca }

Rivers, Trails, and Conservation Assistance Program – The program offers *technical assistance only* to nonprofit organizations, community groups, and local or state government agencies. Rivers and Trails technical staff offers the following types of assistance for recreation and conservation projects:

- Building partnerships to achieve community-set goals;
- Assessing resources;
- Developing concept plans;
- Engaging public participation;
- Identifying potential sources of funding;
- Creating public outreach;
- Organizational development; and
- Providing conservation and recreation information.

Examples of Rivers and Trails assisted community projects include trail and greenway planning, open space protection, river conservation, watershed planning, rail-trail conversions and urban greening.

National Park Service staff for the Rivers and Trails program are based in 30 field locations to make them more accessible to local governments and nonprofit organizations throughout the country.

Potential Funding Source from PECO Energy/National Lands Trust, Inc.

{Contact Info. Source - noted below}

Green Region – The PECO Energy Open Space Program {Contact Info. Source – Natural Lands Trust: www.natlands.org or PECO: www.peco.com }

Purpose/Program Guidelines

Recognizing that open space in our communities is a crucial piece of the quality of our lives, PECO Energy has committed itself to assisting municipalities in southeastern Pennsylvania with their on-going efforts to protect, acquire and improve open land.

PECO has, therefore, developed the Green Region grant program, which can be used in combination with other funding sources to cover a portion of the expenses associated with open space programs. Underlying the program parameters is PECO's endorsement of deliberate planning for open space protection by municipalities as a means to encourage the wisest use of scarce resources.

Eligible Applicants

Any Township, Borough or City incorporated within Bucks, Montgomery, Philadelphia, Delaware or Chester Counties.

