

Butler Township, PA

Preston Park

Butler Township Community Park

Saw Mill Run Park

Master Plans

October 2014

Acknowledgements

Preston Park/Butler Township Community Park/Saw Mill Run Park
Master Plans
Butler Township, PA

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Sean Garrigan

Sean C. Garrigan

PA Registered Landscape Architect, License No. LA002677

Steering Committee

Peter Albert	Gary Pinkerton
Denny Bacher	Ed Shields
Ed Chuhra	Dan Slomers
Jack Cohen	MaryAlice Smallwood
Pat Collins	Tony Stagno
Dorothy Dodson	Barbara J. Steetle
Edward E. Fink	Paul Sylves
Jim Galbreath	Joseph Taylor
Dave Heltzell	Fred Vero
Dave Johnson	Dave Zarnick
Ed Kirkwood	

Lead Master Planning/Landscape Architecture

Stromberg/Garrigan & Associates, Inc.
102 E. Main Street – The Penn Building
Suite 300
Somerset, PA 15501

Architecture

Landmarks SGA, LLC (An SGA, Inc. Affiliated Company)
102 E. Main Street – The Penn Building
Suite 300
Somerset, PA 15501

Park and Recreation Programming, Operation and Maintenance

Toole Recreation Planning
6081 Honey Hollow Road
Doylestown, PA 18902

Funding Support and Grant Advocacy

Sustainable Strategies DC
500 New Jersey Avenue, NW
Suite 600
Washington, DC 20001

Engineering Services

Civil & Environmental Consultants, Inc.
333 Baldwin Road
Pittsburgh, PA 15205

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LANDSCAPE ARCHITECTURE
PLANNING

STROMBERG / GARRIGAN & ASSOCIATES

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Executive Summary

Background

Butler Township is the second largest municipality in Butler County and is approximately twenty (20) miles north of the City of Pittsburgh. It comprises both urban and rural areas, with a 2010 population of 17,248. The Township's population is stable, and Butler County's entire population increased nearly 6% since 2000. Except for Moraine State Park, which is located approximately 11 miles west of the Township's parks and Alameda County Park, Butler Township has limited parks and recreation facilities. The approximately 200 hundred acres of land, including approximately 97 acres of the existing Butler Township Community Park (including what is referred to throughout this master plan report as Saw Mill Run Park) that are the focus of this study represent an excellent opportunity to enhance the park and recreation resources available to the Butler Township community.

Preston Park was previously the laboratory, nature retreat, and residence of Dr. Frank Preston and his wife, Jane. Frank William Preston was born in Leicester, England, on May 14, 1896. After receiving his B.S. and Ph.D. in Engineering at London University, and after traveling throughout Europe, Africa, and Australia, Dr. Preston settled in Butler, Pennsylvania. In 1926, he founded Preston Laboratories for glass research, became a troubleshooter for the largest glass companies, served as a consultant on notable projects such as the 200-inch telescope mirror, and later was a civilian observer at nuclear tests in the Pacific. He devised a completely new type of glass-melting furnace for Corning Glass that made Corelleware possible. The Preston Laboratories (now Preston Park) were relocated in the 1930s to the small community of Meridian, so named because it was originally thought to be exactly astride the 80th meridian. Dr. Preston was influential in local land conservation projects and he performed extensive studies of his own on the layout and design of the property, including for the buildings, roadways and landscape plantings. He was partially influenced by classic English Garden traditions, especially those of manor houses setting on a high point with a view of lakes and semi-naturalized landscapes, such as those of Lancelot "Capability" Brown (1716-

1783). Brown was a great 18th-century English artist and was the first designer of landscapes and architecture noted for promoting the idea of artfully integrating the manor house into the landscape, which before had fully dominated the estate. His idea was to create a carefully crafted composition of both visual prospect and a composed "naturalized" landscape intended to be seen through the eye of a painter.

Dr. Preston died in 1989 and Mrs. Preston donated the property to Butler Township in 2008. The Preston Park site was formally listed in the National Register of Historic Places in 2012.

