Detweiler Park Master Plan

OFFICE OF PARKS AND RECREATION - DAUPHIN COUNTY- PA

MARCH 2021

The Detweiler Park Master Plan is dedicated to the memory of Vera Cornish, Study Committee Member. Her enthusiasm and energy for this project were greatly appreciated by everyone.

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DETWEILER PARK MASTER PLAN

Prepared For:

DAUPHIN COUNTY
PENNSYLVANIA
PARKS & RECREATION

Dauphin County Commissioners

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Paula Zankel - President-Clarks Creek Watershed Preservation Association

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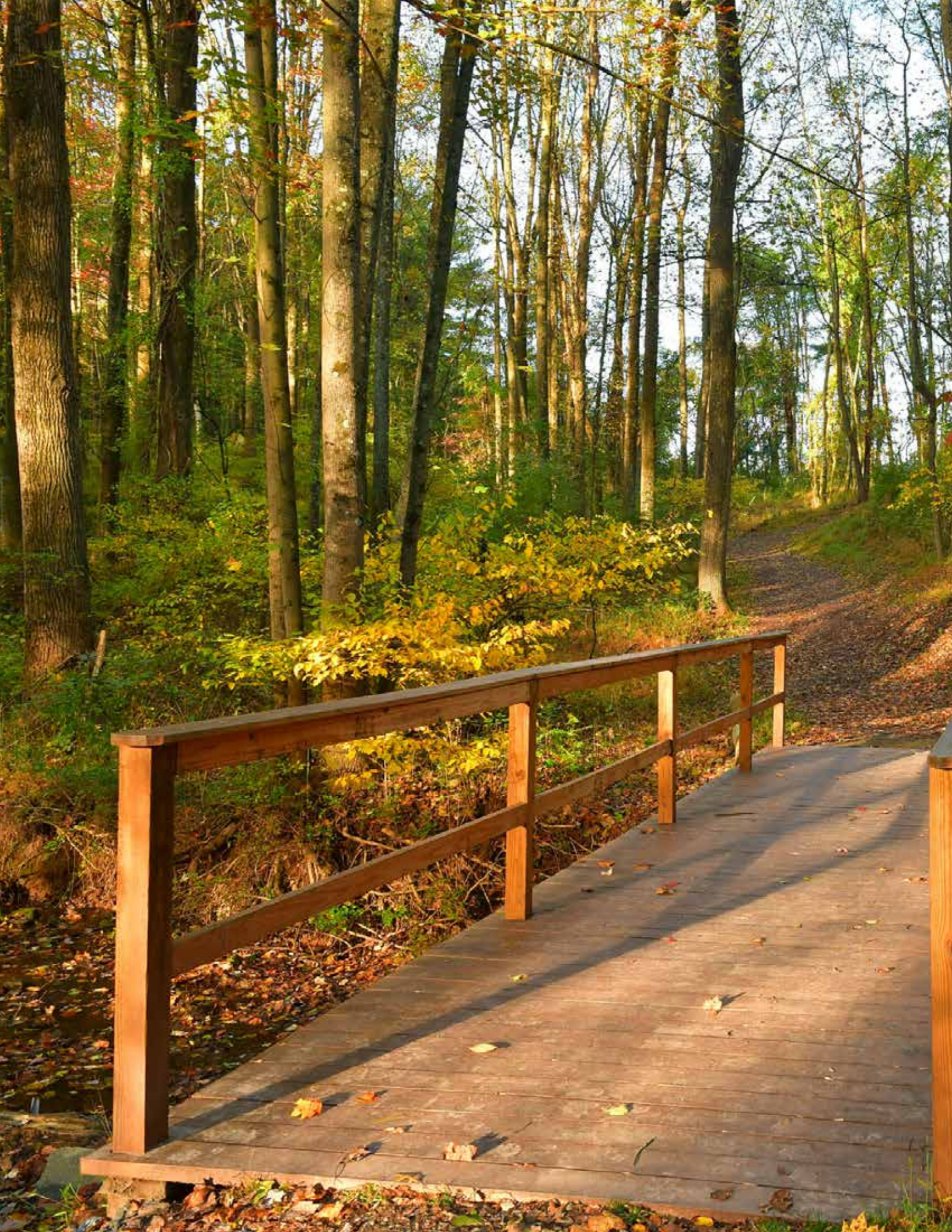


CHAPTER 1
INTRODUCTION

Purpose for Study

Detweiler Park is a 411-acre tract of land acquired by Dauphin County on December 29, 2016, through a combination of gift and purchase. The County Commissioners opened the park to the public during the summer of 2017. The seven miles of wide and groomed trails were quickly embraced by the community. Trail counters in 2020 showed 800 visitors in the winter, and 3,500 visitors per month in the summer.

In undertaking this master plan process the County wishes to explore the development of both active and passive recreational facilities within the park. This public master plan process will inform the County on how the public uses this park today and what improvements would best facilitate park use.

This plan is the result of a collaboration between the public, project stakeholders, the County project steering committee (the Committee), County staff, project consultants, and the Dauphin County Commissioners. This document outlines the planning process and provides a vision for the future of Detweiler Park.

Plan Goals

The plan goals were discussed at the first committee and public meetings and refined throughout the master plan process. It was understood by everyone involved that the site is a unique and special place with the potential to be enhanced and serve the public for generations to come. The plan goals are as follows:

Develop a master site plan that provides for public activities and facilities that are married with the enhancement of the site ecology. Create a 100-year vision for the site that guides the site's transition from a private estate to a public park. Dovetail the Detweiler legacy with the preservation of native settings that celebrates and honors all Detweiler Park has to offer.

Master Planning Process

The master plan is an early step in the improvement process that seeks to develop public consensus for activities and facilities to be included at Detweiler Park (see Figure 1.1). The master plan provides estimates of probable costs of development. It also outlines a strategy for phasing improvements and for securing funding from a variety of potential sources. The master plan is a guidance document and is intended to be flexible enough to adapt to the future desires and needs of the community.

Following the completion of this master site development plan, the next step toward implementation is to identify and acquire funding for improvements. Once funding is obtained, detailed design and engineering will commence to develop construction documents. Construction documents will be publicly bid and a contract awarded for construction. A master plan is typically implemented in phases, dependent on funding, over a period of years. In the case of Detweiler Park, six (6) to eight (8) phases spanning twelve (12) to sixteen (16) years is a realistic time frame for the implementation of all plan recommendations.

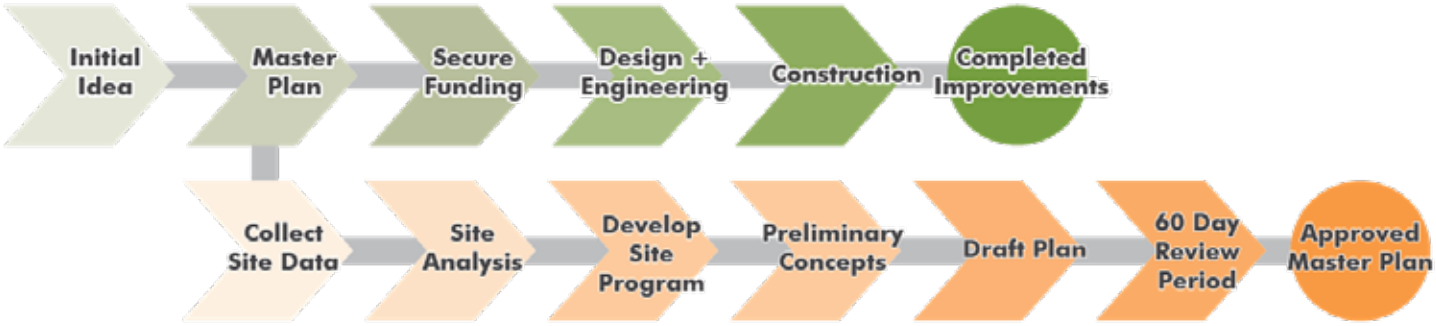


Figure 1.1 Master Plan Process

Project Team

A project team composed of the Committee, County Staff, and Consultants was formed to guide master plan process. The Committee was diverse and offered varied expertise and experience. Committee insights informed and guided the team throughout the process. County staff led by Dauphin County Parks and Recreation Director, Carl Dickson, helped to coordinate the process and provided input and comment on the plan.

The consultant team included many disciplines. 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 overall coordination with the Committee, the County, and project team.

Applied Ecological Services, Inc. (AES) is a leading ecological consulting firm, dedicated to bringing the science of ecology to land-use decisions. AES's knowledge of ecological systems provides a solid foundation for creating balanced ecological designs and solutions that are sustainable, cost-effective, and enduring. AES plan components include baseline habitat and wildlife analysis, hunting survey / analysis, wildlife management plan, impacts mitigation analysis, meadow stewardship plan, invasive species plan, and waterways plan.

Comprehensive Land Services (CLS) are foresters with many years of experience in the Commonwealth. Sole proprietor / forester Patrick Fasano was responsible for the analysis of the existing park woodlands and the formulation of the Forest Stewardship Plan.

Seiler+Drury Architecture (S+D) is an architectural and planning firm. Firm core disciplines include Preservation, Sustainable Design and Adaptive Reuse. S+D was responsible for the structural and architectural assessment of the park's eight buildings and the Historic Areas and Structures Review with PHMC.

Patrick Stasio served as the team's Certified Recreational and Park Professional. Pat is Director of Parks and Recreation for Upper Moreland Township, Montgomery County, managing hundreds of acres of parks for the Township as well as running numerous recreational and educational programs for the municipality. As the SC team developed plan options for Detweiler Park, Pat reviewed and informed proposals to trouble-shoot operational and programmatic implications of the design. Pat helped to analyze and develop maintenance and operational costs, explored revenue-producing concepts, and assisted with the security analysis for the park.

View of Peters Mountain from the south side of the Airstrip Loop Trail at Detweiler Park.

Public Participation

Community input is a critical component of all successful master plans. The consultants worked with the project team to tailor the public participation process to the project. The 12-month process provided the team with extensive access to citizens' observations, needs, and ideas for the Park and critical feedback on park concepts and plans.

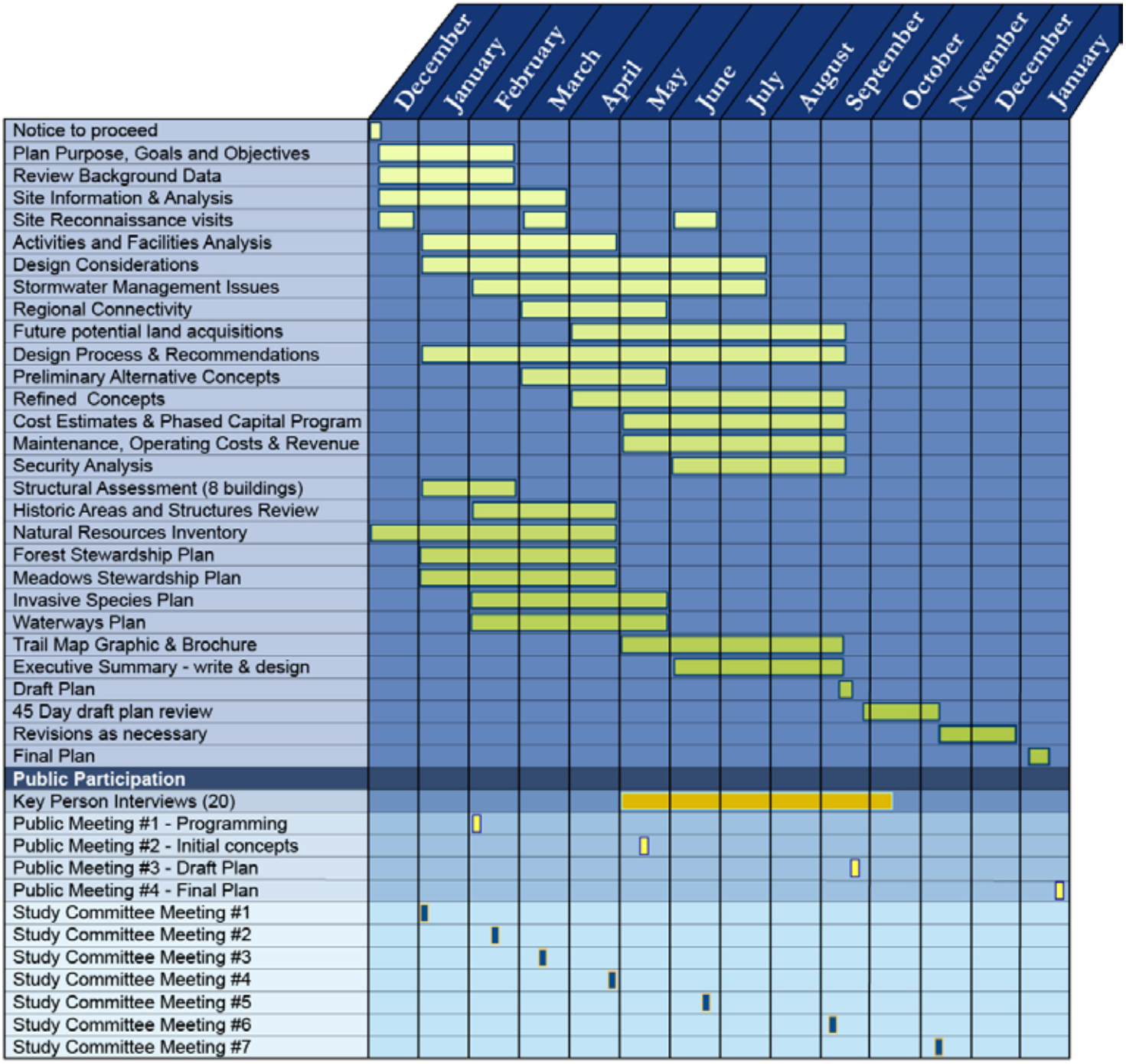


Figure 1.2 Project Schedule

The public participation process included four (4) public meetings, seven (7) project steering committee meetings, 20 key person interviews, an online opinion survey, and an online Wiki Mapping public participation tool. (See Figure 1.2 for the project schedule.) Meeting notes and attendance sheets for each meeting can be found in the appendix of this report.

Committee Meeting 1 – December 9, 2019

The consultant focused on collecting background information for the site and discussing preliminary goals for the master plan. The consultants led a brainstorming session to gather goals, facts, and concepts for the Park.

Public Meeting 1 – February 3, 2020

The project team was introduced to the community and an overview of the master plan process was provided. Site inventory and analysis were presented that highlighted the site characteristics including elevation changes, steep slopes, hydrology, soils, and slope aspect. The consultants led a brainstorming activity session for the Park, gathering the public goals, facts, concepts, and ideas for potential partners. The meeting was attended by 77 people and by the local news media.

Committee Meeting 2 – February 17, 2020

An updated site analysis was presented at the second committee meeting. A list of potential interviewees for key person interviews was developed. Initial building assessment and ecological field work were presented.

Committee Meeting 3 – March 9, 2020

The consultant presented the public opinion survey results to date and the draft architectural building assessment findings. Initial site concepts were presented, and the committee discussed the elements that were liked and disliked.

Committee Meeting 4 – April 27, 2020

Due to the Covid 19 Virus Epidemic, this meeting was held virtually. The consultant presented draft forest stewardship recommendations and an update on the ecological site assessment with preliminary findings and recommendations. Refined concept plans were presented and the committee provided feedback on the plans. A strategy for presenting to the public was discussed.

Public Meeting 2 – May 11, 2020

Due to the ongoing Covid 19 Virus Epidemic, this meeting was held virtually with 66 people from the public attending. The consultant team presented the site work completed to date and the preliminary site concepts. The consultants led a discussion about the Park concepts to gather public input on the concepts.

Committee Meeting 5 – June 22, 2020

This meeting was held virtually. The consultant reviewed initial key person interview feedback. Feedback from the public meeting was reviewed and consensus regarding concept refinements was reached.

Committee Meeting 6 – September 14, 2020

This meeting was held virtually. Draft Plan elements were reviewed by the design team. The committee provided feedback on the draft plan and determined revisions to be made prior to the public draft plan meeting.

A social distancing public open house was held prior to the draft plan virtual meeting.

Public Meeting 3 – September 21, 2020

Prior to the Public Meeting, an Open House (outdoors) was held at Fort Hunter Park providing the public an opportunity to speak with the consultants and look at the draft plan. Afterward, a virtual meeting was held. The consultants provided a brief overview of the master plan process to date and reviewed site inventory and analysis, public feedback, and prior concepts. The draft plan was presented along with cost estimates and implementation strategies. A general public discussion regarding the plan was held following the formal presentation. The draft plan was made available for a public review period from September 28th to November 16th, 2020.

Committee Meeting 7 – November 16, 2020

The final committee meeting involved a discussion of the draft plan comments. Decisions were made regarding which comments and changes were to be incorporated into the final plan. It was decided that the final public meeting would be postponed until January 27, 2021 so that the committee could review the revised plan prior to presenting it to the public.

Public Meeting 4 – January 27, 2021

During this virtual meeting the consultants provided a brief overview of the final master plan and discussed the recommendations that are included in the final report.

Key Person Interviews

Fourteen (14) key person / key organization interviews were conducted during the master plan process. The interviews provided input from key persons and organizations in the area, including those who have responsibilities in the operations and safety at the park. A record of key person interviews can be found in the appendix of this report.

Public Survey / WikiMap

Citizens throughout the Dauphin County region took part in an on-line public opinion survey to provide information on their current recreational habits and what they would like to see at the Park. The survey was available online from February 2020 to September 2020. A total of 260 individuals participated in the survey. Most of the respondents (71%) were County residents who take advantage of park activities, natural areas, or open spaces in and around the County. Respondents were asked which facilities and activities should be included in the park. The number one answer was more trails in keeping with state recreational findings. Additional high-ranking activities/ facilities included: nature-based programs, and support facilities such as restrooms, trash receptacles, benches, and pavilions. The full survey results can be found in the appendix of this report.

The Detweiler WikiMap website offered another dynamic tool for public interaction. Through the interactive map participants were able to pin and draw their site observations, pictures, and ideas directly onto the site map. Through the process 54 comments/suggestions and 32 pictures were gathered. A record of this feedback can be found in the appendix of this report.

Data Collection & Methodology

Elements for this plan were compiled using the best available information. This information included PASDA and County GIS data and aerial photography, property deeds, and site reconnaissance visits. For methodology of the forest plot sampling / Forest Stewardship Plan and the baseline habitat and wildlife analysis please refer to the specific reports in the appendix of this report.

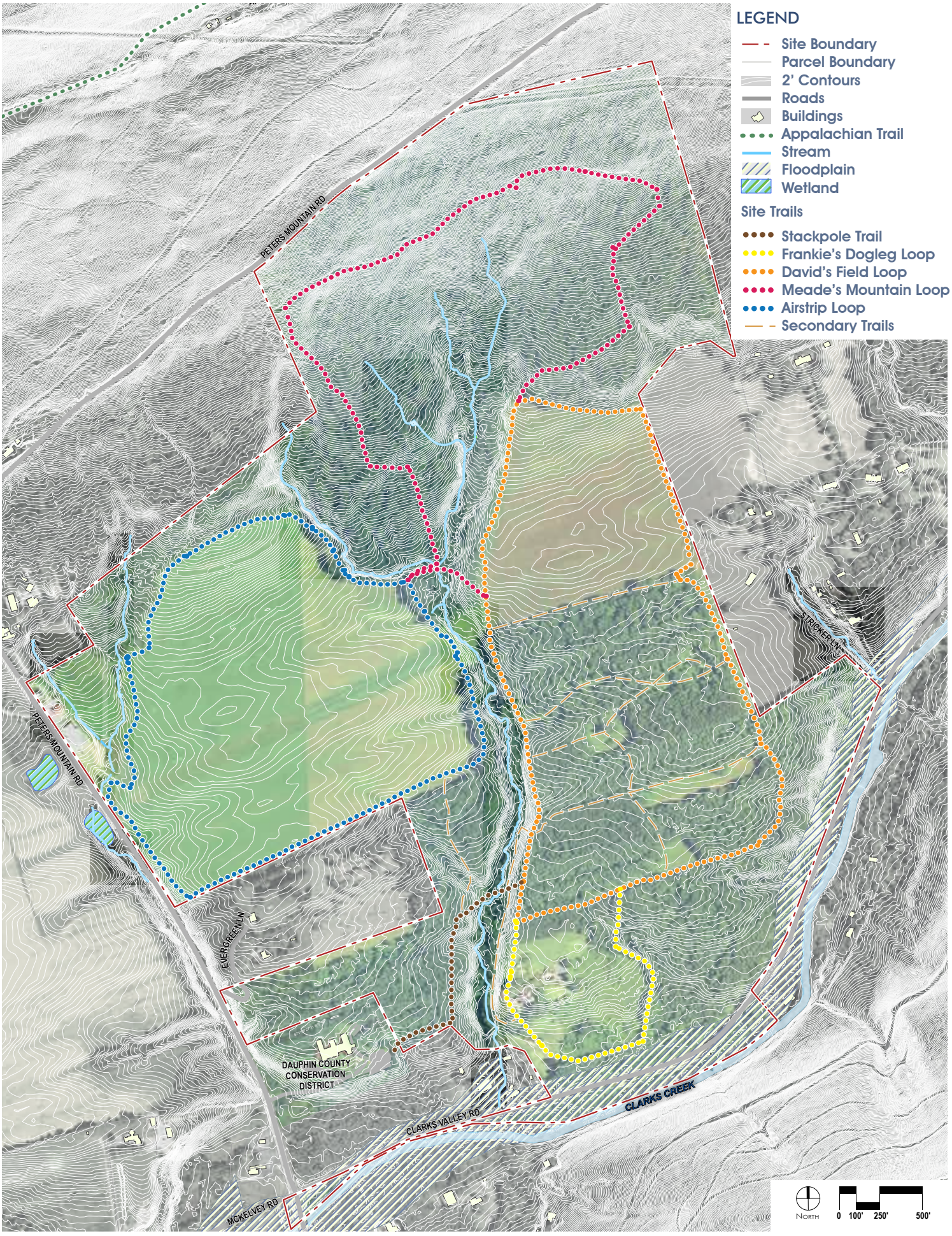


Figure 1.3 Existing Site Features Map

CHAPTER 2
INVENTORY & ANALYSIS

Site Description

Detweiler Park encompasses 411 acres within Middle Paxton Township, Dauphin County, in central Pennsylvania. The park is approximately nine miles north of Harrisburg, two miles north of Dauphin Borough, and five miles south of Halifax. The park can be reached via Peters Mountain Road (SR 325/225) that borders the west and north sides of the park and Clarks Valley Road (SR 325) that runs along the south perimeter of the site.

The site lies between Peters Mountain to the north and Third Mountain to the south. The Susquehanna River is located to the west and varies in distance of approximately 2-3 ½ miles from the park. Clark Creek, a tributary to the River, borders parts of the park to the south.