Eligible Activities

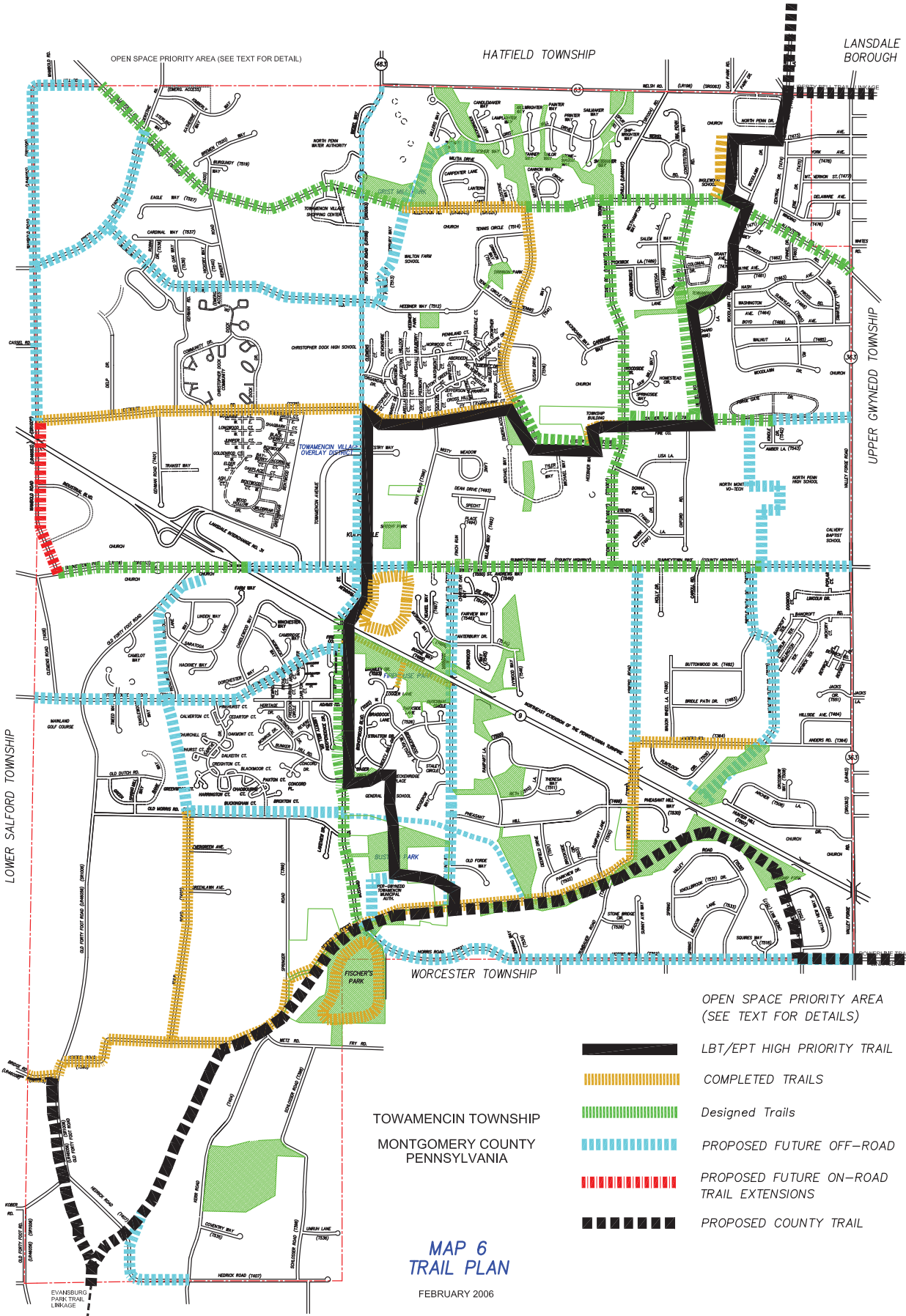
- Up to 50% of the planning expenses associated with developing or updating municipal open space protection plans. Such expenses may include consultant fees, expenses associated with public input (hall rental, advertising, etc.), and publication.
- Staff time for municipal employees is not an eligible expense.
- Up to 75% of the direct and indirect expenses associated with the fee simple purchase (or receipt by donation) of open space properties identified in a municipal open space plan. Such expenses may include legal or consultant fees, survey, environmental assessments, appraisals, etc.
- The purchase price of the property and staff time for municipal employees are not considered eligible expenses.
- Relocation of owner/tenant, condemnation and building repair/demolition are not eligible.
- Up to 75% of the direct and indirect expenses associated with the purchase (or receipt by donation) of conservation easements (also known as “development rights”) on properties identified in a municipal open space plan. Such expenses may include legal or consultant fees, survey, environmental assessments, appraisals, etc.
- The purchase price of the easements and staff time for municipal employees is not considered an eligible expense.

Green Region Program Guidelines

- Up to 75% of the planning expenses to improve municipally-owned open spaces, or lands to be acquired by a municipality.
- These plans may be for habitat improvements such as installing or improving meadows, woodlands, and riparian buffers. On properties designated for passive recreation, the plans may also be for the installation of capital improvements, such as trails, boardwalks, kiosks and observation platforms. Such expenses may include consultant fees for landscape architects, park designers, botanists, engineers etc. Staff time for municipal employees is not an eligible expense.
- Up to 50% of the cost of materials and labor to install habitat improvements and capital improvements for passive recreation similar to those in item 4, above, on municipally-owned open space, when such improvements are identified in a municipal open space plan. Staff time for municipal employees is not an eligible expense.