Butler Township Community Park and Saw Mill Run Park are actually one park that is perceived as two distinct places as a result of the dramatic topography that divides them. As a result, they are referred to as two separate, yet conjoined parks in this master plan report. Butler Township Community Park is accessed from S. Duffy Road and is situated at the top of the valley created by Saw Mill Run (and as such is considered the Upper Park). Saw Mill Run Park is located in the valley and includes Saw Mill Run, which runs through it to the south (and is considered the Lower Park). These two parks consist of 96.4 acres and abut the approximately 88-acre Preston Park. Butler Township Community Park is the primary township-owned active recreation complex and includes an extremely popular dek hockey facility along with a community building, pavilions, and a small playground. Saw Mill Run Park is primarily a winter sled-riding recreation area with steeply sloped forests/woodlands and lawn areas.

The three park areas are located in the center of the Township and provide great potential as an area for outdoor recreation natural stewardship, historic interpretation, and cultural activities. Butler Township identified the need to determine a clear vision for each park, in the context of the community's needs and desires for additional recreational facilities, combined with the unique aspects of each of the sites.

Executive Summary

What is a Park Master Plan and Why is it Important?

The master plan explores the options for the development of the parks and considers existing and potential park users, site characteristics, regional and local context, municipal recreation and cultural needs, and opportunities, and the overall potential desires of the Butler Township Community. The process for developing the vision for each park, physical plans, and supporting policy recommendations emphasized citizen input to develop a path forward that targets existing and future community needs.

In accordance with the Butler Area Multi-Municipal Plan (The BAMB Plan), the type of facilities most requested are those with walking and biking trails, nature areas, picnic areas, and other passive recreational opportunities. All of the above are potentially available within the boundaries of both parks.

What an Effective Master Plan Achieves:

- Establishes a “vision” for each park for the next 20+ years;
- Determines the role each park plays within the community’s overall parks and recreation needs;
- Establishes a framework for how the vision can be achieved;
- Determines the major incremental actions needed to achieve the vision;
- Considers physical improvements and operational and management requirements;
- Identifies related cultural, historic, interpretative, public art, and community programming opportunities that can be integrated into the parks;
- Establishes a guidance and policy tool for decision-making as implementation occurs and to address future unforeseen conditions; and
- Enables the Township to be competitive for grant funding.

What are the Limitations of the Park Master Plans?

- **The recommendations in this master plan report are purely for guidance in decision-making; the plan is not the letter of the law.** The master plan includes a clear vision for what can be achieved in each park and for an entire system and the key next steps. Multiple parties are involved in making decisions, and many partnerships are needed; therefore the plan can serve as common reference for all parties, as step-by-step decisions are made.
- **The physical master plan drawings illustrate an “idealized” set of build-out/improvement scenarios.** The proposed physical layouts depicted on the plans were developed based on an ultimate long-term desired future. As each element of the master plan is designed in detail for implementation, much greater project-specific information will be gathered to inform the final realization. Each of these actions will further influence and likely change the master plan. The final configurations of the various project components will change as the level of design progresses. So why is this effort important? Developing an overall picture of what is possible allows the Township to fully understand the real physical constraints and opportunities in each of the parks and a direction for moving ahead without impeding the possibility of future desired project components. In essence, the master plan provides a roadmap for the questions to ask at each improvement step to ensure that when many improvements are made, everything works together to create a cohesive whole. In the end what should be achieved is a park that is greater than the sum of its individual parts.
- **Projects cannot be directly constructed from this master plan.** Plans of such magnitude will inevitably result in a series of recommendations that require further evaluation. In the vast majority of cases, the next steps require determining the details through a design and engineering process, all of which should be equally vetted through a community engagement process. These steps will determine how a project should be realized, its functional refinements, and the exact specifications needed to advance toward construction, not for further analysis as to whether a project should be pursued at all.

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What the Community Expressed Through the Public Engagement Efforts

Throughout the master planning process, extensive outreach was performed, ranging from larger public workshops to one-on-one interviews with key stakeholders. Many ideas were developed regarding the type of improvements that could be made, where they could be located, and how the park sites should be managed and maintained. There were a few key themes:



The community helped to direct the master planning process by providing input in various ways, including through public workshop activities.