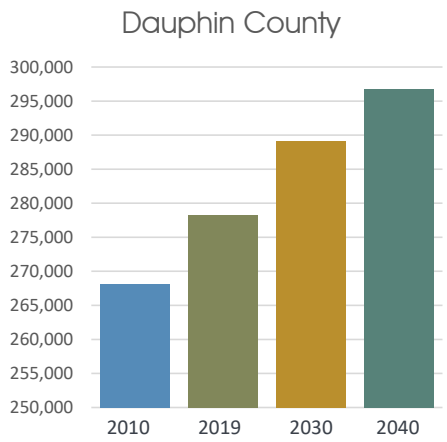
Figure 2.1 Site Location

Demographics

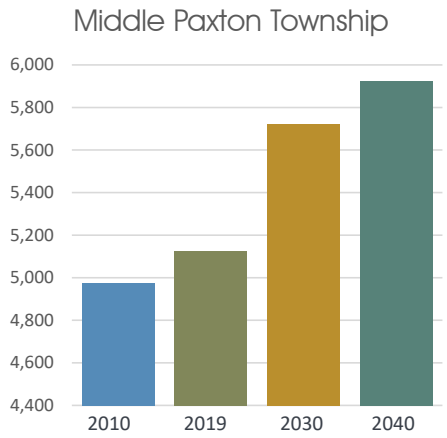
Population

The population of Middle Paxton Township is 5,125 (2019), a 3% increase from the 2010 Census of 4,976. The Tri-County Regional Planning Commission (TCRPC) projected 2040 population for the Township at 5,926. The projection shows a 20.1% growth rate from the 2010 population and a 15.6% change from the 2019 population. Dauphin County has a current population of 278,299 (2019), a 3.8% increase from the 2010 population of 268,126. TCRPC projects the 2040 population to be 296,766. This is a 10.7% growth rate from the 2010 population and a 6.6% growth from the 2019 population.

Ages 60-69 is the largest cohort in Middle Paxton Township, followed by ages 30-39, and ages 0-9. By comparison, in Dauphin County all age groups are almost equally represented. The median age of Middle Paxton residents is 45.2, which is older than the median age of 40 in Dauphin County. This demographic information shows that Detweiler Park needs to account for recreational opportunities for both aging and younger populations.



Past, present, and projected population of Dauphin County.



Past, present, and projected population of Middle Paxton Township.

Race

Most residents in Middle Paxton Township identify as White (97.8%), followed by Black/African Americans at 1%. This is vastly different to the diversity of Dauphin County with 71.5 % of the population identifying as White, 19.2 % as Black/African American, 9.9% as Hispanic/Latino, and 5.3% as Asian.

Households

Middle Paxton Township has 2,138 households with an average of 2.4 persons per household. Nearly three quarters of the households are occupied by married couples. Within Dauphin County, there are 112,559 households with an average of 2.4 persons per household. Just over half of households are occupied by married couples, with female households and non-family households making up much of the remainder.

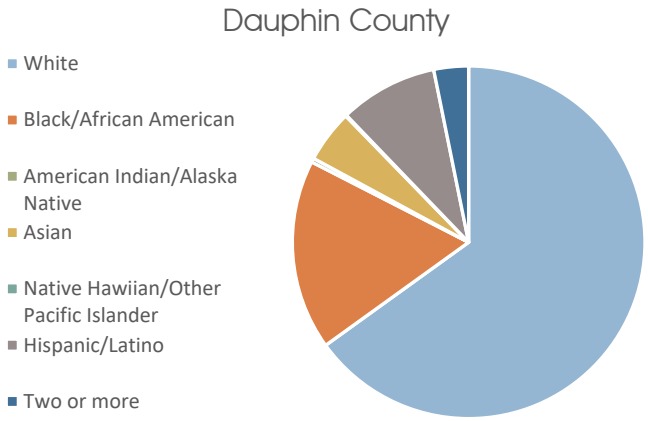
The median household income in Middle Paxton Township is $73,606 and the per capita income is $40,994. These are approximately 25% higher than Dauphin County which is at $58,916 and $33,690 respectively.

7.3% of the population in Middle Paxton Township live below the poverty rate (defined as people who lack sufficient income or material possessions for their needs). This is lower than Dauphin County with 12.7% living below the poverty rate.

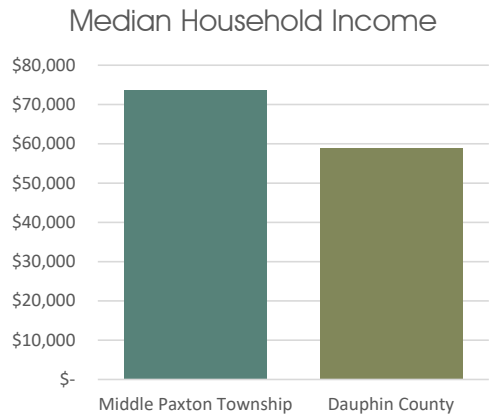
This information suggests Township residents may have larger disposable income than county residents for recreational purposes and related activities.

Education

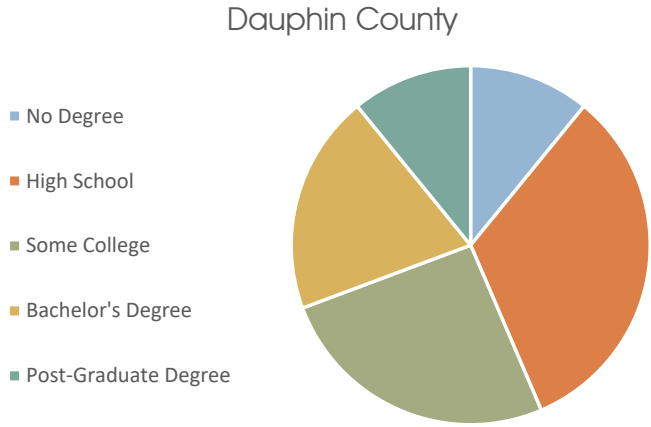
95% of the residents in Middle Paxton Township have received a high school diploma or higher compared to only 89% within Dauphin County. Both Middle Paxton Township and Dauphin County show that approximately 30% of the population had achieved a bachelor's degree or higher.



Racial makeup of Dauphin County.



Comparison of median household income of Dauphin County and Middle Paxton Township



Educational attainment levels of Dauphin County.

Regional Natural Resources

The *Natural Resources Inventory Dauphin County, PA* (2019) provides detailed information on the many natural resources that lie within Middle Paxton Township and Dauphin County. Most of the areas listed as PA Natural Heritage Areas within proximity of Detweiler Park lie within the protected State Game Lands No. 211 east of the site and along the Susquehanna River west of the site. Much of Middle Paxton Township is considered as an important bird and mammal area.

Over half of the Township is conserved in some way including State Game Lands, State Parks, Federal Land, and local and private conservation. Most large conserved areas are connected in some way which provides protection to important natural resources such as clean water, large intact forests, wetlands, and critical habitats. This also provides residents with outdoor recreation opportunities.

Turtle observed in the woodland area near David's Meadow.

Dauphin County Parks & Recreation Facilities

The Dauphin County Parks system has eight areas including Detweiler Park. These parks have many different amenities and host a variety of events throughout the year.

1. Fort Hunter Park – 50-acre historical park along the Susquehanna River. Includes 10 historic buildings, two picnic pavilions, two playgrounds, and a play field. There are a variety of events and activities that are held here throughout the year.

2. Wildwood Park - 229-acre nature park with a 90-acre shallow lake and wetlands. There are 6 miles of trails and 1.0 miles of boardwalks and it is home to the Olewine Nature Center.

3. Wiconisco Creek – 35-acre active recreation park. Amenities include soccer and two softball fields, a pavilion, tot lot play equipment, a sand volleyball court, and walking trails. The Ned Smith Center for Nature and Art borders this park.

4. Lykens Glen – 51-acre passive park along Rattling Creek. The park has two pavilions, a softball field, horseshoe pits, a sand volleyball court, a playground, and walking trails.

5. Sassafras Island – This is an island in the Susquehanna River that has two rudimentary campsites and is typically used for waterfowl hunting.

6. Community Garden – 8-acre site with 318 plots for residents to grow flowers and vegetables.

7. Henninger Farm Covered Bridge – This is one of only two covered bridges in the county. It is opened to foot traffic only and has two picnic tables.

8. Fort Hunter Conservancy - 153 acres of wooded mountain side offers 2.6 miles of walking trails.

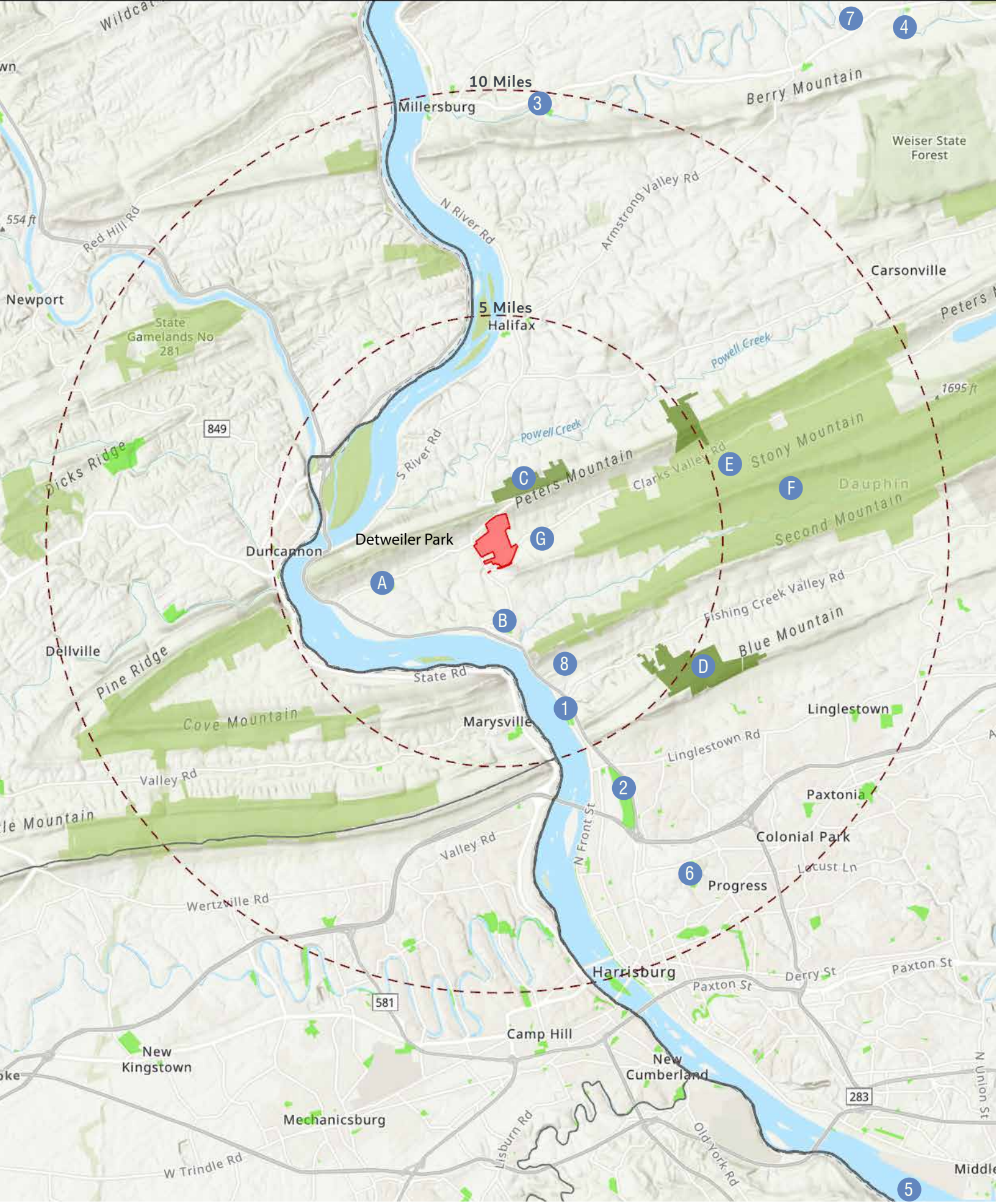


Figure 2.2 Regional Recreation Facilities - Numbers are Dauphin County Parks, Letters are parks listed on page 14

There are other non-County parks and open space in proximity of Detweiler Park that provide residents with diverse recreational opportunities.

A. Hagy Park - 28-acre active recreation park with 8-acres devoted to athletic fields. The park has two ballfields, multi-use fields, a playground, a basketball court, a tennis court, and walking trails.

B. Dauphin/Middle Paxton Community Park - 34-acre active recreation park. Amenities include 5 ball fields, an adult baseball field, multi-use fields, a sand volleyball court, a basketball court, a playground, three tennis courts, and a pool.

C. Joseph E. Ibberson Conservation Area – 803-acre passive recreation state park with 8 miles of hiking / cross country skiing trails.

D. Boyd Big Tree Preserve Conservation Area – 1,014-acre passive recreation state park with 11 miles of hiking / cross country skiing trails.

E. Horseshoe Trail/Rattling Run Trail – 10.8 miles of mountain biking, hiking, and running trails that are rated as moderate difficulty.

The Appalachian Trail along Peters Mountain Ridge.

F. Stony Creek Rail Trail – 19.5-mile multi-use rail trail.

G. Bailey's Grove - 27 Acre PA Fish and Boat Commission land opened to the public.

Detweiler Park is the largest and most recent addition to the parks in the Dauphin County Park system. It is also home to the Dauphin County Anglers & Conservationists and E.J. Stackpole Memorial Cooperative Trout Nursery. Dauphin County Anglers & Conservationists maintain and operate the nursery and the park land between Clarks Creek and Clark's Valley Road. They are responsible for raising and stocking the creeks in the region with trout as well as organizing seasonal events. The segment of Clarks Creek is a special commonwealth designated fishing area for children under the age of 15 and for people with disabilities. The area is very popular with families. The park is also currently used by the Harrisburg Area Flying Society on a year-to-year basis for model airplane flying.

Regional Historic & Cultural Features

There are several cultural assets that can be found in Middle Paxton Township. The two most notable are the John Ayers House that is a National Register of Historic Places (NRHP) site (part of the Peter Allen House property) and the Appalachian Trail.

The John Ayers House borders the north part of the site along Peter's Mountain Road. The house was built between 1800-1810. The house was placed on the NRHP in 1979. This site is now called the Peter Allen House and throughout the nineteenth century it served as a tavern, inn, and hotel. It currently is used for weddings and special events.

The Appalachian Trail (AT) runs along the top of Peters Mountain ridge, approximately ¼ mile north from the site. The AT is designated as a National Scenic Trail and is managed by the U.S. National Park Service. The trail is approximately 2,200 miles long and runs through 14 states. It was completed in 1937 and is used by thousands of hikers annually.

In the nearby 43,728-acre Saint Anthony's Wilderness (State Game Lands No. 211), remnants of a once booming coal mining and iron works industry can be found. This area had railroads, iron furnaces, communities and the once fabled Cold Springs Resort that since have been abandoned before being purchased by the state in the 1940's. Currently this area (also known as Stony Valley) is the second largest roadless area in Pennsylvania.

Relevant Planning Documents

Middle Paxton Township & Dauphin Borough Joint Comprehensive Plan

A key trails and greenway component of the plan is to provide a connection between Fishing Creek Valley and Stony Creek Valley Greenways as well as exploring future connections to the Susquehanna River and connection to the Capital Area Greenbelt.

https://static1.squarespace.com/static/56dc3f9cb654f9876576bab7/t/574494738a65e2bbc3715225/1464112285454/MiddlePaxtonDauphinBoroCompPlanPresentation.pdf

Dauphin County Comprehensive Plan "Growing Together" - 2017

This document provides the County with a ten-year plan for future growth. The plan recognizes the importance of the public park system to the overall quality of life enjoyed by its residents. It also stresses the importance of protecting natural resources. Opening Detweiler Park to the public while conserving much of its natural landscape has shown the Dauphin County Commissioner's commitment to this plan.

https://www.dauphincountycompplan.org/

Dauphin County Parks, Recreation, Open Space and Greenways Study – April 2009

This plan provided the County with a 10-year plan for addressing recreational and preservation needs. The plan provided goals for the County that are reflected in the goals for Detweiler Park. These include:

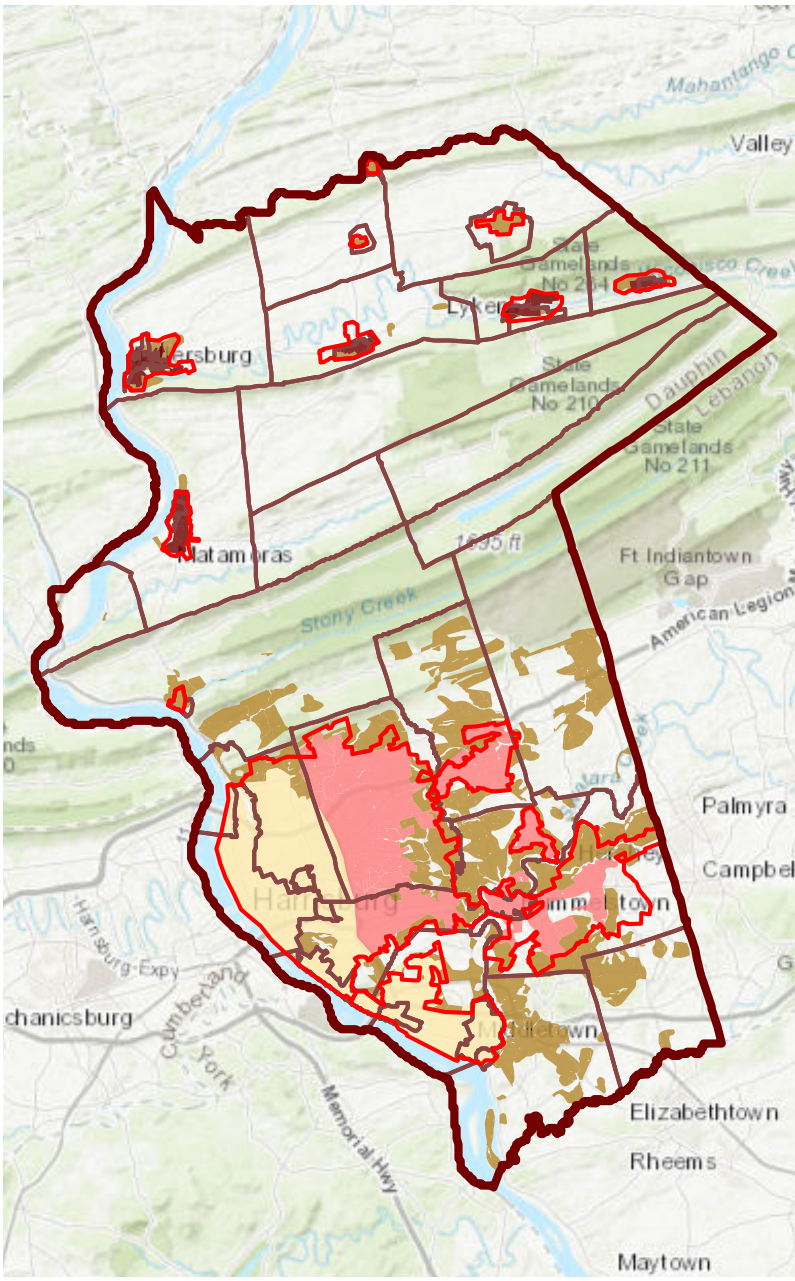
- Preserve and enhance the visual character of Dauphin County's landscape.
- Improve the quality of life for residents and the visitor experience for tourists.
- Protect important habitat areas and preserve migration paths for wildlife.
- Create a network of natural and historic features throughout the county that serves as an educational tool for the public.
- Enhance recreational and exercise opportunities in appropriate settings.

https://cms3.revize.com/revize/dauphincounty/document_center/parksrecreation/OpenSpaceStudy/Open-Space-Greenways-Plan.pdf

Dauphin County Return on Environment Study, 2016

This report outlines the economic benefits of protected open space. This includes carbon sequestration, air and water quality, stormwater management, and outdoor recreation opportunities that attract visitors and who bring dollars to the local economy.

https://kittatinnyridge.org/wp-content/uploads/2015/04/FINAL-DRAFT-DAUPHIN-COUNTY-April-2.pdf



Dauphin County Comprehensive Plan - Planned Growth Areas and Community Service Area

Inventory & Analysis

Site History

The property was purchased by General Edward J. Stackpole Jr., president of the Telegraph Press and co-founder of Stackpole Books. The property would stay with the family for over four generations. He also provided the land that serves as the home for the Dauphin County Anglers and Conservationists in the 1970's.

Mary Frances Stackpole ("Frankie") married Meade D. Detweiler III in 1943 and extended their media influence throughout the region. Meade and Frances continued to acquire adjacent land to increase the amount of wildlife that they could enjoy. They built the house that is currently on the south side of the property.

Historical aerials reveal the land being farmed well into the 1960's before Meade Detweiler started to let some areas return back to woodlands and he planted a large pine plantation behind their home. Meade continued to work to improve the habitat of the land and maintain the walking trails that exist today on the site. He later donated the land that is today home to the Dauphin County Conservation District offices.

Peter's Moutain Road Barn and Hanger

John Tallman owned the property that contained the farmhouse along Peters Mountain Road. He sold his property to Meade but continued to lease the land for his aerial spraying company from the hangar building that still stands.

Meade was a conservationist and stated in a letter that he wanted the land to "*be an area where habitats are preserved and managed in perpetuity for wildlife based on sound ecological principles that demonstrate strong land ethics...*" In 2016, Susan Detweiler, Frances Detweiler Granatino, and Esme Detweiler Freedman transferred the land to Dauphin County through donation and sale.

Existing Facilities & Structures

There are eight buildings and structures that exist on the site. For a full description of the buildings and structures, please refer to the Seiler + Drury Architecture report in the appendix.

1. The Stone Farmhouse – The building dates back to 1861 and its historical form is still intact. The house is currently being rented as a private residence.

2. The Garage – The garage was built in the 1930's and is generally in good condition. The garage is rented with the Stone Farmhouse.

3. The Barn – This structure dates back to the mid/late 19th century and has undergone alterations. The building is currently used by Dauphin County Parks and Recreation for storage. If the building would be needed for more demanding use it would require significant improvements.

4. The Hangar – Built in 1984/85, the building was used for Tallman Aerial Spraying Inc. The building is currently leased by a construction company. The building is in good condition.

5. The Detweiler House – This home was built in the 1940's by Frances and Meade Detweiler with alterations made into the 70's. The house is in good condition and is currently being rented as a private residence.

6. The Pool House – The pool no longer exists, but the wood frame pool house built between 1975-81 is still in fair condition.

7. The Stable – This modern structure was built during the same time as the pool house. It currently is being used by the County for maintenance, but in the near future, it could be part of the house rental.

8. The Hatchery – This modern building built in the 1970's is the home for the Dauphin County Anglers and Conservationists. The building is in good condition and has had some recent upgrades to improve accessibility. The structure is subject to flooding from Clarks Creek.

Zoning & Surrounding Land Uses

Detweiler Park lies in Zone A-RR, 300 Agriculture and Rural Residential District. The purpose of this zone is to permit, protect, and encourage agricultural land use with restricted residential use. Also permitted in the zone are schools, parks, churches, and residential uses under certain conditions. The zone is established in areas where agriculture is the most prominent use, where no utilities exist, accessibility is difficult, consists of unique natural beauty or is presently undeveloped, to conserve the existing character of such areas and to provide for rural residential and agricultural uses. The preservation of open spaces and environmentally sensitive areas should be encouraged.