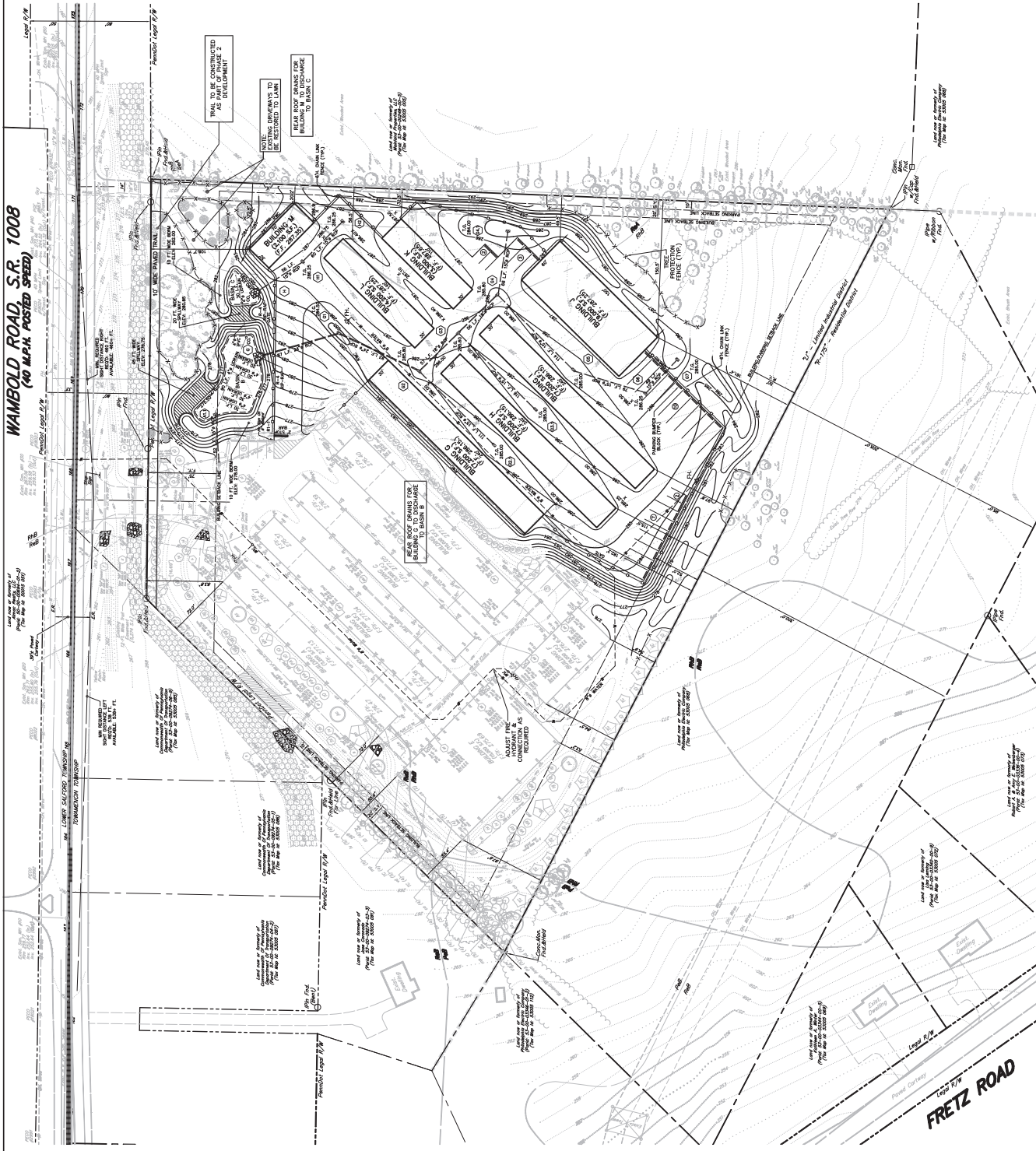
Grant Amounts and Timing

- Grants will be for no less than \$5,000, and no more than \$10,000.
- The Grants shall be available twice a year, with application deadlines in the Fall and Spring.
- Award notices will be made within six weeks of each application deadline. All applicants will be notified in writing of PECO's decision on their applications.
- Any successful recipient will be expected to fully expend the grant award within eighteen months of receipt of the funds.
- Retroactive reimbursement for costs accrued between the application deadline and the grant award will be allowed, with cause, on a case-by-case basis. All requests for such reimbursement shall be made in writing to the project administrator.
- A grant recipient may not apply for an additional grant until the current grant is fully expended.
- Matching funds shall be in cash, not in-kind services.