Preston Park

- The natural and environmental characteristics of the site are extremely important and they should be conserved and enhanced.
- The history of the Preston family and their values for the place are unique and should be instilled into the site so future generations will be able to learn about them and how the site came to be preserved.
- Passive recreation opportunities in the form of trails and places to sit and experience the site make it a very desirable community “escape” spot. The park is currently heavily utilized for this purpose.
- The buildings are interesting, but most are considered by many to be a potential cost drain, especially since they are not really usable in their current condition.
- Maintenance costs are a widely identified concern and should be taken into account with any new recommendations.
- There is a strong desire by the community, of all age groups, to volunteer to maintain and improve the park.
- The vision for the park is crucial: A preliminary vision for this park as a nationally significant place is already established. The potential is significant to create a destination in Pennsylvania that will attract people far and wide, thereby contributing to a vibrant economy and rich quality of life in the region, especially in Butler Township. It should become the crown jewel of Butler Township.
- Cultural, educational, and other programs are of enormous interest to the community. Increasing programs would help to increase use of the park, build support for it and generate revenues to offset operating costs. Programs should include both organized scheduled programs and self-directed activities that people can undertake on their own.
- There is an opportunity to create a venue for social events to broaden the park’s user base and to create additional revenue sources to support the upkeep of the facilities.

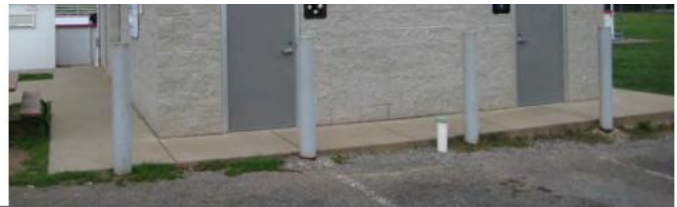
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Butler Township Community Park/ Saw Mill Run Park

- The dek hockey facility is extremely popular, but it is not regulation-sized.
- The community building is nice and was recently renovated. It could be expanded.
- The Butler Township Community Park looks fairly utilitarian and has a lot of facilities “crammed” in since it comprises the majority of the viable flat land located within the two parks.
- Parking is a problem when large or multiple events occur at the site.
- Topography is a challenge. There is currently no easily accessible route between Butler Township Community Park and Sawmill Run Park (hence the Upper and Lower Park analogy).
- Trail connections between Butler Township Community Park, Sawmill Run Park and Preston Park could be improved and made more prominent.
- Uses that could add more activities to Sawmill Run Park would be desirable if they can be made to work with the unique topographic challenges of the site.
- These parks are important in serving the active recreation needs of the community, but can get forgotten in the context of Preston Park.





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Overall Conclusions that Informed the Park Master Plans

- The visions for the parks can be bold since there are vast opportunities to create heightened experiences at each of the sites.
- Preston Park is a truly unique regional resource that is located in the community's backyard.
- Butler Township Community Park is highly utilized and is desperately needed as an active facility and should be maximized to its full recreational potential.
- Saw Mill Run Park is a large expanse of parkland that has very limited utilization in its current configuration. If improved access can be achieved, even limited improvements such as pavilions and trails will greatly expand its utilization.
- The capacity and commitment to maintain and manage these parks long-term will inform the basis for what level of improvements can be achieved.
- Some very basic improvements, such as increased ADA accessibility, potable water supply, restroom facilities, and improved parking are needed to make Preston Park truly functional at a basic level.
- The master plan for Preston Park should be flexible as an overall framework. Since small but important decisions are being made on a regular basis, based on unforeseen conditions and/or opportunities, the master plan for this park should be more like a menu of options to consider as resources come available, rather than an absolute fixed plan.
- "Branding" Preston Park is especially important for its promotion as a special destination; all parks should be promoted as part of the same branded Township-wide Parks and Recreation System.
- Professional staffing "in charge" of managing the parks, projects, programs and the system are vital to future success.