The surrounding land use is predominately agricultural with farmland maintained to the east and the west of the site. North of the site are forested mountain areas that are a mix of managed timber / wood lots. Some residential homes do border the site to the south and east.

Circulation & Access

The site is bordered by two state highways. State Route 225 or Peters Mountain Road runs north south and forms the western boundary of the site. In Dauphin Borough SR 225 connects to US route 22/322 providing regional connections to the greater Harrisburg area. The two-lane highway is maintained by PennDOT. The speed limit along the park frontage varies from 40 to 50 miles per hour. Two low volume driveways are maintained into the park from Peters Mountain Road providing access to the Peters Mountain Farmhouse and Barn area.

State Route 325 or Clarks Valley Road runs west-east through Clarks Valley from the Susquehanna River to Tower City in the east. The two-lane highway is maintained by PennDOT and the speed limit along the park frontage is 45 miles per hour. Clarks Valley Road runs through the southern portion of the park separating the former Detweiler homestead from the E.J Stackpole Memorial Cooperative Trout Nursery located along Clarks Creek. A residential driveway serves the former Detweiler homestead and is 10-12 feet wide. The E.J Stackpole Memorial Cooperative Trout Nursery maintains two low volume driveways into their parking and a maintenance area near the fishery.

The Dauphin County Conservation District (DCCD) offices are located north of the intersection of Peters Mountain Road and Clarks Valley Road. This County property is adjacent to the park property and the site's driveway and parking area currently serves as the main trail head into the park. Parking for the trailhead ranges from 20 to 40 spaces depending on activities taking place at the DCCD offices.

Existing site trails are a combination of mown and dirt trails of varying condition. The current trail network is approximately 6 miles in length. While it generally provides access to all areas of the park, the trail system could be improved and expanded to create more meaningful and accessible experiences for all levels of park users.

Trailhead parking at Dauphin County Conservation District.

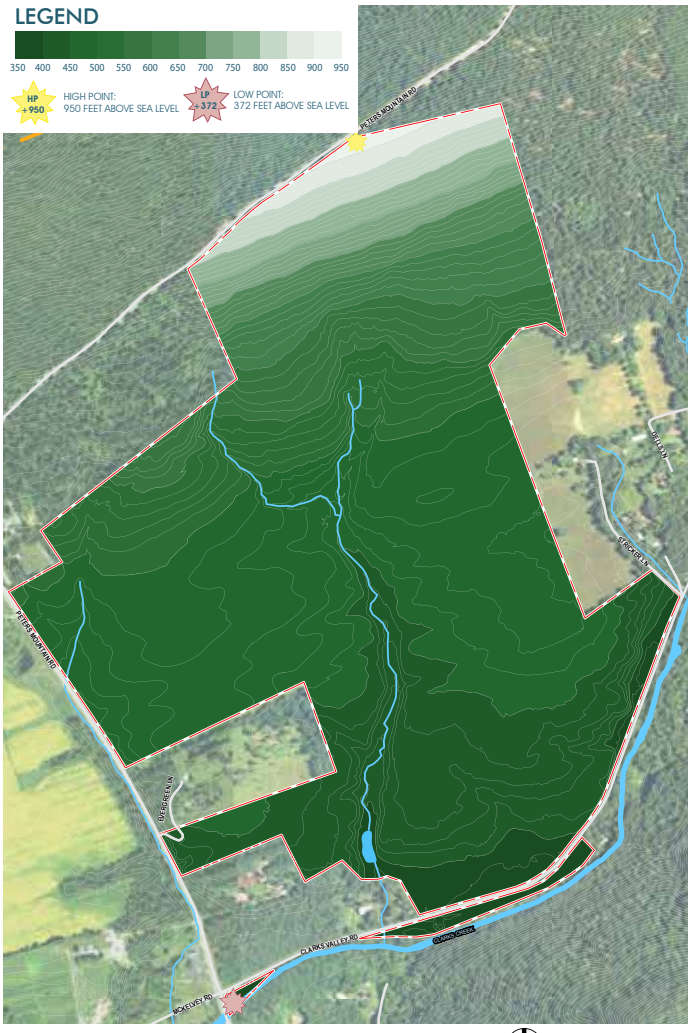


Figure 2.3 Topographic Map

Figure 2.4 Slope Analysis Map

Geology & Soils

Detweiler Park is located in the Pennsylvania Ridge and Valley Province within the Susquehanna Lowland Section with underlying Mississippian geology. The Area is dominated by low to moderately high, linear ridges; linear valleys; and the Susquehanna River Valley. Underlying geology includes sandstone, siltstone, shale, conglomerate, limestone, and dolomite originating from fluvial erosion.

Site soils include Dekalb and Lehew very stony sandy loams (DlF), Calvin-Leck Kill shaly silt loams (ClB2), Calvin-Leck Kill shaly silt loams (ClC2), Calvin-Klinesville shaly silt loams (CkC2), and Basher silt loam (Bc). A site soils map and soil descriptions can be found in the Forestry Stewardship Plan in the report appendix.

Topography

The northern limits of the site fall along the south facing slope of Peters Mountain with the southern portion of the site lying within Clarks Creek Valley. This dramatic transition from mountain to valley defines site topography. The site highpoint is 950 feet above mean sea level and the site low point located along Clarks Creek is 372 feet above mean sea level. The majority of the site is south facing.

The site is defined by both the ridgeline and stream valley. The northern part of the site is dominated with steep slopes greater than 12-percent. As the site enters into Clarks Creek Valley, large portions of the site form areas of gentle to moderate slope in the 0 to 8-percent range. There is a central valley formed through the site by a tributary to Clarks Creek. Additional areas of steep slopes are associated with this small valley.

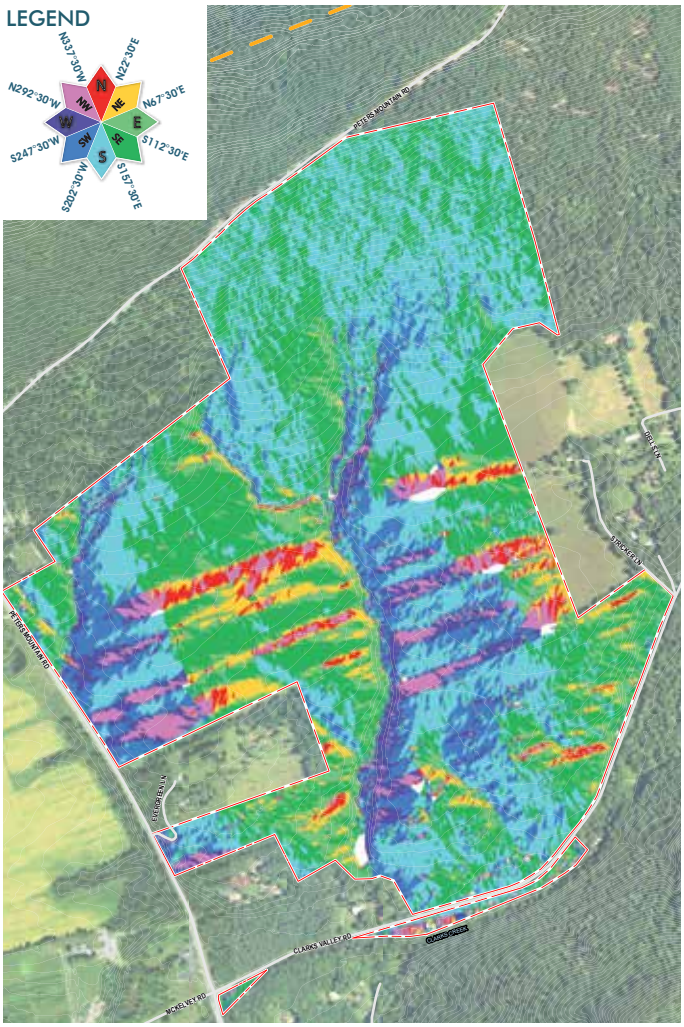


Figure 2.5 Slope Aspect Map

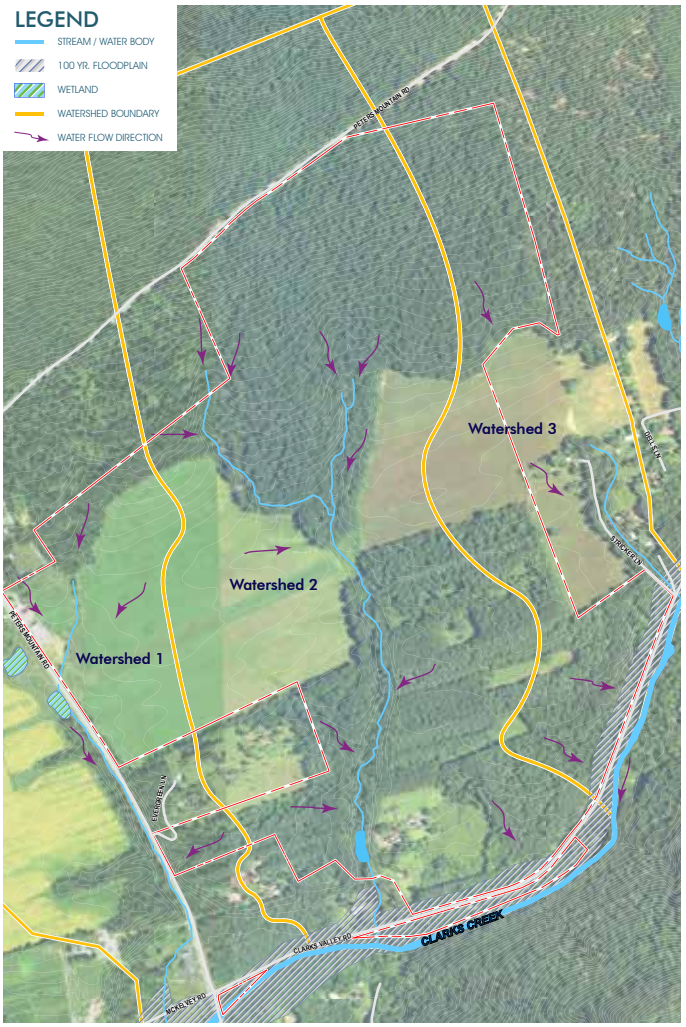


Figure 2.6 Hydrology Map

Hydrology

Two primary drainage areas occur on the site. Both drain into Clarks Creek. Stream orogeny occurs throughout the Meade's Mountain section of the property via seepage wetlands and springs, often channelizing and flowing beneath surface boulders before emerging within a formal stream bed.

All but one of these high order streams converges onsite into a primary tributary to Clarks Creek, running through the central part of the site and separating the two meadows. Approximately 200 meters before emptying into Clarks Creek, the stream is dammed at the low end by an earthen berm forming a pond. It then flows through constructed walls and check dams before entering Clarks Creek. This small creek historically supported stream-associated wetlands prior to construction of the pond.

The Secondary Site Drainageway originates in the upper western portion of the site and flows into the northwestern most portion of the Airfield meadow behind the farm buildings. Two culverts are built over this stream as it flows through the meadow resulting in significant concentration of water flows and deeply eroded banks.

Flora & Fauna

Applied Ecological Services (AES) conducted a robust inventory of the 411-acre Detweiler Park. Results included the identification of 116 bird species, 11 amphibians, 7 reptiles, and 15 mammal species. Also identified were hundreds of plant and insect species. Habitat types include 5 forest/woodland community types, meadows/fallow fields, wetlands, and stream resources alongside residential and agricultural land uses. A detailed summary of the existing site flora and fauna can be found in the AES report located in the appendix.

Environmental issues

Without question, the two biggest threats to the health of the forest at Detweiler are invasive plants and white-tailed deer overpopulation. The severity varies by area within the park, with the largest short-term concerns being present in the lower elevations of the park.

A concerted effort to both reduce the deer population site-wide (via targeted hunting)and excluding deer from certain locations (via permanent fencing) will spring-load restoration efforts that are aligned with both timber health (for economic, ecological, and visitor safety reasons) as well as allowing for restoration efforts over the next 20 years. This will have a meaningful impact on the ecological and functional uplift of the site. This functional uplift can be measured in botanical and wildlife diversity, abundance, and distribution over time (vegetation transects, bird surveys, mammal surveys, etc.).

Deer and their effects on vegetation can be observed throughout the park.

During site data collection, AES ecologists took note of dominant invasive plant colonies toward creating a structured approach to controlling and eliminating these species concurrent with new plantings of native species. The full AES report located in the appendix of the report addresses recommendations for each management unit of the park.

PNDI

Pennsylvania Natural Diversity Inventory (PNDI) is maintained by a collaboration of state agencies with the goal of identifying and protecting our state's rare and endangered species. A PNDI report was performed as part of the Forestry Stewardship Plan and can be found in the appendix of this report.

Opportunities & Constraints

The potential at Detweiler Park is vast. Since the park has opened, park users have been drawn to its trails that provide dramatic views and a range of experiences. The opportunities exist to create a park and user experience that provides for recreational activities while educating park users on the importance of the habitats in the park. Potential exists to protect, enhance, and interpret a series of habitats existing on site including but not limited to: cold water trout stream, spring fed wetlands, successional forests, warm season high grass meadows, and mature hardwood forests. Through management and restoration these habitats have the potential to add vast diversity to the site and the surrounding region. Constraints focus on the need to minimize negative impacts to the areas while still permitting park use. Protection is needed in steeply forested slopes. Stream and waterway riparian buffers of 100-feet should be established. The goal of maintaining and enhancing site ecology can be combined with recreational opportunities. Development and location of recreational amenities and trail alignments should consider the following:

- Focus recreational amenity improvements in areas that have been previously disturbed;
- View sheds should be reinforced and protected; and
- Riparian buffers and steep slopes should be protected.

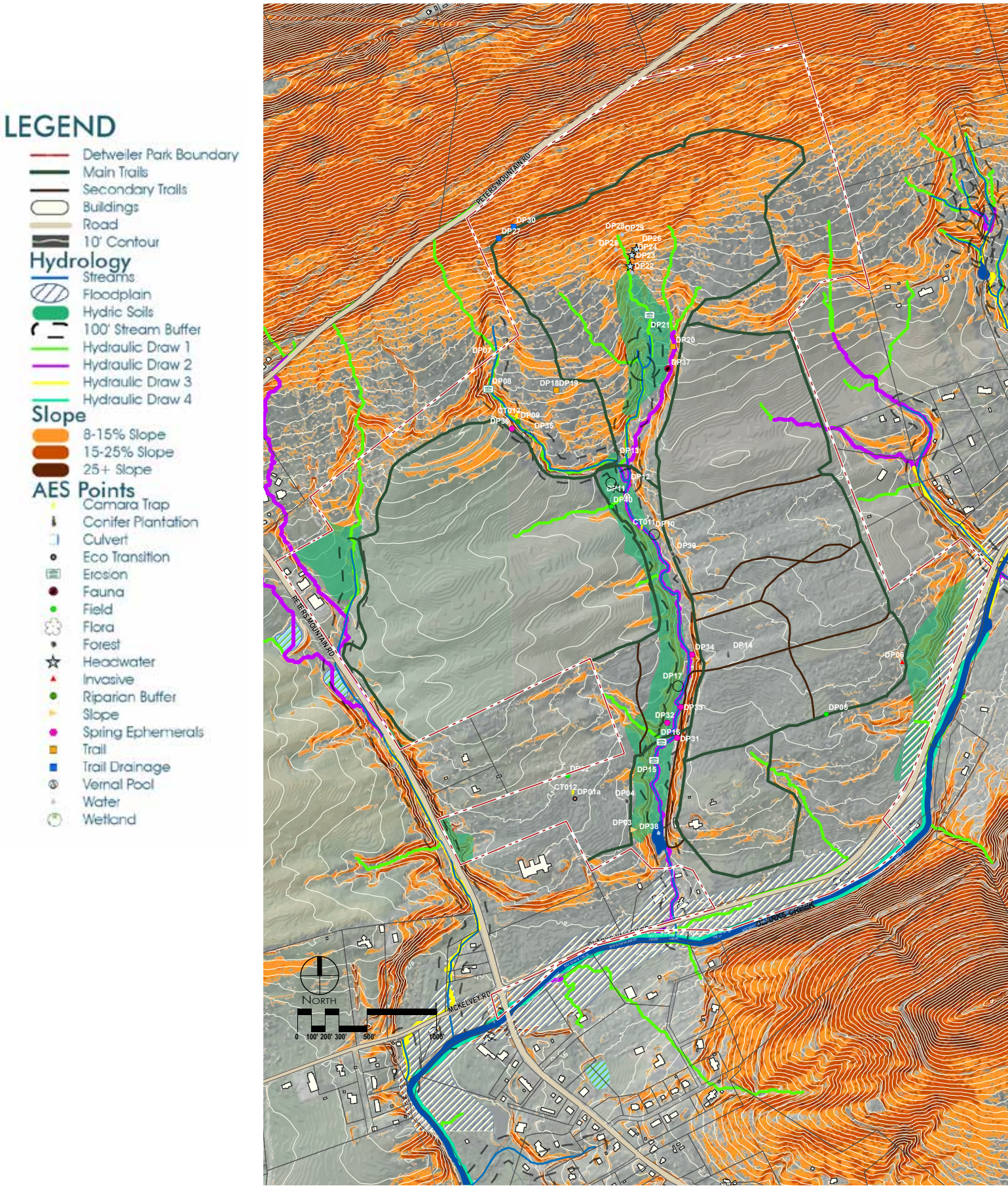


Figure 2.7 Composite Site Analysis

CHAPTER 3

ACTIVITIES & FACILITIES ANALYSIS & PLAN RECOMMENDATIONS

Community Needs, Uses & Priorities

It was the desire of the Detweiler family to make this remarkable property available to Dauphin County residents. Since the park has been opened to the public, summer visitation is approximately 1000 visitors per month while winter monthly visits are about 400.

The master plan process explored active recreational uses (playfields, etc.). However, based on public, committee, and other stakeholder feedback, the consensus was to focus primarily on passive recreational uses in the park.

The Covid-19 Pandemic has shown the importance of access to open spaces to provide for the recreational, spiritual, and social needs of people. Detweiler Park is well positioned to help provide for the growing challenges presented by the pandemic.

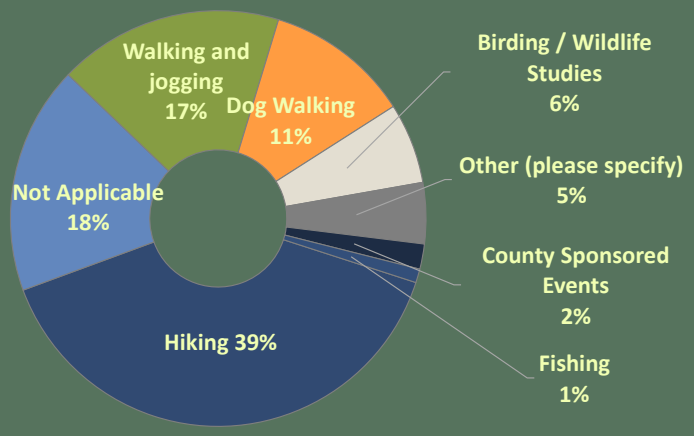
The importance of providing accessible open space to the community has been well documented. The PA Department of Conservation and Resources (DCNR) has noted that trail use is the number one recreational activity across all age groups in the Commonwealth.

The master plan public opinion poll was taken by approximately 603 community residents. 73% of the respondents noted that they had visited the park within the last 12 months, second to only Wildwood Park in Harrisburg. Most of the visitors used the park for hiking, walking, and jogging. Others used the park for dog walking and wildlife observation. Most users were adults between the ages of 19-64, followed by seniors.

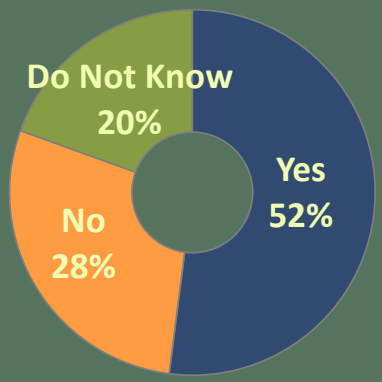
Survey respondents expressed their ideas of what should be included at the park. These included: nature programming, wayfinding, restrooms, waste receptacles, benches, a nature center, pavilions, picnic tables, and bicycle trails. Respondents also reacted favorably to providing ecosystem restoration and environmental interpretation for the site.

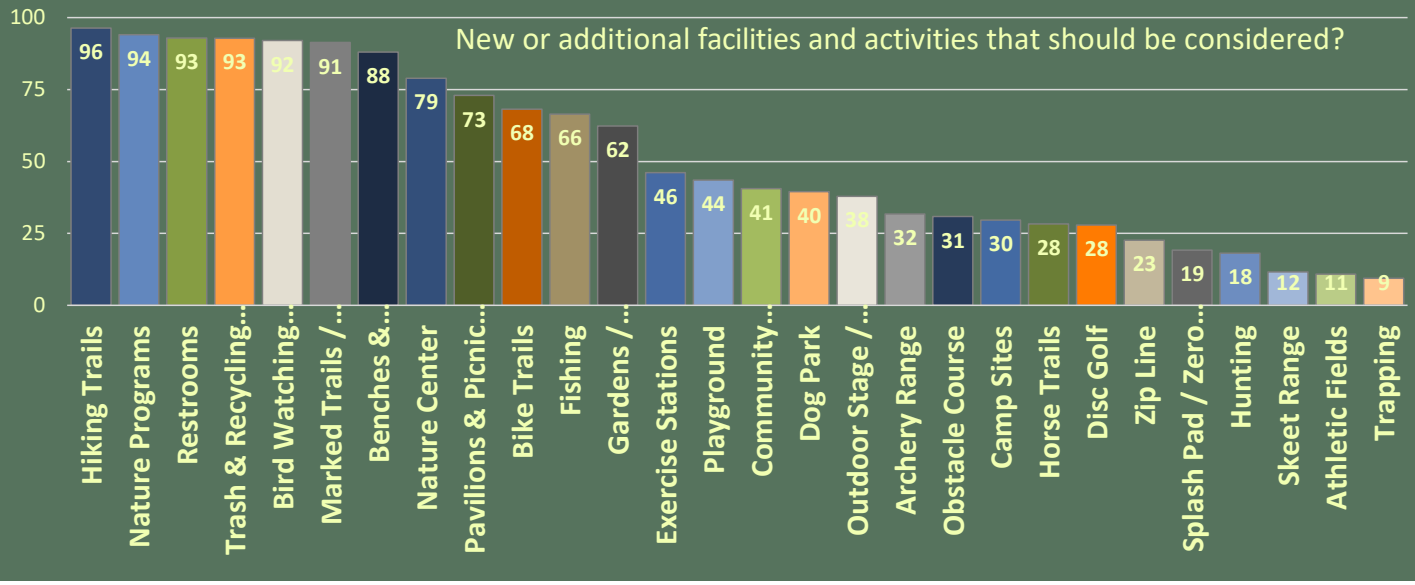
Over 50% of the respondents noted that they believed that the park could still be a peaceful, quiet setting while including more energetic activities. This was important to the County and to the design team since it stressed that the park needs to balance a mix of activities while preserving and enhancing site ecology. WikiMap participation confirmed opinions expressed on the survey. 148 people provided information or drew desired trails on a map of the park. Others shared many wonderful photographs of park wildlife. Comments coincided with survey results in that the park should remain "natural" with both passive and active recreation in the overall context of responsible land stewardship.