EDM EDM CONSULTANTS, INC.
 1101 South Bridge Street
 Lansdale, PA 19446 Phone (215) 393-0870 Fax (215) 393-0852

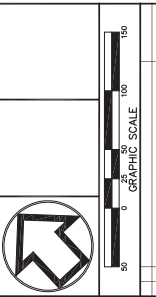
WAMBOLD ROAD, S.R. 1008
(40 M.P.H. POSTED SPEED)



LEGEND

PROPOSED TREE MARK	PROPOSED BLOW-OFF ASSEMBLY
PROPOSED TREE PROTECTION FENCE	PROPOSED GATE VALVE
PROPOSED CHAIN LINK FENCE	PROPOSED WATER MAIN
PROPOSED SANITARY LATERAL	PROPOSED SANITARY SEWER
PROPOSED TREE ROW	PROPOSED CURB
PROPOSED SIDEWALK	PROPOSED PAVEMENT
PROPOSED RIGHT-OF-WAY	PROPOSED CONCRETE WALKWAY
PROPOSED CONTOUR (MAJOR)	PROPOSED CONTOUR (MINOR)
PROPOSED ADJOINING OWNERS	PROPOSED SETBACK LINES
EXISTING SANITARY SEWER	EXISTING STORM SEWER
EXISTING CONTOUR (MAJOR)	EXISTING CONTOUR (MINOR)
EXISTING RIGHT-OF-WAY	EXISTING CENTERLINE
EXISTING SIDEWALK	EXISTING CURB
EXISTING WATER MAIN	EXISTING TREE MARK

- CONSTRUCTION NOTES**
- THIS PLAN CONTAINS INFORMATION PERTAINING TO UNDERGROUND UTILITIES AND AN ADJACENT SOURCE OF LIQUID OR GASEOUS MATERIALS. ALL UNDERGROUND UTILITIES AND ADJACENT SOURCES OF LIQUID OR GASEOUS MATERIALS SHALL BE IDENTIFIED BY THE FIELD SURVEYOR AND SHOWN ON THIS PLAN. THE FIELD SURVEYOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL UTILITIES AND ADJACENT SOURCES OF LIQUID OR GASEOUS MATERIALS. THE FIELD SURVEYOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE FIELD SURVEYOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE FIELD SURVEYOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
 - A MINIMUM VERTICAL CLEARANCE OF 18 FEET SHALL BE PROVIDED AT ALL OVERHEAD CROSSINGS. THE FIELD SURVEYOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE FIELD SURVEYOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE FIELD SURVEYOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
 - ALL CONSTRUCTION SHALL CONFORM TO TOWNSHIP, COUNTY AND STATE STANDARDS AND CODES. THE FIELD SURVEYOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE FIELD SURVEYOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE FIELD SURVEYOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
 - ALL INLET GRATES IN PAVED SURFACES SHALL BE BRICKLE SAFE. THE FIELD SURVEYOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE FIELD SURVEYOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE FIELD SURVEYOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
 - ALL STORM SEWERS SHALL HAVE A MINIMUM OF 1% OF COVER OVER THE ENTIRE LENGTH. THE FIELD SURVEYOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE FIELD SURVEYOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE FIELD SURVEYOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
 - ALL ROOF DRAINS TO HAVE A MINIMUM OF 2 FEET OF COVER. THE FIELD SURVEYOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE FIELD SURVEYOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE FIELD SURVEYOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
 - ALL PAVED SURFACES TO HAVE A MINIMUM SLOPE OF 1%. THE FIELD SURVEYOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE FIELD SURVEYOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE FIELD SURVEYOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
 - A MINIMUM OF 4-INCHES OF TOPSOIL SHALL BE RETURNED TO DISTURBED AREAS PRIOR TO FINAL GRADING AND SEEDING. THE FIELD SURVEYOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE FIELD SURVEYOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE FIELD SURVEYOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
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DATE: JUNE 2, 2021
 DRAWN BY: J.A.C.
 CHECKED BY: J.A.C.
 PROJECT NUMBER: 4878C-PH2
 PLAN SCALE: 1"=50'

CIVIL ENGINEERS - LAND SURVEYORS
 S T A
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 1000 N. 10TH ST., SUITE 300
 HARRISBURG, PA 17102
 PH: (717) 679-0200; WWW.STALAND.COM

TOWNSHIP: MONTGOMERY COUNTY, PENNSYLVANIA

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