Primary activity you and members of your householdparticipated in at Detweiler Park



Respondents that feel the peaceful quiet setting of Detweiler Park can be preserved while providing for more actives, active or passive





Design Guidelines

Summary of Relevant Township Zoning and SALDO Ordinances

The following is a review of existing Middle Paxton Township ordinances as they relate to Detweiler Park. These ordinances(sections noted) are in place to assure uniform standards for public improvements and development.

Zone A-RR

- Parks must have a minimum of a 40ft front yard, 35ft rear yard, and 25ft side yard and be a minimum of 1 Acre with at least 200 feet of street frontage.

1100 Steep Slopes

- Steep slopes within the Township are noted as any slope over 12%. As steep slope increases, the maximum amount of impervious surface is decreased.
- Any slope of 25% shall have no construction without applying for special exception to be reviewed by the Dauphin County Conservation District.

1200 Floodplain District

- Floodplain regulations are in place to prevent: the loss of life; the creation of health and safety hazards; the disruption of commerce and governmental services; the extraordinary and unnecessary expenditures of public funds for flood protection; and relief and the impairment of the tax base.
- Any structures or activities within FEMA floodplains have restrictions that need to be followed. Special exceptions must be reviewed by the Zoning Hearing Board.
- Permitted uses within a floodplain include public and private recreational use such as parks, hiking, nature preserves, fish hatcheries, and fishing areas.

1300 Riparian Buffer Strip

- In all areas of the Township where streams or wetlands exist, a riparian buffer strip shall include the 100-year floodplain or be a minimum of 25 feet wide from the edge of the normal water level or wetland limits, whichever is greater.
- Permitted and non-permitted uses within the riparian buffer strip are listed.

1432 Public Uses and Buildings

- No building shall be erected to a height of excess of 35 feet.
- All off street parking shall be 25 feet from the road right of way.
- All utilities shall be installed underground.

1601 Permitted Permanent Signs

- Any sign and signals owned or operated by the Township or other governmental agency is permitted without regulation.

1705 Non-Residential Access Drive Requirements

- Access should not exceed two per street. Setbacks shall be fifty feet from any other access drive or driveway located on the same lot.
- Access drives shall be located and constructed so that a clear-sight triangle a minimum of 125 feet as measured along the street centerline and along the driveway centerline is maintained; no permanent obstructions and/or plant material.

1706 Paving

- If paving is required, it should consist of a minimum of 2" binder course and 1" wearing course in accordance with current Penn Dot paving specifications.

1710 Handicapped Parking

- Minimum required ADA handicapped parking per number of spaces: 1 per 1-25, 2 per 26-50, and 3 per 51-75. One in every eight handicapped parking space shall be designated as van accessible.

ADA Accessibility

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

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

The master plan report includes a map illustrating accessible areas of the Park. (Figure 3.14 Trail Types, pg 49)

Streambank degradation along Clarks Creek.

Chesapeake Executive Council's Adoption Statement on Riparian Forest Buffers dated October 10, 1996

The site falls within the Chesapeake Watershed and is within 100 miles of the Chesapeake Bay. The Chesapeake Executive Council's Adoption Statement on Riparian Forest Buffers recognizes the enormous benefits that riparian forests have to the health of the Chesapeake watershed.

These streamside forests filter and absorb pollution, stabilize stream banks, provide habitat, and help keep river waters cool.

Bay Program partners are working actively to restore and protect forest buffers. The Bay Program's goal is to restore 900 miles of forest buffers per year until 70 percent of all stream banks and shorelines in the Bay watershed are buffered.

Trail Facilities

Detweiler Park trails will accommodate walking, hiking, and biking. In core activities areas, walkways should confirm to the ADA Accessibility Guidelines for Buildings and Facilities. As walkways transition to hiking and shared use trails they should conform to recommendations laid out in Pennsylvania Trail Design & Development Principles Guidelines for Sustainable, Non-motorized Trails. Federal Highway Administration (FWHA) standards for trails also apply. AASHTO (American Association of Highway and Transportation Officials) guidelines are also applicable.

For the development of shared or single use mountain bike trails, standards in the Guidelines for Quality Trail Experiences, U.S. Dep of the Interior Bureau of Land Management and the International Mountain Bicycling Association, 2018 should be consulted.

As wayfinding and trail signage is developed it is recommended that trail level of difficulty be noted. The rating of trail difficulty should conform to: Guidelines for Marking Recreational Trails - DCNR July, 2008.

Native Plant Material & Invasive Plant Removal

The use of native plants supports the vision of enhancing the natural ecosystems at Detweiler Park. The plan for the park should include forest and shrubland restoration; shrub and herbaceous plant understory restoration; meadow establishment; wetland enhancement and establishment; and streambank riparian buffer plantings. Habitat restoration in some areas of the site should include native plant buffers and screen plantings. Native plant materials can create an attractive landscape that will help minimize long-term maintenance costs. Native plants are generally resistant to most pests and diseases. Once established they require little or no irrigation or fertilizers. In addition to the above benefits, native plants provide food and habitat for indigenous fauna.

Disturbed lands and farm fields often allow invasive plant materials to establish on a site. A program for controlling invasive plant species within the park should be undertaken in conjunction with restoration plantings. Specific recommendations regarding establishment and management of site habitat restoration can be found in the report appendix and within the forestry management plan; invasive management plan; waterways management plan and the meadow management plan.

Sustainable Materials & Green Practices

Choices in site materials have the potential to affect the health of a site's ecosystem as well as the larger environment. Every material has a life cycle. Close consideration of the sustainability of a material's life cycle can have far reaching benefits. Sustainable material practices include:

- Re-use of existing site materials.
- Purchase local and sustainably produced plants and materials.
- Consider the full life cycle of materials. Consider the end life of a product. Can it be deconstructed and re-used?
- Work toward zero net waste in demolition, construction, and management.

Stormwater Best Management Practices (BMPs)

Developed by the Pennsylvania Department of Environmental Protection (PADEP), The Pennsylvania Handbook of Best Management Practices for Developing Areas offers numerous solutions for handling on-site stormwater. Best Management Practices (BMPs) that might be implemented at the Park could include:

- Protect / utilize natural stormwater flow runoff direction;
- Habitat restoration;
- Soil amendments designed to increase stormwater infiltration in selected locations;
- Native tree planting, rain gardens & bio-swales;
- Detention/infiltration facilities; and,
- The use of porous surfaces in the parking areas, or trails. These facilities require site-specific soil tests to determine site suitability and the infiltration rates of the existing soils.

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

Construction Permits

Erosion & Sedimentation Control

Erosion and Sedimentation Controls Plans are required for projects that create more than 5,000 square feet of earth disturbance. The Dauphin County Conservation District is delegated by the Department of Environmental Protection to conduct certain activities for the Erosion and Sediment Pollution Control (ESPC) program and the National Pollutant Discharge Elimination System (NPDES) program for stormwater discharges from construction activities in Dauphin County. Also, DEP Rules and Regulations state that a municipality or county which issues building or other permits shall notify the Department or Conservation District within 5 days of receipt of an application for a permit involving an earth disturbance activity consisting of 1 acre or more. With the exception of local stormwater approvals and authorizations, a municipality or county may not issue a building or other permit or approval until an NPDES or E&S permit, if necessary, has been obtained from the Conservation District or DEP.

The National Pollutant Discharge Elimination System (NPDES) Permit

A federal permit that is administered at the state level, the overall goal of the NPDES permit is to improve water quality. Projects that disturb over one (1) acre of land require an NPDES permit for Stormwater Discharges Associated with Construction Activities.

The permit plans are divided into two (2) parts. The Erosion & Sedimentation Pollution Control plans (ESPC) are to be implemented by the contractor throughout construction activities until the site is stabilized by permanent plant growth. The Post Construction Stormwater Control Plans (PCSC) are to be constructed during the project and maintained by the site owner for the life of the project.

DEP Chapter 105 Water Obstruction & Encroachment General Permits

In addition to NPDES permit, Pennsylvania Department of Environmental Protect may require a Chapter 105 Water Obstruction & Encroachment General Permit. These permits are required when construction activities impact existing waterways and wetlands.

Currently, stormwater from Clarks Valley Road flows directly into Clarks Creek.

Design Elements & Proposed Facilities

Universally Accessible Trails

A primary goal of the plan is to create meaningful user experiences for people of all abilities. To accomplish this the plan recommends a series of trail material options.

ADA-Compliant Asphalt Trails

5 to 8-foot wide asphalt trails and walkways are proposed to provide an ADA-compliant trail option within the Park. The material provides a level and stable walkway while minimizing maintenance in areas where slopes exceed 3 percent. Trail shoulders should be 2-feet in width. In higher traffic areas such as parking and core activity areas walkways should be 8 feet wide. For other trails, 5 to 6 foot widths are recommended to conform with required passing widths. Along trails, benches are recommended at regular intervals to allow users to stop and rest.

ADA Compliant Stone Dust Trails

5 to 8-foot wide compacted stone dust trails are proposed to provide an ADA-compliant trail option within the park. In key locations the placement of boulders or logs along the edge can help prevent the migration of stone dust material. For single use walking trails a width of 5-feet with 1-foot shoulders is appropriate. For shared use trails a width of 10-feet with 2-foot shoulders is recommended.

Typical section of the ADA accessible pathway around the Airstrip Meadow.

Existing mown trail in Detweiler Park.

This width will accommodate higher level of user groups such as dog walkers and families with strollers and bicycles. Along trails, benches are recommended at regular intervals to allow users to stop and rest.

Mown Trails

Mown trails are often used in naturalized meadow areas and are low cost to implement but require regular maintenance in the form of mowing. These trails are not ADA compliant and may become muddy with heavy use. Trail cross-slopes should range from 2 to 5 percent.

Native Surface Hiking Trails

Hiking trails will be appropriate in many areas of the park; however, they limit the types and number of trail users. Compacted earthen surfaces are primarily used for hiking and are often used to navigate the site in environmentally sensitive areas. Hiking trails do not often meet ADA requirements; however, ADA trail guidelines for hiking trails should be referenced when determining final trail alignments.

Final trail alignments should minimize impacts to slopes and limit erosion. Trail design should follow best management practices:

- Improved / proposed trails should generally follow a route that matches the terrain. Trails should be designed so that water will flow across and not along the trail (which would lead to erosion).
- Out-sloping or Cross slope: An out-sloped tread is one that is lower on the outside or downhill side of the trail than it is on the inside or bankside. Out-sloping lets water sheet across the trail naturally. The tread should be outsloped at 5 percent. For ADA compliant trails, maximum cross slope should be 2%.

- Grade reversals or water dips: These are short sections of trail that change from climbing to descending, and then return to climbing. This reversal shortens the water flow along a path and enhances trail drainage.

- Waterbars: A waterbar is a constructed rock, log or earthen structure placed perpendicular to the trail. Waterbars will intercept water flows along a trail and divert flows into vegetated areas. Waterbars do require regular maintenance and upkeep compared to other trail design devices and should be implemented where other methods will not work to alleviate trail erosion.

Shared Use Trails

Existing hiking trails within the park are about 6 to 8-feet wide. For shared use trails that will accommodate both hikers and mountain bikers, a width of 6-feet should be maintained with 2-foot shoulders for a total trail bench of 10 feet. To address stormwater erosion issues along existing trails it is recommended that segments of trail be removed and realigned to decrease effects from stormwater flow.

Single track / User Hiking Trails

Both single use hiking and mountain biking trails are proposed for the park. These trails should range from 1 to 3-feet wide with 1-foot shoulders.

Foot Bridges

New bridges should have a clear deck width of 8 to 10 feet wide (with railings if needed). Some may need to accommodate light weight rescue and maintenance equipment. This will be determined by the County on a location by location basis. The approaches should be designed so that the bridge accommodates for high storm flows to pass beneath without significant obstruction. Wood structures are recommended in keeping with the rustic design vocabulary of the Park. The new bridges will require a General Permit (at a minimum) from PA Department of Environmental Protection (DEP) in order to cross a creek.

Boardwalks

There are areas along park stream corridors that have adjoining wetlands or sensitive habitats. Boardwalks are proposed to allow park users to safely interact with and observe these critical habitats. Park boardwalks should have a minimum clear deck width of 5-feet. In areas where the deck is more than 32-inches above grade, full railings that are 42-inches high will need to be included. Wood or recycled plastic timber are appropriate boardwalk materials. In some wetland locations where PA DEP or USACOE reviewers have concerns about casting shade on wetland vegetation, open metal grate decking might be considered to eliminate this concern.

A recycled plastic timber boardwalk in a woodland wetland area.

Observation platforms

Observation platforms provide opportunities for viewing areas from an elevated space. These platforms are often used for educational purposes, wildlife observation, and resting. The proposed observation platform located in the Airstrip Meadow Area is designed to provide ADA accessibility and allow for seasonal migratory bird observation.

Restrooms

Since anticipated use of the park will increase, permanent restroom facilities are recommended. The County currently uses porta-potties which are not acceptable long-term solutions.

ADA accessible birdwatching platform in Mercer Meadows Park, NJ.

Existing bathrooms in existing park structures (not open for public use) are served by well water and on-site septic fields. The former pool house located at the Clarks Valley Road residence is currently connected to water, septic, and electricity. It is recommended that this facility be repurposed to serve as park restrooms for the southern portion for the park. The final number of fixtures in this location will be based on the capacity of the current septic field; however, 2-3 toilet fixtures for each restroom is anticipated.

For the northern part of the park a composting toilet restroom is recommended. The structure should be connected to an area well for potable water and electric will need to be included. The restroom should be located so that it is easily visible from the driveway and parking. The new restroom design should be economical and durable while offering a quality design that can reinforce a cohesive park identity. The facility should accommodate 4-6 toilets fixtures.

Pavilion

Pavilions can provide a place for people to gather while simultaneously functioning as a small event space. Any new pavilion design should be economical and durable while offering a quality of design that helps to reinforce a cohesive park identity. In high use areas, a size of 30-feet by 30-feet is recommended. In lower traffic areas, smaller pavilions of 15-feet by 15-feet are recommended. Utility services should include electrical. Picnic tables should be durable, easily cleaned, and accommodate wheelchairs.

Deer Exclosure Fencing

In key restoration areas, a deer exclosure fence 10 to 12-feet in height (or higher)is recommended. The fence material should be composed of knotted galvanized heavy-duty metal woven wire mesh to hold up to the pressure of deer while maintaining an upright and taught fence line. To allow for other wildlife to pass through, openings along the ground of 6 to 8 inches in size are appropriate. Near the wetland and other amphibian habitat areas, a 3 to 6 inch gap along the ground should be maintained to permit the free movement of turtles. Rot resistant wooden posts (such as black locust) should be used, and corner and gate posts should be reinforced. Gates should be self-closing and latching. Interpretative signage should be included at gates to educate trail users about the importance of maintaining the integrity of the exclosure and the restoration process that is taking place.

The Aviation Playground in Toronto could be used as inspiration for a playground at the Airstrip Meadow. Photo from web.

Disc Golf Course

Disc Golf is a sport where players throw a disc at a target called a basket, with similar rules as golf. Most disc golf courses use natural elements to provide a challenging and unique course. Course design must consider safety as a critical component of a disc course design. The 9-hole disc golf course is proposed north of the Dauphin County Conservation District building, in an area that has already been disturbed due to invasive plants and heavy deer browse. Disc golf course development can be married to invasive plants removal and re-introduction of native species.

Food Forest

Food forest, or forest gardens, is a permaculture approach of diverse plantings of edible plants that replicate natural patterns found in nature. The plants generally consist of either native or naturalized plants found within the region. The food forest does not get replanted each year, and once established, is generally resilient. It can serve as an educational tool, while also providing fresh and organic foods. The proposed food forest is located by the Detweiler House with consideration for nearby parking and equipment storage.

Playgrounds

Two playgrounds are proposed for the park. By definition, playgrounds nurture knowledge, discovery, and curiosity through play. A successful playground helps children to build fitness, confidence, imagination, and social bonds. Because of the site's natural setting and history, it is proposed that the playground by the Airstrip Meadow incorporates uncommon and inclusive elements to provide a unique play experience not to be found elsewhere in the region. The play area near Frankie's Dogleg Meadow is proposed as a nature-based playground.

Nature-Based Playground

Nature-based playgrounds use natural features such as boulders, landforms, tree trunks, and other natural elements in combination with manufactured equipment to create unique play environments that challenge children to use their imaginations and athletic skills in play. A 3,000 SF nature-base play area with Fibar (manufactured wood product) safety surface is proposed.

Mountain Biking

Mountain biking is proposed as an allowed use at Detweiler Park but is proposed to be restricted to the Meade's Mountain trail system and to a lesser degree, in David's Meadow. The total length of these trails (only about 2 ½ miles) will provide a small mountain biking facility and is intended to attract younger riders as opposed to older, more experienced riders. Additionally, given the small size of the facility, the geographic range of enthusiasts will be limited. SAMBA (Susquehanna Area Mountain Biking Association) has expressed interest in helping to develop this facility and participate in the stewardship of this and other areas of the park.

Buffers and Fencing

There may be areas along park boundaries where plant buffers and /or fencing may be appropriate to maintain adjacent property owner visual privacy. Some of these locations are not discernible at the master plan level. The County Parks staff should maintain open communications with the Township and residents and respond appropriately.

Interpretive Signage

The Master Plan offers opportunities for interpretive signage to educate the public on the history and natural processes of the site. These can vary in size and should be designed to appropriately fit within the natural setting of the park. The plan recommends 4 to 6 interpretative panels throughout the park which can focus on the following topics:

- Habitat Restoration – meadows; forest; wetlands and others
- The importance of protecting stream headwaters
- Site History
- Wildlife – Snakes; birds; deer; and others
- Forest Stewardship Practices
- Wildlife Management

Existing orange Adirondack chairs serve as a place for rest and enjoying the views.

Site Furnishings

Site furnishings provide additional amenities and create a sense of uniformity in the park landscape. Some of these improvements include benches, trash receptacles, signage, bike racks, and dog waste stations. In high use areas these amenities should be chosen to be durable and blend seamlessly into the natural landscape of the park and meet ADA standards. In other areas such as along hiking trails these amenities may be as simple as a log bench or boulder. Detweiler Park has instituted a system of colorful Adirondack chairs placed at key viewing points in the park. This is a highly successful and popular innovation and should be continued.

Habitat Boxes

Man-made fauna habitats in the form of wildlife boxes are proposed to encourage habitats for bats, native birds, and native bees. Wildlife boxes can be potential projects for local boy scouts, girl scouts, and volunteer groups.

Bee hotels provide educational opportunities while providing native habitat. Photo from web.

Protection & Enhancement of Environmentally Sensitive Areas

A combination of forest, meadow, and waterways management plans is included in the appendix of this report to provide guidance on how to specifically address environmentally sensitive areas and develop a robust and highly functioning mosaic of habitat types at Detweiler Park. Flora and Fauna surveys completed in 2019-2020 support the significant potential for increasing both abundance and diversity of biota to enhance the overall user experience and contribute to outstanding stewardship of Pennsylvania's great natural resources.

Wildlife Management

The Master Plan team of ecologists and foresters noted the large deer population on the park site. Deer damage to both understory and trees caused by browsing is clearly evident throughout the park site. In addition to damaging the plants themselves, this loss also destroys important habitat for other wildlife species, most notably birds. The deer population needs to be aggressively managed through a program of controlled hunting administered by the County. A program for this management should be established immediately to begin to reduce habitat damage. Safety to human park users is, of course, a primary concern for hunting in the park. Many other local governments or NGOs have established and successfully executed these programs. Some use a lottery system where local hunters can hunt at specific times and via specified means (bow, shotgun, etc.) to safely and inexpensively manage herd size.

The existing pond has spring fed wetlands along it's western edge.

It should be noted that the ecological evaluation of the site revealed other potentially problematic species on site, including feral cats (who hunt and kill many native species). Trapping (via live cage traps) may also be a viable management tool for controlling other species as conditions warrant.

The County should consult with the PA Game Commission and/or other knowledgeable agencies and individuals to set up a program and policies for wildlife management.

The Forest Stewardship Plan

The Forest Stewardship Plan is a DCNR requirement for the Detweiler Park Master Plan since the park contains approximately 294 acres of forest. This plan was prepared by SC Team member Patrick Fasano, forester, and owner of Comprehensive Land Services along with the invaluable assistance and consultation from Andy Bought, DCNR District Forester.

This type of plan is written from a perspective of a commercial timbering operation when trees are harvested for their timber value. Although the County may realize some small sale value of timber that is taken from the park (for management reasons) this is not the purpose of the Stewardship Plan. Integral components of the plan include an evaluation of the overall health of the forest and identifying threats to forest health including invasive plants and deer browsing.

The Stewardship Plan has divided the forest into several management units and specifies a plan for each area. Accordingly, the Stewardship Plan is an integral part of the overall master plan – specifically in the area of park land management. The Forest Stewardship Plan was completed in coordination with the Ecological Assessment of Detweiler Park. Please refer to the appendix for the complete Forest Stewardship Plan.

Ecological Assessment of Detweiler Park

The Ecological Assessment was prepared by the team's biologists and ecologist from Applied Ecological Services. The report uses the same management units within the Forest Stewardship Plan with units added to address other important resources and habitats in the park. Each management unit identifies existing conditions and wildlife value, then presents recommendations in coordination with the Forestry Plan and Master Plan. The assessment also provides recommended management for removal of invasive species, restoration/enhancement of habitats, and continued maintenance. Please refer to the appendix for the complete Ecological Assessment of Detweiler Park.

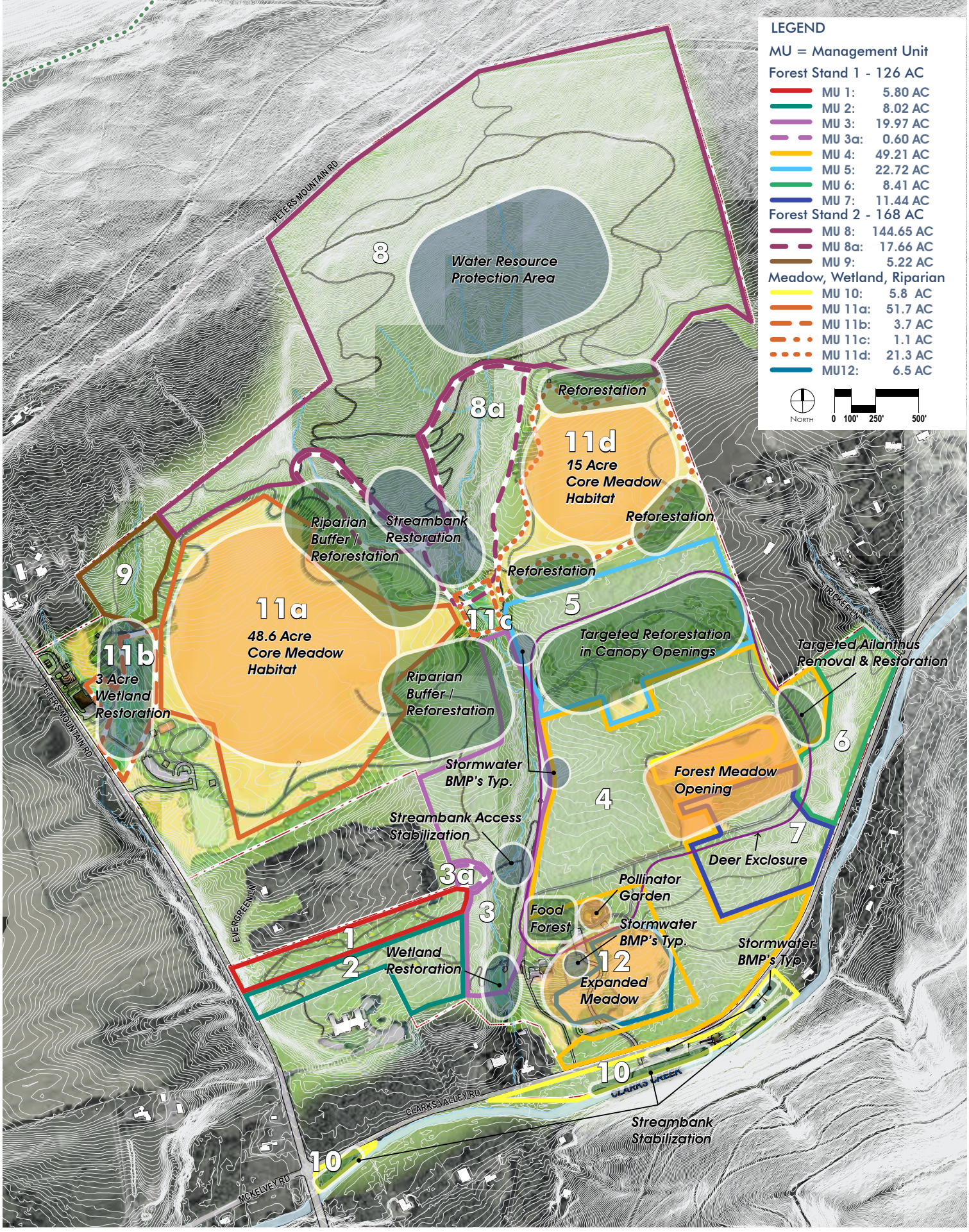


Figure 3.1 Natural Resources Management Zones

Trail & Wayfinding Signage

Trailhead / Park Entry Signage should note park rules, hours of operations, emergency contact numbers, and other relevant information.

Wayfinding signage should include trail blazes for wayfinding with the inclusion of "you are here" trail signs so that users can provide their location in an emergency. Meadow and area names should be signed to aid in orientation. Signage should be professionally planned and designed.

Wayfinding on the site has been an important issue for the park. Trail signage is used to provide trail wayfinding and educate users to trail use and etiquette. The markers can incorporate trail names, user groups, difficulty, Emergency Response Location Code (ERL) and QR Scan Codes to provide additional site info, maps, and interpretive content. Materials for these signs can range from natural to plastics and metal, or a combination of both. Trail markings for the Detweiler Park should be consistent to avoid any confusion from users and provide trail names, directions and lengths, user groups, difficulty, and ERL codes where necessary.

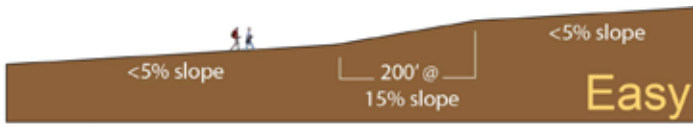
Trail markers such as the one pictured here from Wissahickon Park in Philadelphia can provide important information and ease wayfinding through the park.

Difficulty of trails is defined by the National Trail Difficulty Rating System and is identified by DCNR as the preferred guidelines. Trail difficulty is broken into three categories: Easy/Easiest, More Difficult, and Most Difficult.

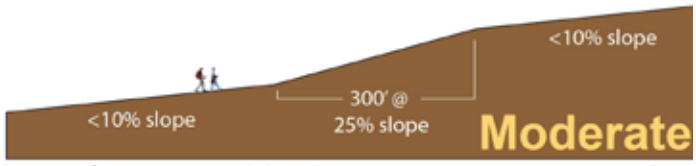
Easy– These trails are typically wide with generous shoulders and will generally remain under 5% slope with the maximum slope of 15% for up to 200 ft. The pathway is smooth and has few obstacles. These trails can usually serve as ADA accessible routes if they have ADA surfaces. Most trails that currently exist on site are in this slope category.

Moderate– These trails are usually within the 2-4' ft width range with smaller shoulders and will generally be under 10% slope with the max slope of 25% up to 300 ft. The pathway may have occasional obstacles such as tree roots and smaller rocks. The current trails that lead through Meade's Mountain are in this slope category.

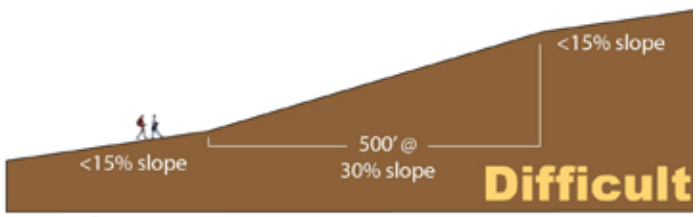
Difficult – These trails are the hardest to traverse with slopes that can range from 15% up to 30% slope for up to 500 ft. There can be obstacles, steps, and unstable side surfaces. The trails are typically only 1-2' wide and are navigated by experienced users. Detweiler Park currently does not have any trails to fit this description but future proposed trails could be placed within this slope category.



Less than 5%. Maximum: 15% up to 200'



Less than 10%. Maximum: 25% up to 300'



Less than 15%. Maximum: 30% up to 500'

Regional Trail Connections

The master plan team examined how Detweiler Park trails can connect to regional trails. The Appalachian Trail lies approximately ¼ mile north of the site and the recently dedicated public access of Bailey's Grove along Clarks Valley Road, southeast of the site, opened opportunities for Detweiler Park to be part of a larger trail system.

Detweiler Park could be part of a 12-mile hiking loop with connections to Bailey's Grove, Saint Anthony's Wilderness, Victoria Furnace Trail, and the Appalachian Trail. This would take the average hiker approximately 6-7 hours to complete. A larger trail loop of about 29 miles could be accomplished with connections to Bailey's Grove, Saint Anthony's Wilderness, Horseshoe and Rattling Run Trails, and the Appalachian Trail. This loop would require the average hiker 14-15 hours to complete. These connections would require several trail easements for trail connections and any connection to the Appalachian Trail will need the cooperation of the Appalachian Trail Conservancy, which works in coordination with the National Park Service.

Providing connection to Dauphin Borough would likely be done with an approximately 1.6-mile safe passage along Peters Mountain Road/Rt. 225. This could be accomplished by a dedicated side trail or, at minimum, a bicycle lane. The Middle Paxton Township & Dauphin Borough Joint Comprehensive Plan considers creating a multi-use trail system connecting Fishing Creek Valley and Stony Creek Valley Greenways as a high priority. This would then lead to their next priority of connecting to Fort Hunter. With the recent connection of Fort Hunter Park to the Capital Area Greenbelt, this could provide safe on and off-road passage from Harrisburg to Detweiler Park.

Future Targeted Land Acquisitions

The County should coordinate with area conservation groups and Middle Paxton Township to preserve both key adjacent parcels and identify trail easements for regional connections. Targeted lands should focus on preserving intact forests, water quality protection, and creating regional trail connections.

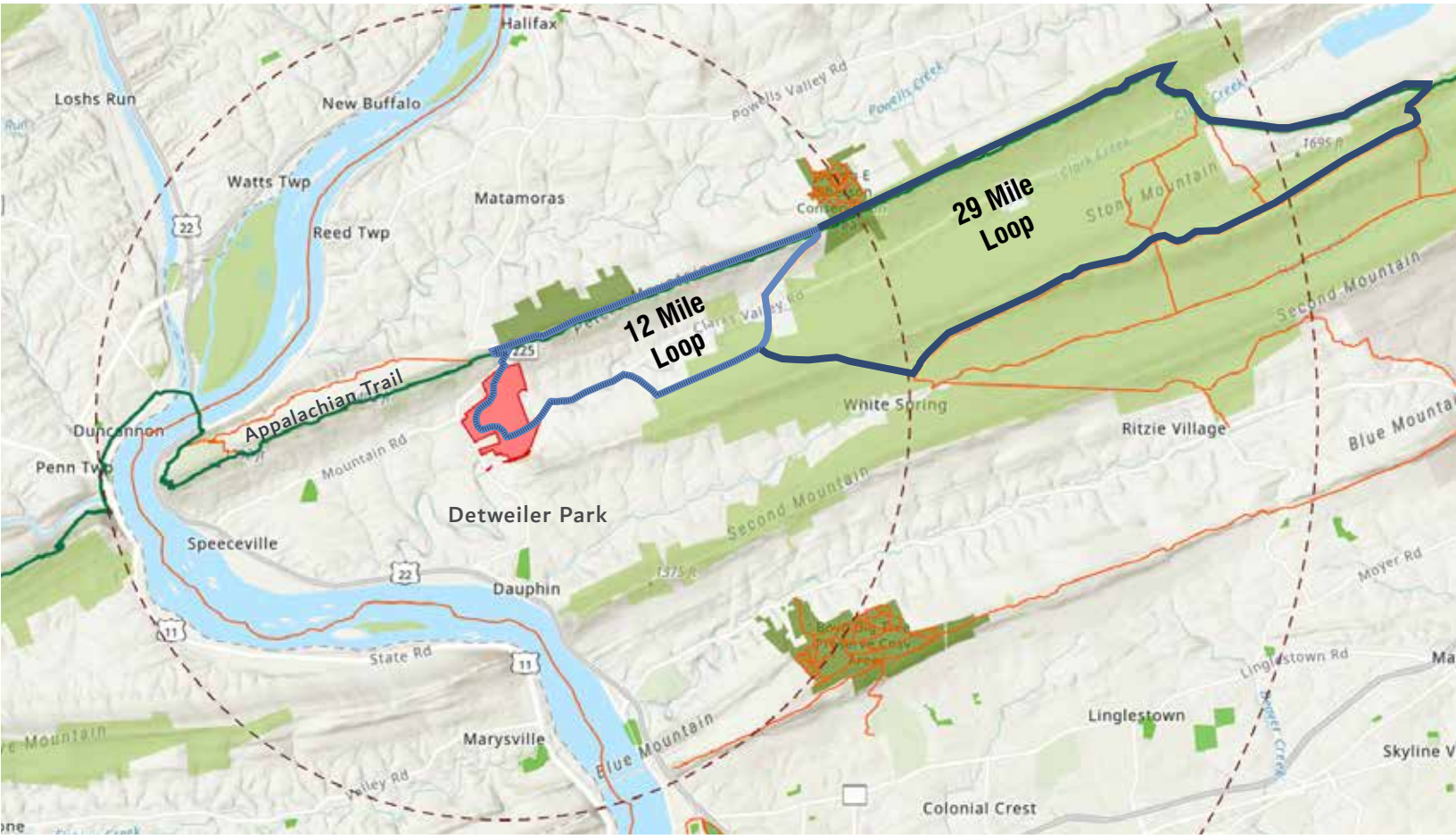


Figure 3.2 Possible Regional Hiking Trail Connections Map.

Preliminary Concept Plans

As the project team became familiar with the site and as public opinion survey data grew, the consultants began to develop an understanding and appreciation of the Detweiler Park site, as well as an understanding of the varied opinions about what might be considered for park improvements. Since the park has been open for public use for approximately 2 years, park visitors developed patterns of use, favorite trails, and strong opinions about what they value most at the site.

Prior to developing the Draft Master Plan, the consultant team developed a series of four (4) preliminary concept plans. As each subsequent plan was developed, additional revisions were made based on feedback from the committee, public, and internal consultant team discussions.

For ease of use and consistency, areas of the park are referred to using the names utilized in the Draft Plan.

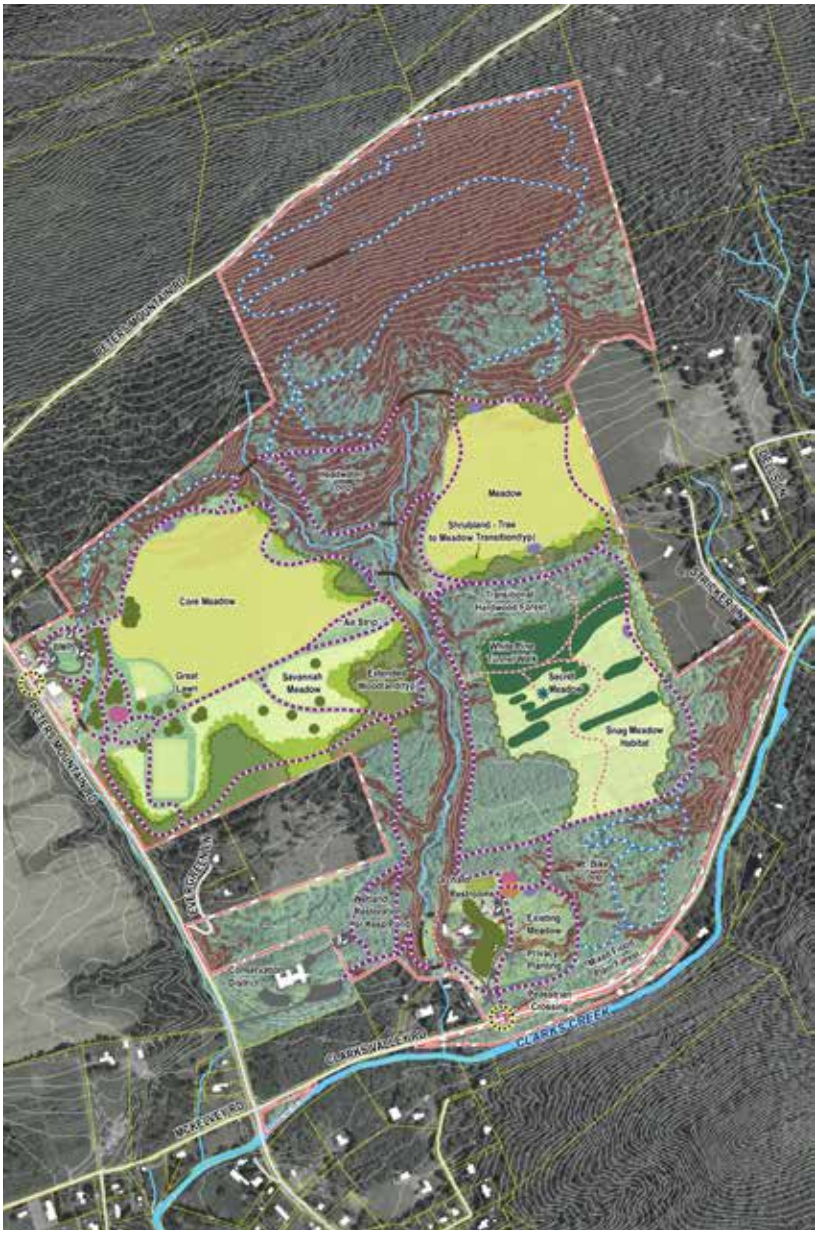


Figure 3.3 Concept Plan 1

Concept Plan 1

This plan was presented to and discussed with the Master Plan Committee. The plan, in large measure, maintained many of the existing trails, suggested new trails and incorporated new use areas. Some existing trails were realigned so that they did not carry stormwater flows over significant distances. Since this plan was completed prior to the Forestry and Ecological assessments, this data informed later versions of the plan. The plan examined several options, including the following:

- In Frankie's Dogleg Meadow, additional trails were added in the southeast corner of the site. These included a proposed mountain bike loop that connected to Meade's Mountain. Maintaining the pond or creating a wetland were discussion points. An orchard was suggested above the residence as was the conversion of the former pool house into restrooms.
- The Forest Restoration Area was re-imagined with some new trails and areas of savanna landscape.
- David's Meadow would be maintained with shrubland transitional areas to the existing woodlands.
- Meade's Mountain trails were increased. Concerns were expressed about upland wet areas and maintaining some distance from these seeps.
- The Airfield Meadow was conceived with increased parking behind the residence, two sports fields (1 baseball, 1 football/soccer), new perimeter and central trails, and maintaining an airstrip for model airplane aviators. The concept of a Great Lawn for park events was introduced, as well as playground, perhaps recalling the use of the site as an actual runway.

Concept Plan 2

This plan expanded on many of the ideas presented in Concept 1. This plan was also presented to the Master Plan Committee.

- The Airfield Meadow showed the greatest change, with the incorporation of four (4) softball / baseball fields and four (4) soccer / football fields, along with pathways connecting all of them. The Committee felt that this concentration of active recreation was not warranted and there are no regional studies that show the recreational demand for active recreational fields. In this plan, additional parking was relocated closer to the meadow Great Lawn.
- In Frankie's Dogleg Meadow, trails were added to the narrow park area north of the Conservation District offices. Also, the committee felt that some of the proposed trails in the southeast corner of the site were in areas that were too wet for sustainable use.
- The Forest Restoration Area showed the concept of introducing wide swaths of understory plantings that could add seasonal color to a savanna landscape. Here, the "secret meadow" idea of highlighting this hidden open area was emphasized.

Figure 3.4 Concept Plan 2

Concept Plan 3

This plan was presented at Public Meeting #2. At this point in the process, the consultant team forester and ecologist had more environmental data to share with team designers. This virtual meeting was attended by more than 60 persons. Concept Plan 3 primary attributes included:

- Additional parking was suggested adjacent to and just east of the Conservation District offices and to the east of the former residence off Clarks Valley Road in the Frankie's Dogleg Meadow area. The existing driveway embankment at Clarks Valley Road would need significant grading of its' side slopes to permit safe sight lines. The trail network in this area was also refined to make trails more accessible. The pond was also shown to be transitioned into a wetland.
- The Forest Restoration Area continued to show the many trails through it and there was discussion about on-the-ground confusion with these trails.
- The Airfield Meadow showed a more modest approach to sports field than the previous plan, with two overlapping field areas in one location. Public sentiment at the meeting seemed to be not in favor or any sports fields.
- There were not any other major changes to this plan as compared to Concept Plan #2.

Figure 3.5 Concept Plan 3

Concept Plan 4

This plan was presented at the 6th Committee Meeting. Based on comments at public meeting #2, there were significant changes reflected on this plan. These are summarized as follows:

- Frankie's Dogleg Meadow changes included a new and separate (from the residence) driveway entrance (opposite the fishery driveway) to the park and two small parking lots in this area. A nature-based playground is also recommended here. Some subtle changes in the trails were also affected.
- The proposed new parking lot east of the Conservation District building was removed from the plan since it was thought not to be needed. A 9-hole disc golf course in the forested area just north of the Conservation District building was recommended.
- At the Clarks Creek & E.J Stackpole Memorial Cooperative Trout Nursery major recommendations included creek side accessibility improvements for fishing, better defined parking, and a roof cover to provide shade and cooling for the nursery raceways.
- In the Forest Restoration Area, the trail network was simplified, and forest infill was recommended. A deer exclosure fence was also recommended to allow the forest to regenerate native seed plants in the soil and to protect new planting of natives.
- There were only subtle trail alignment revisions in David's Meadow.
- A number Meade's Mountain trails were eliminated in the central part of the forest to protect the many wet areas and seeps that were documented by team ecologists. This area continued to be the primary use area for mountain biking.
- The Airfield Meadow proposed layout was refined. All active recreation fields were eliminated based on public and committee feedback. All new parking was moved south, and a new driveway entrance was recommended from Peters Mountain Road to better separate park areas from the residence. Overflow parking (stabilized turf) is recommended adjacent to permanent parking. A wetland restoration was recommended between the events lawn and the existing hanger building. The hanger was proposed to serve as community flex space and could host a variety of activities. One of the playground areas is also located in this area. Two pavilions and a restroom were also recommended.

Based on feedback from the Committee on concept plan #4, the team proceeded to add refinements for the Draft Master Plan.

Figure 3.6 Concept Plan 4

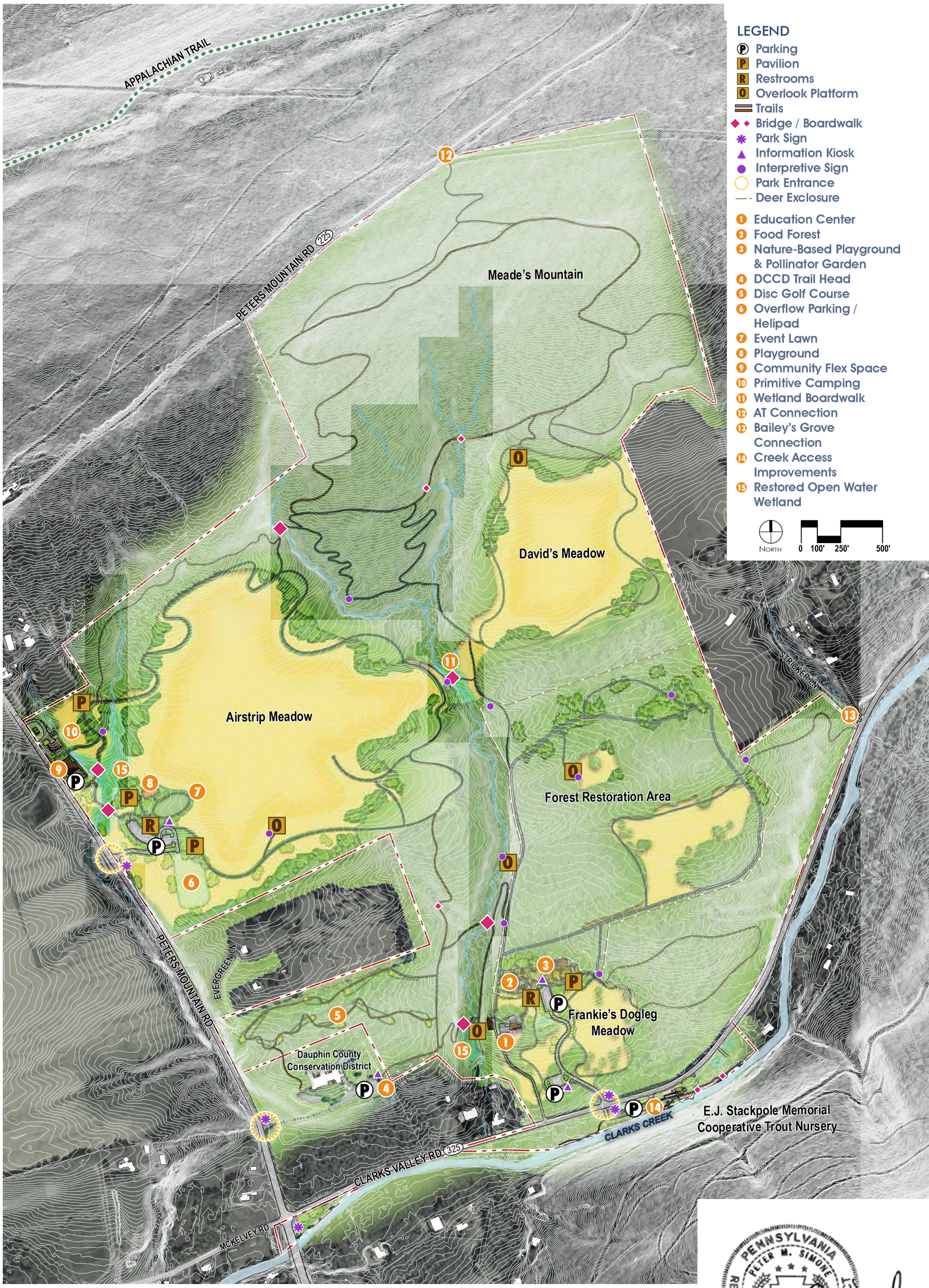
Draft Master Plan

The draft or preliminary master plan was presented at a virtual public meeting on September 21st. Prior to the evening virtual meeting, a two hour in-person open house was held in an outdoor pavilion with proper social distancing. Plans were on display and the design team members discussed with attendees the various parts of the master plan. Both the open house and the virtual meeting were attended by approximately 25 persons. The draft master plan builds on the four previous concept plans. Revisions were made to the draft master plan based on open house/meeting feedback and comments from the public and committee.

Final Master Plan

The final master reflects the culmination of the 12-month master plan process. The plan builds on the four previous concept plans and draft plan. The major proposed components of the plan, on an area-by-area basis are as follows.

Figure 3.7 Draft Master Plan



PENNSYLVANIA
PETER M. SIMONE
REGISTERED LANDSCAPE ARCHITECT

Figure 3.8 Master Plan

Frankie's Dogleg Meadow proposed improvements include:

- New entry drive and two small parking lots.
- Expand existing meadow and new Clarks Creek Forest Trail.
- Convert the pond to an open water wetland habitat.
- Maintain Conservation District parking and trailhead.
- Nine-hole disc golf course in forest.
- Improvements to and realignment of existing trails.
- Food forest (permaculture) area (within proposed deer exclosure area).
- Conversion of pool house to restrooms / storage.
- Nature-based play area and open-air pavilion.
- Future transition of existing residence to park office and/or nature education center.

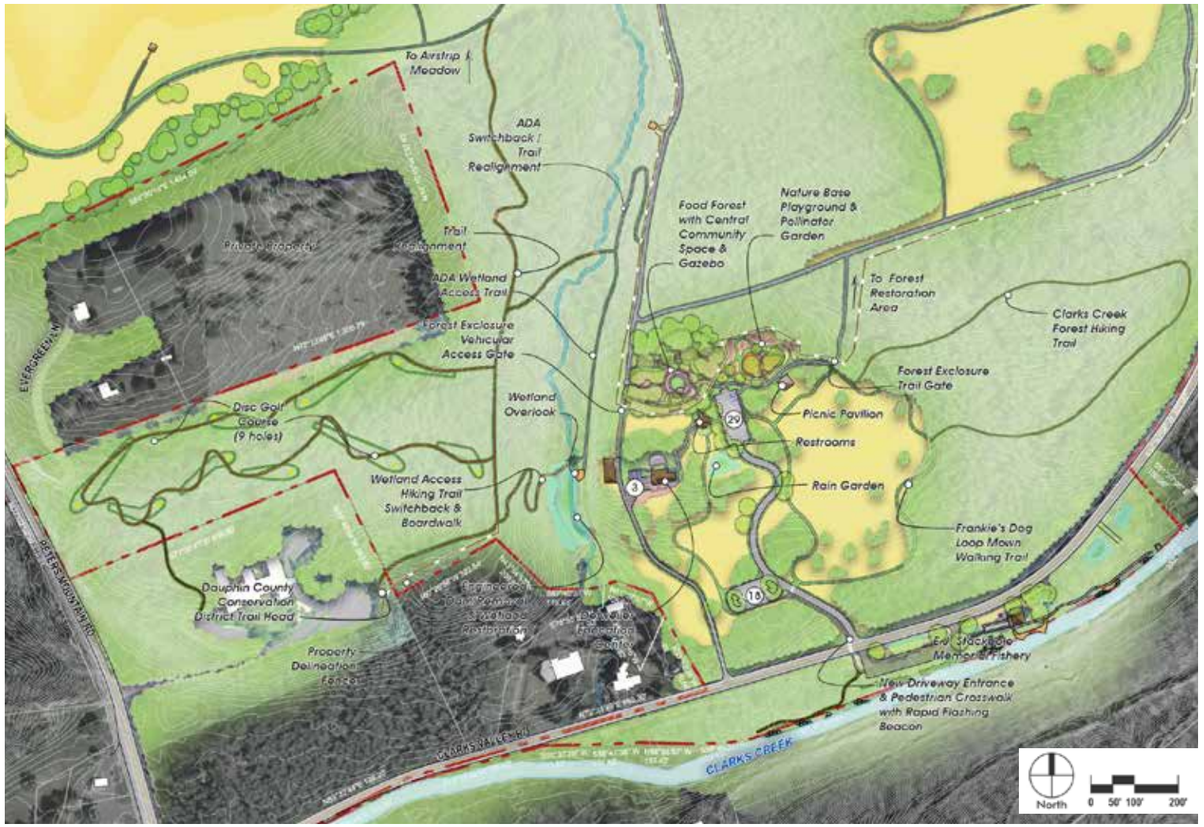
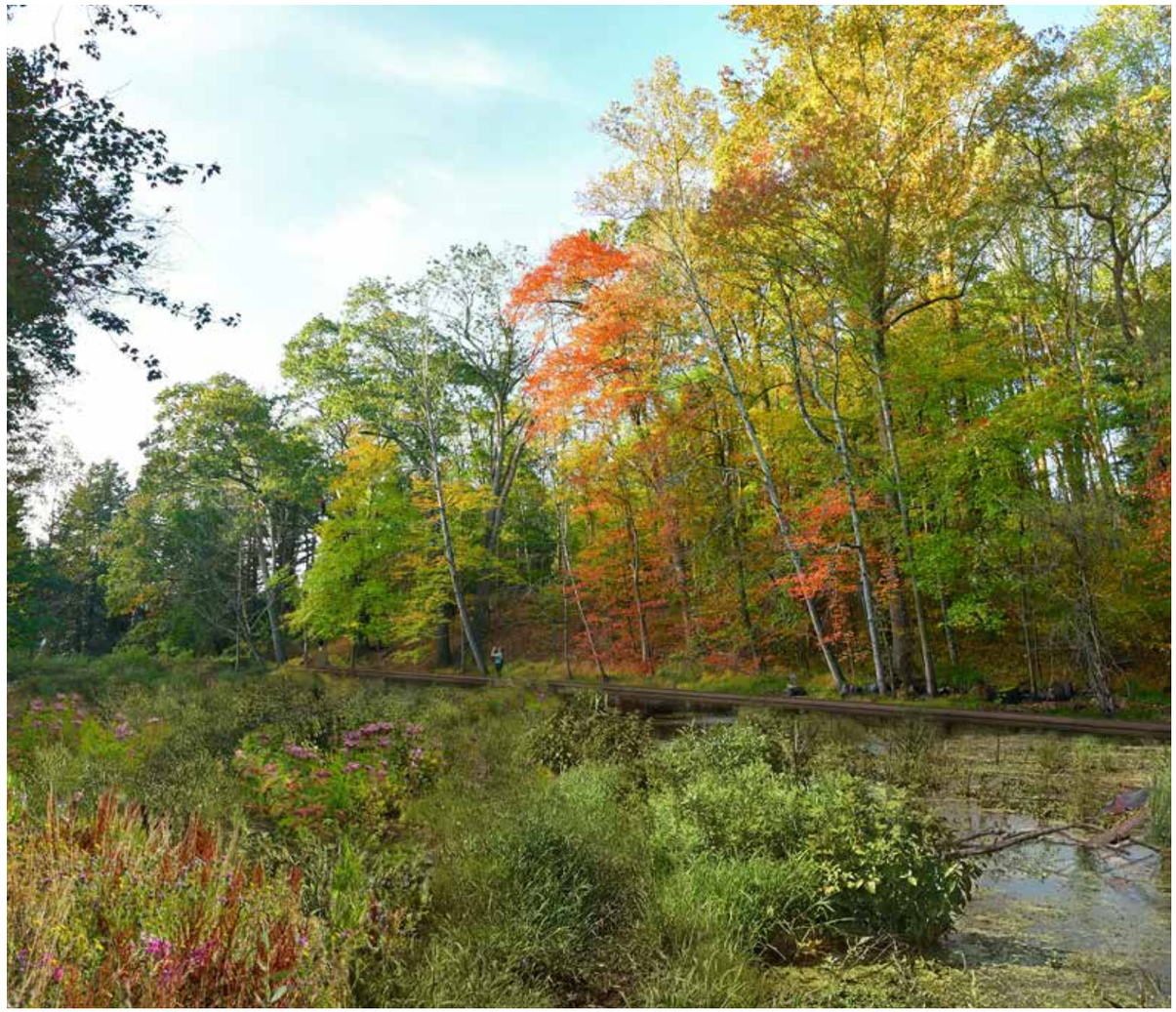


Figure 3.9 Frankie's Dogleg Meadow & DCCD Trailhead Plan Enlargement

A before and after image of what the pond would look like after the dam removal and restoration of an open water wetland habitat. A boardwalk and observation platform provide visitors with educational and observation opportunities.



Improvements at the E. J. Stackpole Memorial Cooperative Trout Nursery are focused on site enhancements and improvements intended to boost universal accessibility to the creek for fishing (as already designated) and interaction with the creek. These features include:

- Pedestrian access to the main part of the park across Clarks Valley Road via a crosswalk and rapid flashing beacon to warn motorists of pedestrian crossing.
- Better definition of the parking area.
- Shade structure to keep fish hatchery tanks cool.
- Streambank stabilization.
- Accessible streamside fishing areas and improved creek side trail.
- Removal of the small parking area at the southeast corner of Peters Mountain Road and Clarks Valley Road is recommended based on the driveway being too close to the intersection. A "Detweiler Park" sign is suggested here along with native species re-vegetation.

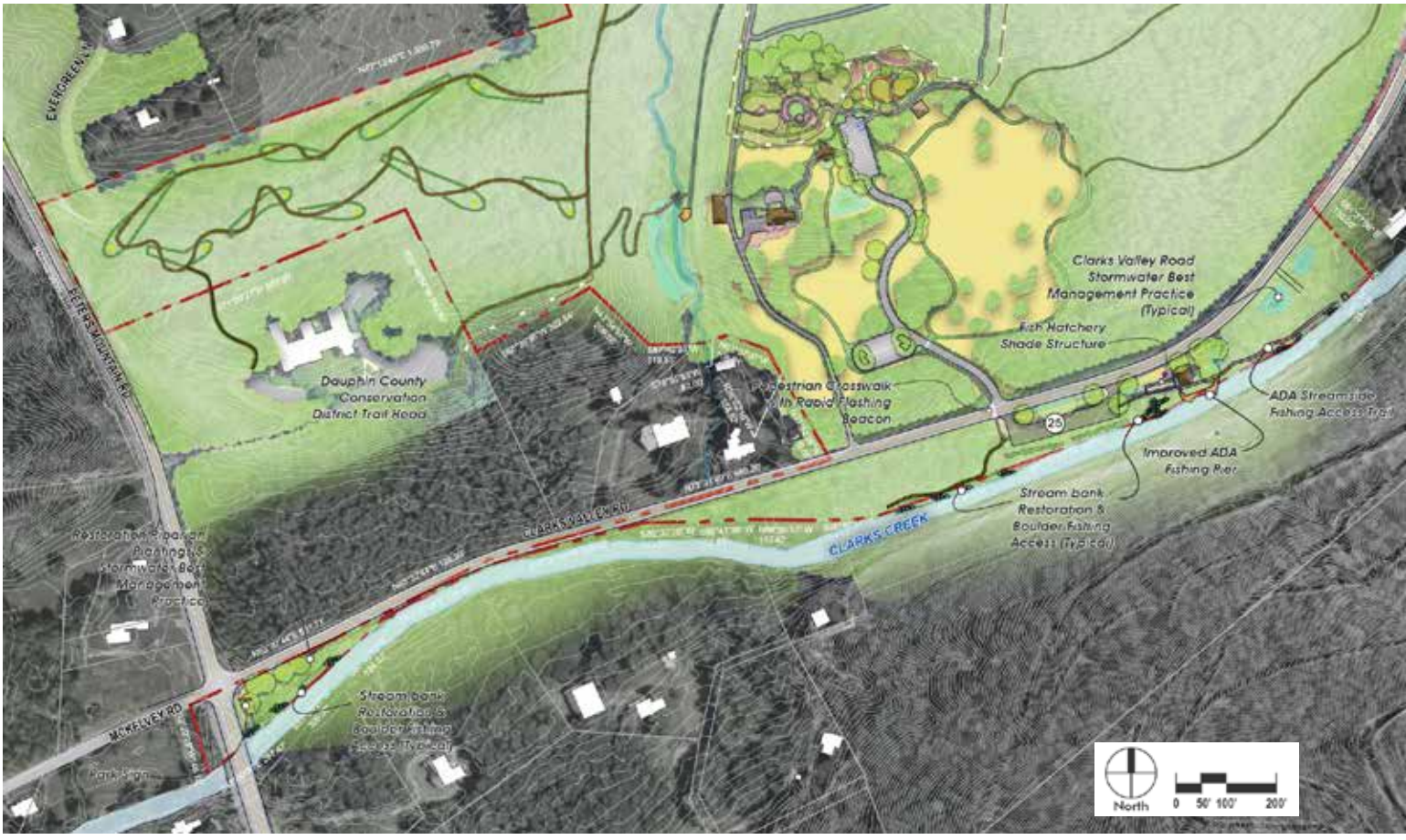


Figure 3.10 E.J. Stackpole Memorial Cooperative Trout Nursery Plan Enlargement

A photo simulation with a repaired and improved Clarks Creek riparian zone and ADA fishing piers at the E. J. Stackpole Memorial Cooperative Trout Nursery.

The Forest Restoration Area improvements are as follows:

- Simplify the existing trail system to result in fewer trails so that larger areas of undisturbed future habitat areas can be managed.
- Enclose the bulk of this area with a 10-12-foot-tall deer exclosure fence to allow native plant seedbanks to regenerate and to protect new plantings of native plants. Provide self-closing pedestrian gates.
- Trails in this area can all be ADA accessible since the area is relatively level.
- Provide resting spots / overlooks at the "secret meadow" and at the riparian forest area.

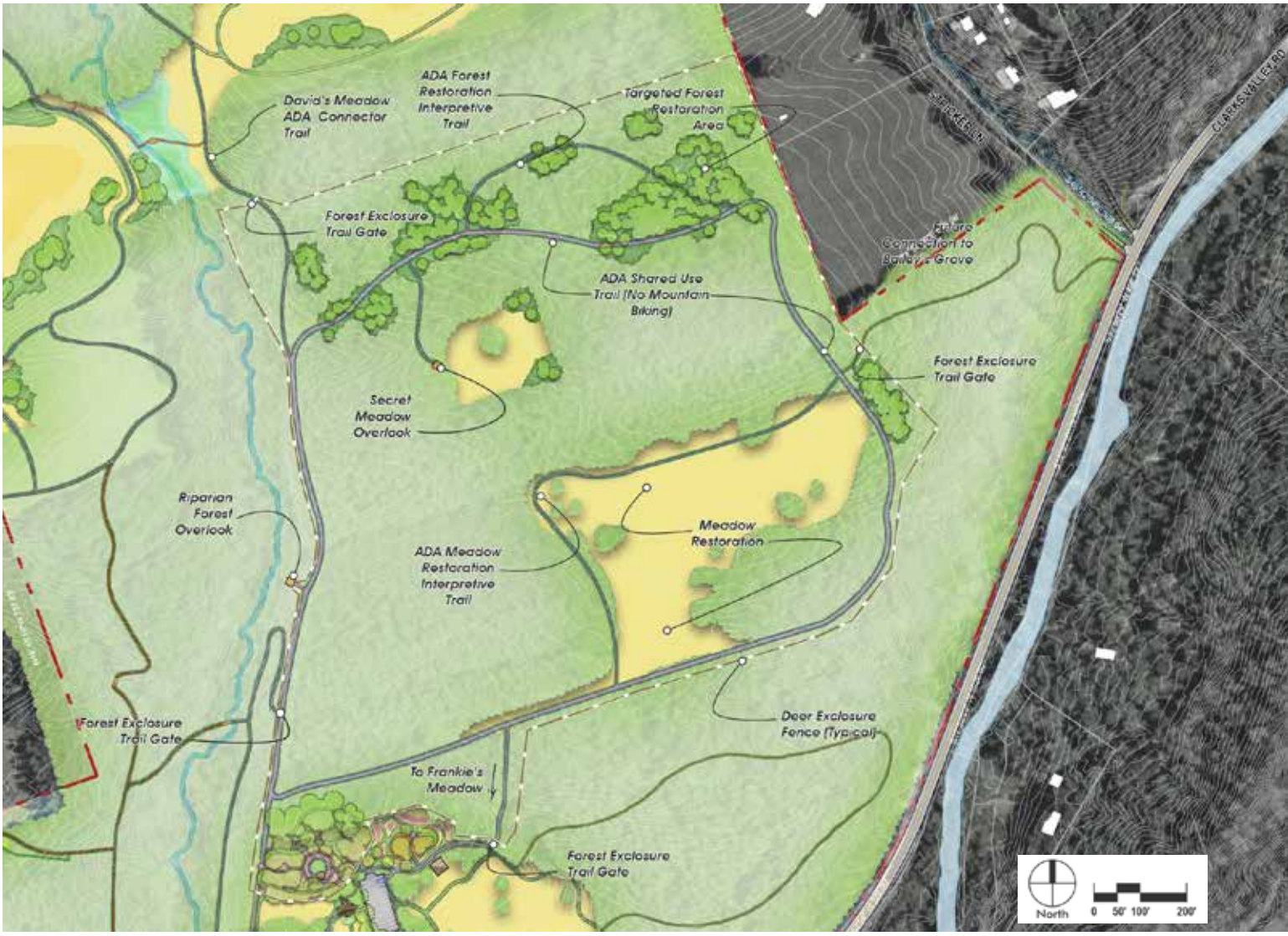


Figure 3.11 Forest Restoration Plan Enlargement

David's Meadow improvements are as follows:

- Maintain the existing meadow and replace hay crop with a warm season grass native meadow highlighted by "hot spots" of native wildflowers.
- Provide native species shrubland transition areas at some of the meadow edges.
- Provide a boardwalk trail through the wetland that separates David's Meadow from the Airstrip Meadow.
- Maintain a mown pathway around the perimeter of the meadow. This is proposed as a shared use trail.

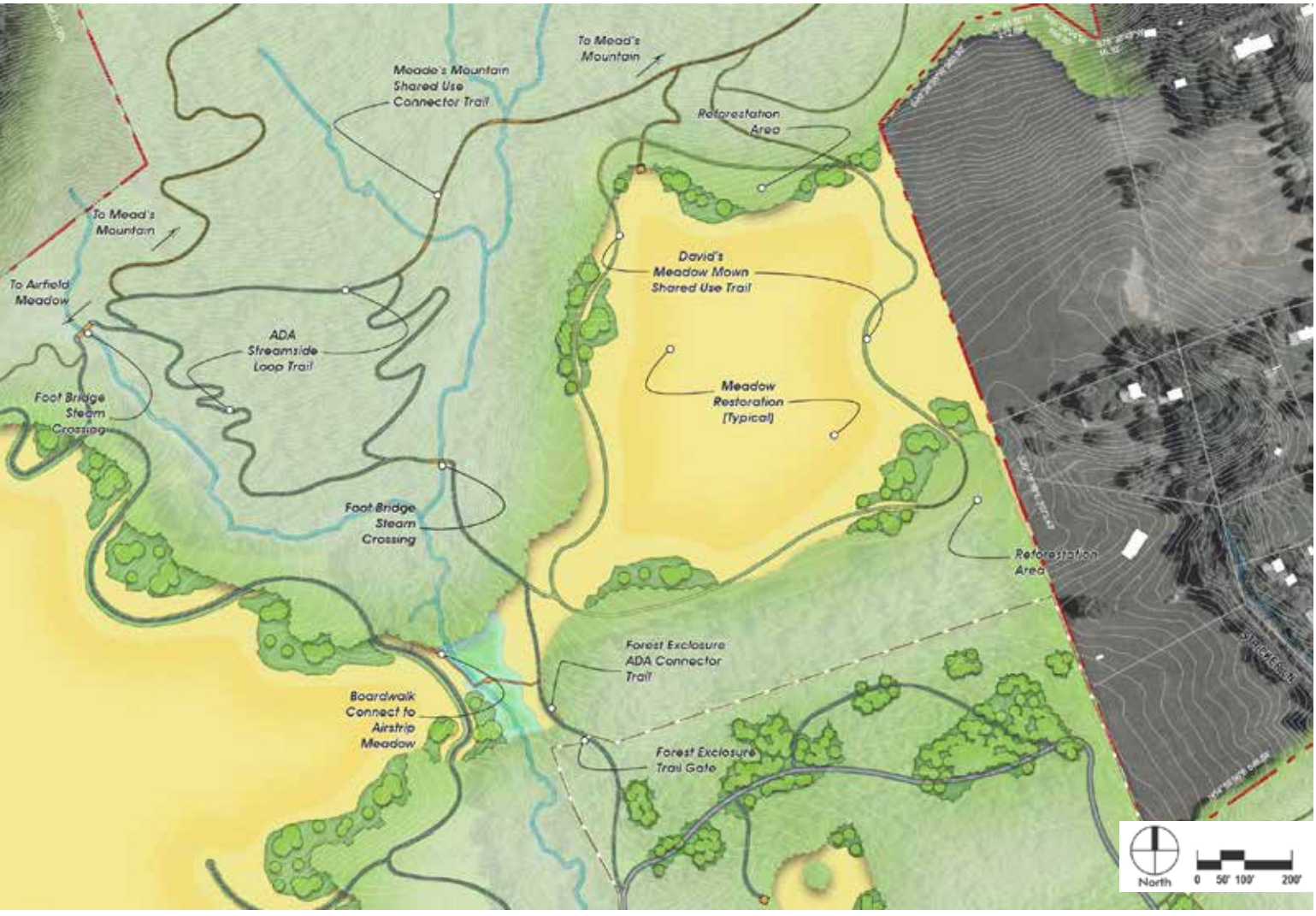


Figure 3.12 David's Meadow Plan Enlargement

A photo simulation of the boardwalk connection between David's Meadow to the Airstrip Meadow.

Meade's Mountain improvements are as follows:

- Trails are located to avoid the central part of the Mountain where numerous seeps and springs exist.
- Some sections of existing trails have been realigned to prevent the trails from being conduits for surface water drainage.
- The trails are, for the most part, proposed as mixed-use trails that will be shared between hikers and mountain bikers. A shared use trail connects from the Mountain to the parking area off Peters Mountain Road.
- Mountain biking "skills" (learning) trails are proposed.
- A future connection to the Appalachian Trail is shown.

The Airstrip Meadow is the largest of two meadows at Detweiler Park and contains several proposed improvements.

- Meadow restoration is the primary focus of this area. Warm season grasses will replace hay crop species. The new native meadow will have "hot spots" of native flowering species and the setting will be an important habitat for some species of birds.
- An accessible trail will surround the meadow.
- A boardwalk through wetlands will connect this meadow with David's Meadow at the west end.
- The model airplane flying can continue on a year to year basis, but it will have to be phased out as the meadow becomes established. It was determined that this use would have too much negative effect on the nesting bird habitat in the meadow.

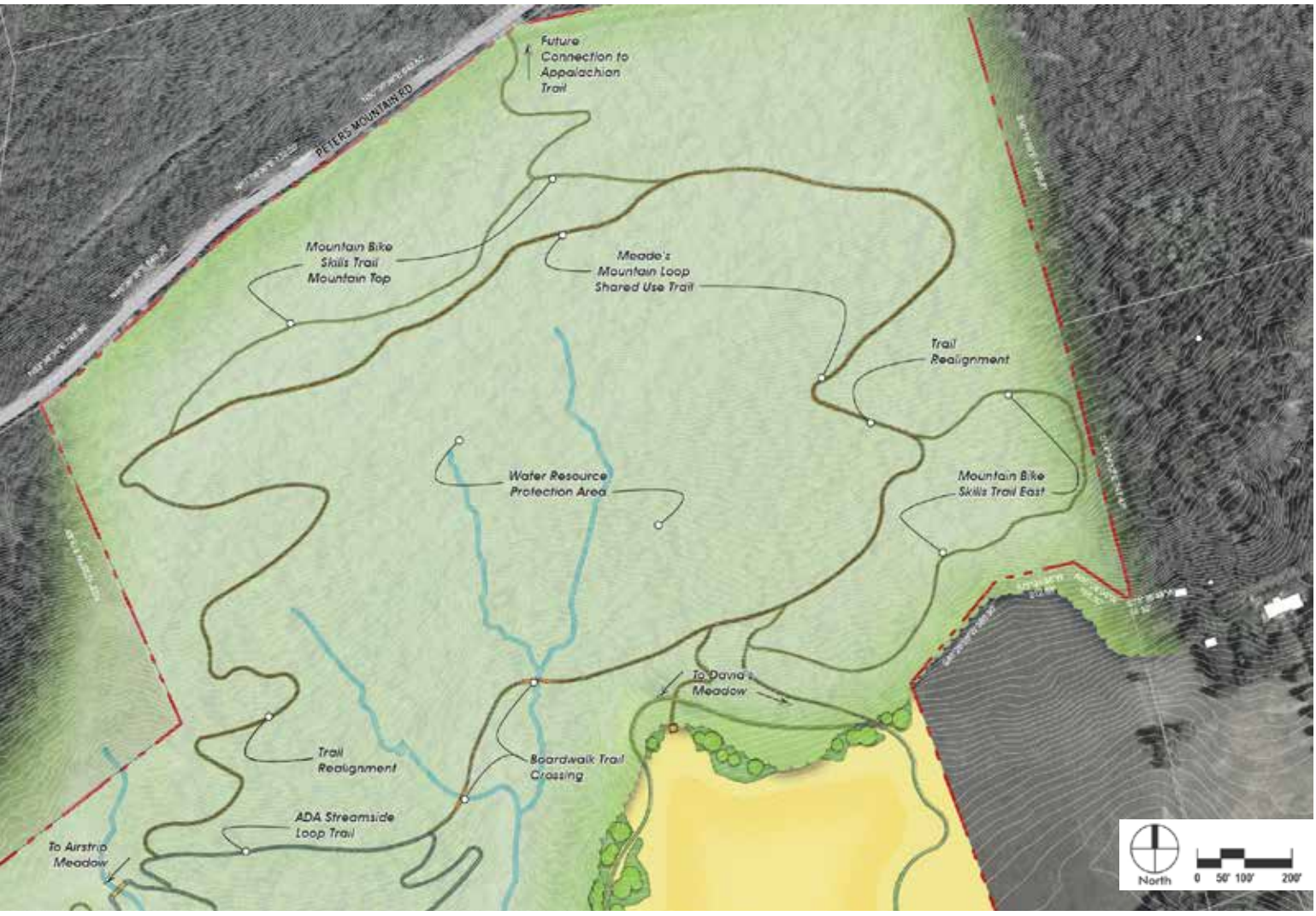


Figure 3.13 Meade's Mountain Plan Enlargement

- A centrally located events lawn is proposed.
- Edges of the meadow will be reforested with native shrub and trees species to provide better meadow to forest transition areas.
- A new drive access to the park is proposed off Peters Mountain Road to a fifty (50) car parking area. A left-hand turn lane and a right-hand access lane is shown on the roadway in case this safety improvement is required by PennDOT.
- Green overflow parking is proposed (stabilized turf) to accommodate occasional events here. This overflow parking area also will serve as an emergency helipad. This facility is needed for emergency evacuations of injured hikers from the Appalachian Trail.
- A restroom (composting toilets) is proposed and two (2) open air pavilions.
- A meadow birding overlook platform is proposed on the south side of the meadow.
- A wetland restoration area is proposed as both habitat creation and teaching opportunity.
- Two (2) boardwalks are proposed to cross the small stream.
- The existing hangar is proposed as a community flex-space that could accommodate classes, physical education, workshops, and events.

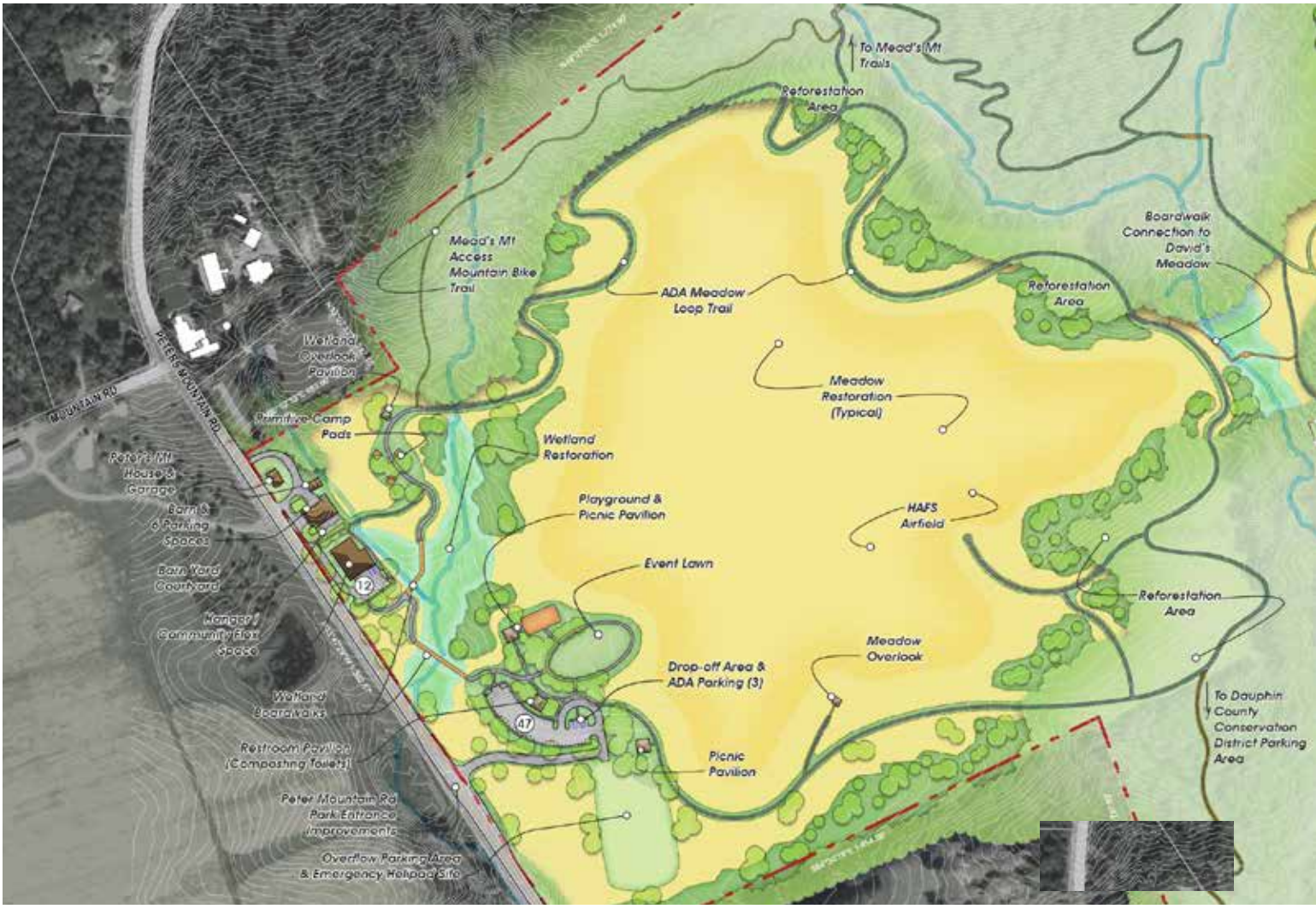
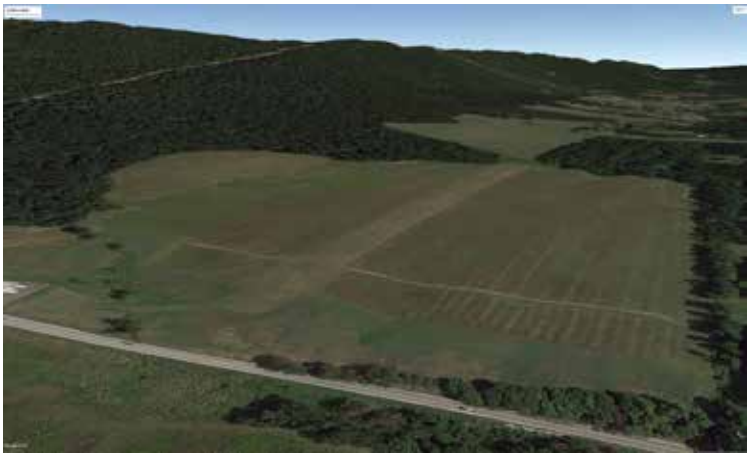


Figure 3.14 Airstrip Meadow Plan Enlargement



An oblique photo simulation of proposed amenities and meadow restoration in the Airstrip Meadow.

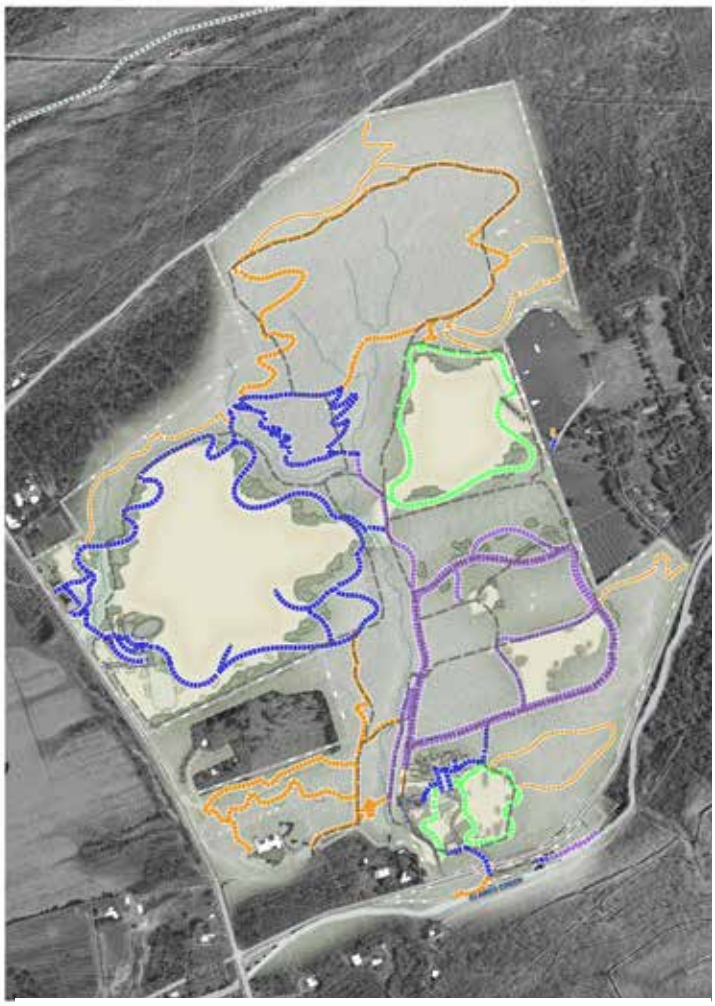


Figure 3.15 Trail Type Map

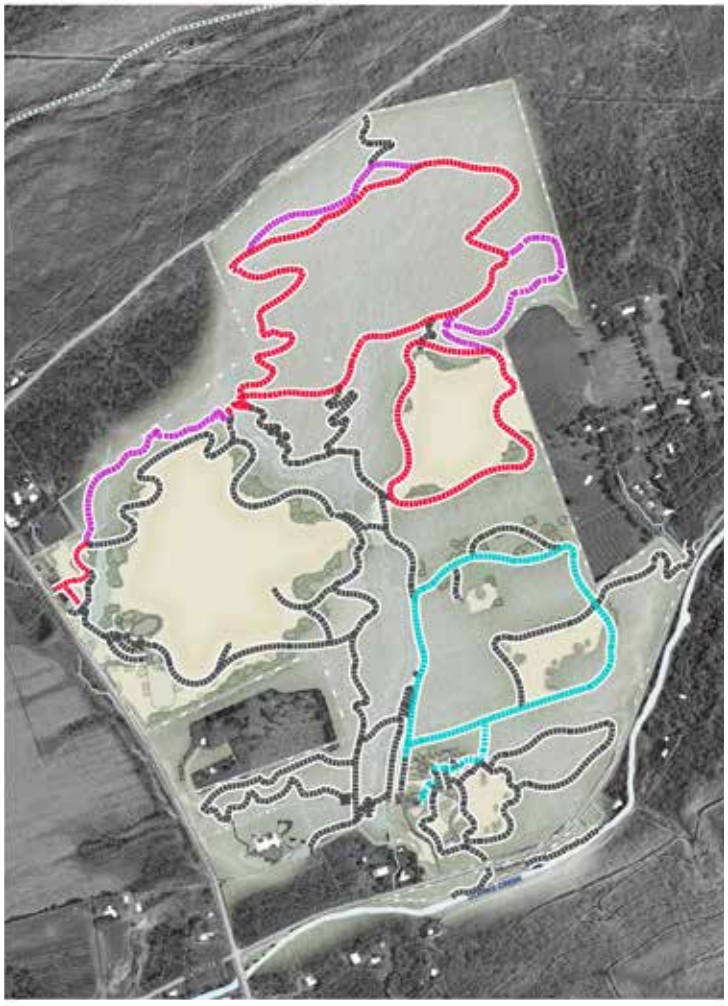
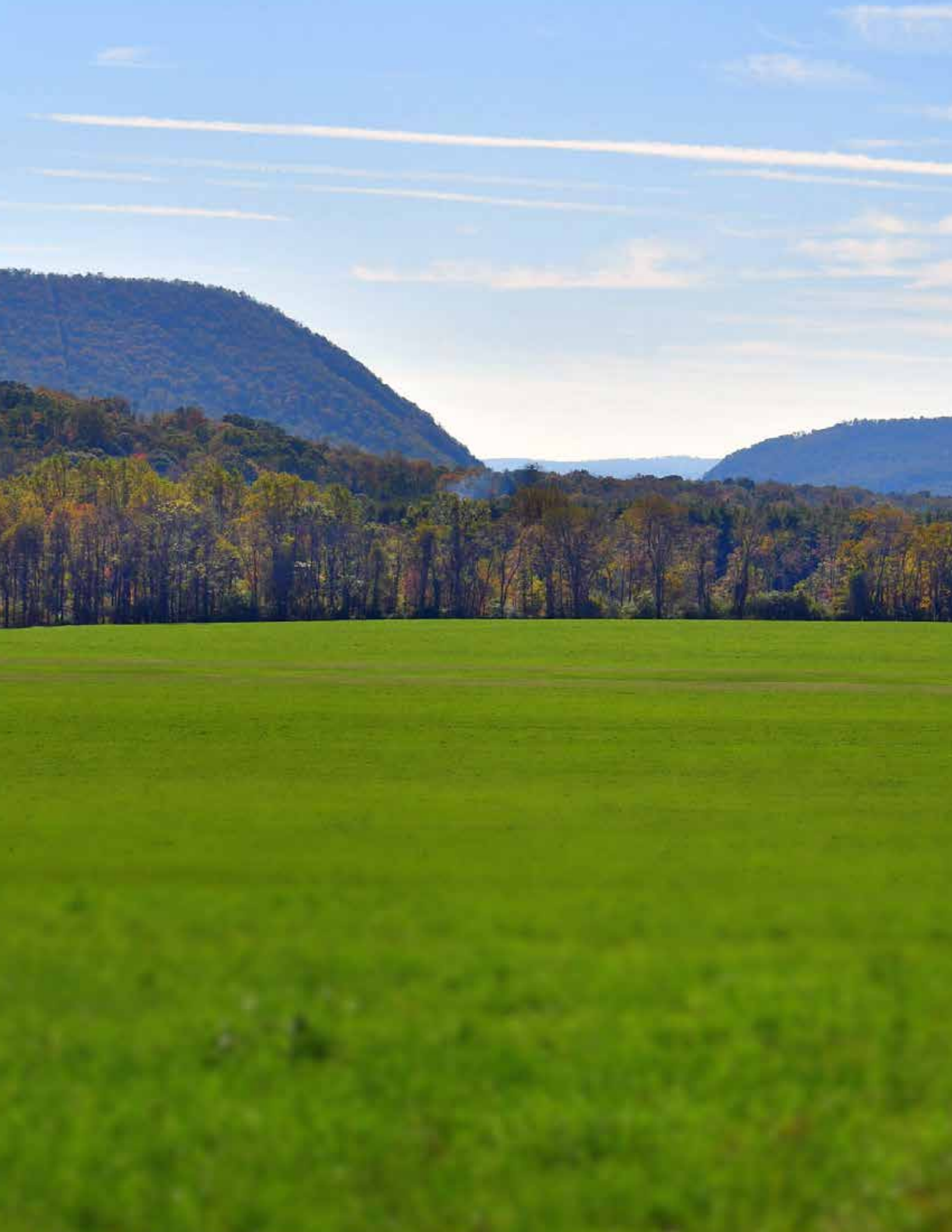


Figure 3.16 Trail Users Map



CHAPTER 4
IMPLEMENTATION

Cost Estimate of Capital Improvements

A detailed cost estimate of proposed capital improvements is provided in the body and appendix of this report. The estimated cost for improvements in the park is $3,392,000. Additionally, the estimate includes "construction costs". These are estimated as a percentage of the total improvement cost and they include contractor mobilization at 3%, erosion & sedimentation control at 2%, and construction contingency at 10%. "Construction costs" are estimated at $ 509,800. Costs for design and engineering are estimated at 10% or $ 339,500. **The total project improvement costs are therefore estimated at $4,241,300.**

In addition to site improvements costs, site stewardship costs are estimated to cost $3.5 million over a period of ten years (see figure 4.4). These costs include removal of invasive species, removing old or hazardous trees, and new tree or understory plantings. More information can be found in the ecological assessment report and forest stewardship report in the appendix.

Figure 4.1 shows a summary breakdown of costs per area. Unit costs were established based on construction costs for similar projects and reflect prevailing wage rates that are required for publicly funded construction projects. Please refer to the Estimate of Probable Development Costs found in the appendix of this report for a more detailed description of the proposed park site improvement costs. These costs are based on 2020 prices. Estimated costs should be adjusted upwards at a rate of 1-2% annually to account for inflation.

Project Phasing

Improvements to Detweiler Park will be implemented in several phases as funding becomes available. Proposed phasing was developed based on several factors including:

- Improved Site Access / Parking Improvements,
- Providing Restrooms Facilities,
- ADA-Accessible Trail Improvements that will provide access for a wider range of users, and
- Targeted habitat restoration such as meadow establishment.

Each recommended construction phase was also based on total cost in order to make each construction phase realistic and attainable. Phases can be combined if larger amounts of park funding is secured, and to obtain economies of scale in construction.

If funding opportunities for specific projects become available before others in the priority list, the County should implement those improvements even if they do not exactly follow the recommended phasing plan.

Estimated Costs of Development Summary

Conservation District Entrance	**$259,600**
Total Proposed Site Improvements	$207,500
Design and Engineering	$20,800
Construction Cost Total	$31,300
Frankie's Dogleg Meadow	**$531,100**
Total Proposed Site Improvements	$424,800
Design and Engineering	$42,500
Construction Cost Total	$63,800
Clarks Creek Triangle	**$15,000**
Total Proposed Site Improvements	$11,900
Design and Engineering	$1,200
Construction Cost Total	$1,900
E.J. Stackpole Memorial Coop Trout Nursery	**$314,500**
Total Proposed Site Improvements	$251,400
Design and Engineering	$25,200
Construction Cost Total	$37,900
Forest Exclosure Area	**$422,500**
Total Proposed Site Improvements	$337,900
Design and Engineering	$33,800
Construction Cost Total	$50,800
David's Meadow & Streamside ADA Trail	**$541,600**
Total Proposed Site Improvements	$433,100
Design and Engineering	$43,400
Construction Cost Total	$65,100
Meade's Mountain	**$207,500**
Total Proposed Site Improvements	$165,900
Design and Engineering	$16,600
Construction Cost Total	$25,000
Airfield Meadow	**$1,949,500**
Total Proposed Site Improvements	$1,559,500
Design and Engineering	$156,000
Construction Cost Total	$234,000
Park Wide Improvements Total:	**$4,241,300**
Total Proposed Site Improvements	$3,392,000
Design and Engineering	$339,500
Construction Cost Total	$509,800

*Construction Cost Include are estimated as a percentage of the total improvement cost. They include: Mobilization 3%, Erosion & Sedimentation Control 2%, and Construction Contingency 10%

Figure 4.1 Probable Cost of Development Summary by Area

Phasing Summary

Phase 1 - Frankie's Dogleg Meadow Access Improvements	**$463,000**
Phase 2 - Forest Restoration Trail Improvements	**$422,500**
Phase 3a - Airfield Meadow Access and Trail	**$454,600**
Phase 3b - Airfield Meadow Access and Trail	**$454,600**
Phase 4 - Airfield Core Activity Area	**$558,200**
Phase 5 - David's Meadow & Streamside ADA Trail	**$533,600**
Phase 6 - Airfield Playground	**$398,300**
Phase 7 - Meade's Mountain Trails	**$293,000**
Phase 8 - Conservation District Trail Improvements & Food Forest	**$335,500**
Phase 9 - E.J. Stackpole Memorial Cooperative Trout Nursery	**$295,700**

Figure 4.2 Proposed Improvement Phases Cost

Figure 4.3 Park Improvements Phasing Plan

Site Stewardship Cost

Recommendations for site stewardship are outlined in the Forestry Stewardship Plan and Natural Resources Plan. During the early years of implementation, costs for site stewardship are significant. These recommendations will lead to a site that offers greater diversity in wildlife and habitat as well as creating systems that are sustainable, resilient, and able to function with less human management. The plan estimates the costs of site stewardship over the first ten years of implementation.

Stewardship Cost		
Year	1	$671,200
Year	2	$610,500
Year	3	$169,600
Year	4	$197,500
Year	5	$69,200
Year	6	$889,200
Year	7	$432,100
Year	8	$418,100
Year	9	$26,100
Year	10	$39,700
Total Estimated Stewardship Costs		$3,523,200

Figure 4.4 Stewardship Cost Estimate

Programming & Revenue

Since opening Detweiler Park, the County has run a variety of nature-based walks and outdoor appreciation gatherings. This has set an excellent precedent to continue with other types of events and activities at the park.

Increased opportunities exist for recreational offerings at Detweiler Park. These offerings will create additional revenue for the County. Program opportunities include event festivals (similar to what the County already offers at other park locations), educational programs, wellness classes, among others. The current hangar building, with modifications, can facilitate additional indoor recreational opportunities. The large facility can be retrofitted to permit classes or event gatherings. Some possible program opportunities within the park are as follows.

Flea markets

Flea markets provide an opportunity for people to visit and become familiar with Detweiler Park. Additionally, it is an opportunity for local crafters to show off and sell wares. A typical flea market may draw over 50 vendors and can occur monthly or seasonally. Numbered spaces are painted on the ground noting where the vendors may set up (it is also possible to provide this in the hanger area). For a fee of $50.00, the vendors are permitted to reserve their space and sell their wares. If this occurs each quarter,a $10,000 revenue could be generated annually. Flea markets usually run for about 3 to 4 hours.

Farmers Markets

Farmers markets can be part of the flea market or can be a stand-alone event. Very popular, farmers markets provide fresh produce and other household items (jams, honey, sauces) that people desire. A similar registration system as noted for flea markets is suggested. Typically, fewer vendors are found at farmers markets. A fee of $25.00 to $50.00 per vendor is typical.

Arts in the Park Markets

Art markets are another opportunity for locals to share their wares. Much like the flea market and farmers market, the program is a revenue generator with little expense incurred by the County to offer the program.

Beer Garden Festivals/Summer Concerts/Food Trucks

Local brew pubs provide the beverages, food trucks provide the food, along with contracted musical groups who can provide a day or evening of entertainment for the community. These festivals are quickly becoming favorites for families and park visitors. Abundant sponsorship opportunities are available for such events. Two events annually can generate over $20,000 in revenues. Revenues are derived from ticket sales and sponsorships.

Summer Concerts

Summer concerts typically occur weekly in some parks. Sponsorship opportunities are plentiful for these types of events. It is not uncommon for one agency to sponsor the entire summer concert series (6-8 summer concerts). Even if the County has a concert series at other parks, concerts at Detweiler Park can start as occasional events with local musicians as a way to build park constituents.

Movie Nights

Movies in the park are great family events. Sponsorship opportunities are available for these events as well. Popcorn or snacks can be sold to generate some income.

Holiday Events

These traditional events such as Easter egg hunts or fall hayrides are wonderful family events. These events are funded through sponsorships or nominal fees. While they do not generate a large revenue, the value lies in developing strong community ownership of the park.

Group Rentals

Birthday party, business retreats, wedding parties, or other large group events could rent the hanger, pavilions, or other park facilities.

Festivals and events noted above (based on other events currently offered through the County park system) may draw a significant number of visitors to the park annually. This can translate into significant revenue generation annually.

Recreation Programs

Additional opportunities to expand recreational programs at Detweiler Park should be explored. Educational classes can be offered by in-house staff or by contracted service providers. Education programs may include youth programs (science, nature, drama, arts/crafts) and each program can generate a modest revenue stream. Wellness programs for adults and youth encourage a healthy lifestyle and create a modest revenue. Nature camps or classes provide opportunities for people of all ages to learn more about the natural world. Evening star gazing, birding, geocaching, or drawing classes are other examples. Depending on an exact fee policy, general expected fee generation can be $30 (profit) per person per program. If the department offers 25 programs annually and each program has 20 registered participants a $15,000 annual profit can be anticipated (25 x 20 x $30).

Festival revenues combined with program revenues and sponsorship opportunities could generate over $75,000 annually.

Park Organizational Structure

Capital Funding

The current parks department capital budget for funding sources includes several sources. Casino revenue funding, Marcellus shale fund, DCNR grants, and the Dauphin County Community Fund all provide funding opportunities for capital improvements. This capital improvement mechanism works for the current Parks Director but is not a sustainable system of funding.

Just as the acquisition, improvements to, and operation of Detweiler Park is a growth milestone for the County Parks Department, the Parks Department must also grow and become more systematic. An enhanced systematic procedure to request and procure funds must be created.

It is recommended that the funding process for both operational and capital budgets be reconsidered to develop a system that can be easily understood and has clearly defined mechanisms for requests and approvals that also provide for transparency and accountability. When the current director leaves the position, the next director will not have an understanding of how the current process works and the department will need to create new mechanisms. A better system must be developed prior to any position change.

General Operating Procedures

The department functions at a high level, despite limited available staffing. A review of the staff found excellent communication, staff involvement, and staff awareness of all department offerings and on-goings. With the addition of Detweiler Park, it is desirable to have a Detweiler Park Manager and horticultural expert added to the department's staff.

Public Relations Efforts

The Parks Department takes advantage of many social media opportunities to communicate with the residents, businesses, and others. The County website and parks Facebook page are the primary social media means of sharing information. Additionally, the department uses brochures, newsletters, and other print media to communicate with park visitors and other constituents.

Opportunities exist for incremental advancements in public relation efforts. One opportunity is to select a recreation software package that facilitates text blasts, emails blasts, brochure development, program registration, and other valuable opportunities to enhance communication efforts.

Cooperative Partnering Efforts

Some partnerships and cooperative efforts exist, most of which are sponsorships for festivals and other events. Opportunities exist for enhancements in this area (partnering to offer programs, festivals, and events), but finding time through the current administrative structure presents challenges.

The director has a strong relationship and vast knowledge with several granting agencies and that knowledge helps to provide funding to implement improvements throughout the park system.

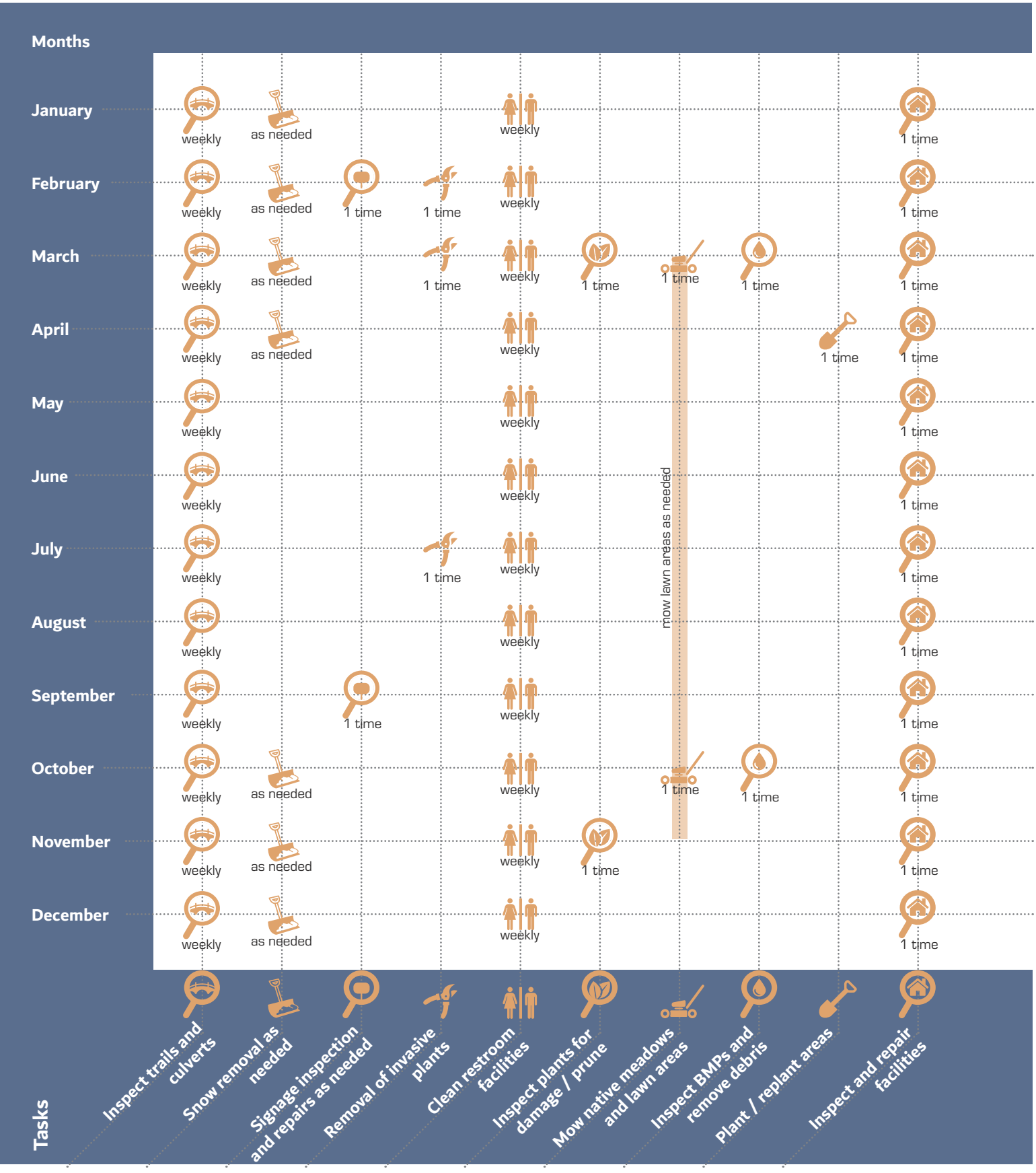


Figure 4.5 Park Maintenance Regime

Public Involvement Opportunities

The department must increase volunteer opportunities at Detweiler Park. Volunteers will assist with invasive species removal, native plantings, and other best management practices. Opportunities also exist to assist with scouting projects, classroom environmental opportunities, and public education sessions. A "Friends of Detweiler Park" group could also assist the park as it moves into the future. This "Friends" group will assist the park with decision making, fee policy development, recreation offerings, and serve as additional eyes and ears for the department.

General Administrative Challenges

Several challenges impede efforts to provide recreational opportunities and maintenance efforts. Available staff hours is the main challenge. The department's administrative staff is "maxed-out". "Extra" time does not permit for current in-house staff members to provide additional recreational opportunities, best management maintenance practices, volunteer recruitment, and to stimulate park awareness among County citizens. While ample opportunities exist for recreational offerings, staff hours do not permit the organization and administration to offer such programs. Volunteers in this area could prove useful. Third party contractors can provide programs to assist the department with limited administrative hours necessary for success.

Maintenance

Current Program

The County parks maintenance division is based out of Fort Hunter Park. Equipment is housed in Pole barns and sheds. Most maintenance is performed in-house for all County parks. Maintenance staff includes full time, part time, and contracted workers. The staff is responsible for outdoor areas, facilities, and indoor structure needs.

The maintenance department functions at a high level. Equipment care, vehicle maintenance, record keeping, and community response to needs all function well within the maintenance division. Workers perform many of the tasks required for success. Contracted services assist to provide high level maintenance for all County park properties.

Current maintenance staff has several certifications to permit specialized park maintenance work. These include pesticide and fertilization certifications permitting work to be performed in-house, saving the County. Additionally, the maintenance department performs trail work and safety repairs, tree removal, facility repairs and needs, playground safety and repairs, trash removal, rest room care, among other functions. There are times when specialized maintenance is required and a contractor is hired to serve those tasks; however, that work is limited due to the excellent current staff abilities to perform most of the work.

At present, the full-time crew works in all the parks and one part time worker (nontraditional hours) worker tends to Detweiler Park. This is inadequate and must be augmented to provide for a safe experience for all visitors and to provide for best management practices in the park. This need will only grow as new facilities are added to the park with an expected increase in park visitation.

Current Equipment

A record of all County equipment at Detweiler Park includes: John Deere 3320 with a bucket, belly mower and a sickle bar attachment, 1 push mower, 1 stihl ms271 chain saw, 1 echo pas model with weed whip, brush/hedge trimming attachment, 1 1990's John Deere gator, 1 backpack blower, 1 echo power pruner, and various hand tools: rakes, shovels, etc.

Risk Management

Written policies exist for equipment usage and County policies are available and reviewed to assist staff. Maintenance tasks are tracked daily via work sheets. Constant staff communication informs all workers of issues, tasks, upcoming programs, and other concerns. Proper park signage is installed to make all patrons aware of proper playground use and other park rules and regulations.

Adequacy of maintenance

Current maintenance practices are performed at a high level. The concern will be moving forward. All staff are utilized to their full ability and staff hours. As Detweiler Park is visited more frequently, and programs are developed, additional staff levels will be required. The current staffing levels that care for all County parks will not permit the care necessary for the addition of a park of over 400 acres.

Recommended Maintenance Regime

Maintenance of the Park will be a continuing responsibility of the County. The County will develop and fund a formalized maintenance program based on information in this master plan as improvements are implemented. The Park's design minimizes maintenance costs while still providing a beautiful and functional Park. Proposed meadows maintenance will deter woody plant species from establishing and provide for sustainable bird and small animal habitats. Forested areas will require routine management to identify and remove invasive plant species once stewardship plans are completed.

Trails should be regularly maintained to provide a safe user environment. Compact stone dust trails will require the re-spreading, supplementing, and compacting of stone aggregate as erosion occurs. Hiking trails require occasional work to keep trails clear of debris and brush growth. The County can look for volunteers to assist with this responsibility, specifically scout and student groups, or SAMBA.

Where mowing is required, it should continue to be performed on a regular basis.

Maintenance of park structures and restrooms and regular removal of trash will be required. Structures should also be locked at night to deter vandalism. Periodic inspections and repairs of park facilities will be necessary to maintain the quality of facilities at Detweiler Park. Figure 4.5 lays out recommended park maintenance regime.

Capital Improvements Needs

The following capital improvements are recommended to streamline countywide park programming and maintenance efforts.

Computer Software

Purchase a software package to track registration, invoicing, participant history, facility reservations, shared calendar, enhanced communication with participants and community. MyRec is an excellent recreation software package that will provide all the above. The startup costs for the package is about $4,000 annually with a $1,500 initial one-time startup fee.

Equipment

Brush chipper is necessary to assist with daily maintenance for all the parks. Brush chipper cost is about $60,000 and would be used extensively throughout the year.

Bucket Truck to help with tree canopy maintenance and other needs. $50,000

Stump Grinder will assist to remove dangerous stumps where people may walk or ride bicycles. $35,000

Deficiencies

Several opportunities exist to augment current practices and offerings.

Administration staff hours

It is recommended that a full time Park Manager be hired to direct the operations of Detweiler Park. This position will be responsible for the park and all its offerings. Policy development, leading the “Friends” group, maintenance task assignments, park budget requests (operational and capital)and all other tasks associated with successfully operating the park.

Consider hiring a horticulture expert to augment the staff. This person will be able to provide the education and experience necessary to assist with habitat management, volunteer efforts and recruitment, and may be able to teach some of the recommended class offerings.

It is recommended that the current park maintenance staff be expanded. At least 1 full-time maintenance position should be created to assist the existing full-time crew. Additionally, two seasonal workers (40 hours per week to include weekends) are recommended for Detweiler park from April through October. Cost for seasonal maintenance workers is $28,800 annually ($15 / hour x 40 hours per week x 16 weeks x 2 workers).

Maintenance Equipment

Needs are listed above in Capital Improvement Needs.

Increase volunteerism efforts.

The addition of park staff in conjunction with the development of a “Friends of Detweiler Park” group will open up resources to spearhead and organize volunteer projects within the park.

Security Analysis

Park crime deterrence is a combination of good park rules, occasional policing, and community participation in the park’s stewardship. County park rules should be clearly posted in each park trailhead area. The basic County park rule of restricting park use from sunrise to sunset should be followed. The adjacent residences will also serve as immediate eyes and ears of the community to help monitor park activity. The park has a significant user group. They will serve as the eyes and ears of “authority” armed with cell phones. People who engage in negative activities do not wish to be seen and will typically go elsewhere once they are identified for their bad behavior. Additionally, the

rapid response of the County to repair damage or vandalism will help to mitigate bad behavior.

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

Potential Funding Sources

The following is a summary of grants, programs, funds, and other sources that can assist with the funding of Detweiler Park improvements. Various sources can be pursued during park development phases, based on the availability of funds, and agency and County priority for each year.

Agencies that have grant programs which will be most applicable to the Detweiler Park includes:

- Department of Conservation and Natural Resources (DCNR)
- Department of Community and Economic Development (DCED)
- Pennsylvania Infrastructure Investment Authority (PennVEST)
- Pennsylvania Department of Environmental (DEP)

Pennsylvania Department of Conservation & 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. Following completion of a park master plan, an implementation or construction grant is the next stage grant from DCNR. Grant applications for the C2P2 program are accepted annually—usually in April.

DCNR also administers funding from the federally funded Land and Water Conservation Fund (LWCF). The federal government recently permanently approved this fund. Since administrative requirements are more stringent for this funding, minimum grant amounts are $500,000.00. It is not unusual for grants to be a much as $1million. As with C2P2 funds, a 50% match is required. As a sophisticated and large park system, Dauphin County is well positioned to successfully apply for these funds and has a record of success with DCNR grants.

More information can be found at: http://www.dcnr.state.pa.us/brc/grants/grantpolicies/index.htm

DCNR Forest Buffer Program

The Riparian Forest Buffer Program through PA DCNR provides funding for organizations implementing a variety of forest buffers including conventional riparian forest buffers and multi-functional buffers. The state of Pennsylvania has a goal of planting 95,000 acres of riparian buffers by 2025 to improve state waterways and the Chesapeake Bay. There is no match required to be eligible for this grant.

Grant applications are usually accepted October to late December. More information is available on the PA DCNR website: https://www.dcnr.pa.gov/Conservation/Water/RiparianBuffers/Pages/default.aspx

DCNR has provided funding to County Conservation Offices. Grants awards are made by the local conservation office for the planting of multi-functional buffers. These grants do not require a match.

Pennsylvania Department of Environmental Protection (PADEP)

DEP Growing Greener Watershed Protection Program

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

More information on this program can be found at the DEP website: http://www.dep.pa.gov/Citizens/GrantsLoansRebates/Growing-Greener/Pages/default.aspx

DEP Non-Point Source Implementation Programs Grant

Provides funding assistance for projects aimed at implementing Pennsylvania's Non-point Source Management Program. Targeted projects include control of urban runoff and natural channel design/stream bank stabilization

projects. The grant will fund local projects with the average award of $200,000. The application period is typically in July.

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

Department of Community and Economic Development (DCED)

Commonwealth Financing Agency (CFA) - Greenways, Trails and Recreation Program (GTRP)

The Greenways, Trails, and Recreation Program (GTRP) provides funding for: public park and recreation area projects, greenway and trail projects, and river or creek conservation projects. The program requires a 15% local cash match of the total project cost and grants cannot exceed $250,000. The application period is typically in late May. More information can be found at: https://dced.pa.gov/programs/greenways-trails-and-recreation-program-gtrp/

Watershed Restoration and Protection Program (WRPP)

DCED Watershed Restoration and Protection Program is a funding program to restore and maintain restored stream reaches impaired by the uncontrolled discharge of non-point source polluted runoff. Funds may be used for construction, improvement, expansion, repair, maintenance, or rehabilitation of new or existing watershed protection BMPs; stream bank bioengineering; and design services. Grant applications cannot exceed $300,000 and require 15% matching funds. Applications are typically due in June for consideration in September. More information can be found at: https://dced.pa.gov/programs/watershed-restoration-protection-program-wrpp/

PennVEST (Pennsylvania Infrastructure Investment Authority)

PennVEST offers both grants and low interest loans for projects that help to manage stormwater and improve water quality. Several of the proposed recommendations will be of interest to PennVEST since they include stormwater BMPs.

More information can be found at: https://www.pennvest.pa.gov/Information/Funding-Programs/Pages/default.aspx

Environmental Education

The Pennsylvania Environmental Education Grants Program awards funding to schools, nonprofit groups, and county conservation districts to develop new or expanded current environmental education programming. The funds are administered through the Pennsylvania Department of Environmental Protection for projects ranging from creative, hands-on lessons for students and teacher training programs to ecological education for community residents. Educational Resources, including exhibits, educational signage, and demonstration projects, also qualify for funding. Grant applications cannot exceed $3,000 and require no match, however it is recommended. Applications are due in December and awarded in April.

More information can be found at: http://www.dep.pa.gov/citizens/environmentaleducation/grants/pages/default.aspx

Legislative Funding

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

Private Foundations

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

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

Schools and Local Organizations

Local schools and local organizations may be of assistance in several ways. Local scout groups and mountain bike community are two such examples. These groups might get involved with club, fundraising events, and park cleanup days. The school faculty might incorporate the Park, especially the proposed environmental education areas and nature trails, into various curricula with students helping to develop and volunteer time to maintain the Park as part of a classroom assignment or after school club. While the amount of funds raised may be relatively small, this process builds constituents and support that is critical to the long-term success of the Park.

Friends of Detweiler Park Nonprofit

Similar to participation by school groups, the establishment of a non-profit (501(C)3) "Friends" group can help raise grass roots funding for the park and be a conduit for tax-deductible donations and foundation funding.

The need for a Friends of Detweiler Park is paramount to assist in many areas of park operations, similar to the Friends of Fort Hunter. "Friends" groups assist with maintenance issues, programming ideas, policy development, communications, and volunteerism. The Friends group can assist in setting a policy for staff to set program fees, sponsorship opportunities and costs, rental policies, and all other policies necessary for the successful administration of a county park system. The Friends will serve as additional eyes and ears for the park, providing necessary feedback to the administration and maintenance staff.

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

Foundation for Enhancing Communities

The Foundation for Enhancing Communities (TFEC) is a community endowment foundation. TFEC serves the South Central Pennsylvania counties of Cumberland, Dauphin, Franklin, Lebanon, and Perry, and the Dillsburg Area.

TFEC offers multiple grant opportunities throughout the year available to nonprofit organizations providing community services. Timeline, service area, and funding priorities of each grant opportunity can be found on the TFEC website. Grant guidelines and application materials are made available on October 1 or April 1 of each year. For more information, please visit www.tfec.org.

Donation Opportunities

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

DAUPHIN COUNTY
PENNSYLVANIA
PARKS & RECREATION

SIMONE COLLINS
LANDSCAPE ARCHITECTURE