The Overall Approach: This master planning effort represents an opportunity to study three parks to form the basis of creating one Butler Township Parks and Recreation System. Creating a concentration of 200 acres of well planned, designed and interconnected park, recreation facilities and conservation areas represents a major opportunity to establish a true park system for the Township. This is different from only looking at each park as a facility unto itself without any consideration of how it may fit into a bigger context. Based on the Township's current population, using the most conservative recommended standard of 10 acres of **active** parkland per 1,000 residents, Butler Township should have 170 acres of active recreational parkland, supplemented with passive recreation opportunities. Approximately 5% - 8% of the approximately 200 acres of parkland being studied under this project would be classified as active recreation, therefore the need to create active facilities for the Butler Community will be important as the population continues to grow, even after the parks are fully realized. per their respective master plans.

Preston Park Vision Statement:

Preston Park is a historic, public, recreational, environmental, and educational center with the mission to promote healthy living and an understanding of the relationships between plants, ecology, science, people and places through land stewardship, conservation, arts and technology.

Butler Township Community Park/Saw Mill Run Park Vision Statement:

Butler Township Community Park and Sawmill Run Park provide diverse

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The Concepts Developed for the Three Parks Propose a Three-tiered Approach to Achieving the Visions

Tier 1 (Continuation of Initial Upgrades) – Provide a Safe, Clean and Ready to Use Experience in All of the Parks – This level of improvements is focused on targeted upgrades to support trails, nature enjoyment, minimal utilization of the existing buildings at Preston Park with some interpretation of the site and overall landscape management. The parks would be managed by Township professional staff relying heavily on guided volunteerism.

Tier 2 – Establish Preston Park as a Local Cultural, Educational and Natural Heritage Park with Program Linkages at Butler Township Community Park and Saw Mill Run Park - Preston Park especially, would be improved with expanded indoor and outdoor facilities, services and amenities that convey the importance of the site through professional interpretation materials, programs, and management supported with strong support of volunteers.

Tier 3 – Expand Preston Park as Regional Cultural and Natural Heritage Park & Educational/Events Center and Tie Into the Amphitheater Venue at Saw Mill Run Park - Construct and expand facilities and landscape management to create a venue for broader local and regional activities/events and tied to greater revenue-generation potential on-site. Preston Park would include new facilities developed and used for educational seminars and

Primary Elements of the Preston Park Master Plan

- The site is organized into three primary zones: the Campus (the complex of buildings), the Arboretum (the gardens and cultural landscapes around the Campus) and the Preserve (the naturalized areas in the surrounding landscape).
- A gateway entry experience is created befitting the quality of the Park with a formal tree-lined entry drive (or allée).
- Clearly defining yet subtly placing parking in a manner that directs people into the site to create a strong sense of arrival. Parking is spread out and placed in a linear pattern to allow for lush plantings around the parking and to minimize the visual impact. The design provides 80 spaces of permanent parking and parking for approximately 80 additional vehicles in an overflow parking area.
- Strategically removing of invasive and aged plant material and the restoration or enhancement of plantings.
- Maintaining the large pond (Loch Carrie) by rehabilitating the dam and spillway.
- Creating a circulation and trail network that classifies the types of trails by the intensity of use.
- Strategically placing signing and new landscape elements including permanent and temporal art installations that interpret the history and environmental aspects of the place.
- Re-purposing most of the existing structures for park and educational programming, especially the former Machine Shop (metal Mill Building) as an indoor/outdoor classroom facility with support restrooms and service facilities.
- Razing the main laboratory building and the creation of signature multi-purpose space/event facility designed and constructed utilizing green building technologies.

and used for: educational seminars and programs; weddings; conferences; retreats; business and community events. Strong regional partnerships with businesses; concessionaires; and vendors would be established to support implementation, operation and management.

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Primary Elements of the Butler Township Community Park/Saw Mill Run Park Master Plan

- Improving Butler Township Community Park to create a more “park-like” setting with improved landscaping in the core of the park.
- Adding a second regulation sized dek hockey rink.
- Reconfiguring and expanding parking along the perimeter of the site.
- Taking advantage of the sloping topography down to Saw Mill Run Park by creating a unique landform playground at the top of the slope, next to the Community Building.
- Adding additional pavilions in a manner that creates a mini-quadrangle with a central lawn space.
- Creating a new parking area and public access roadway to Saw Mill Run Park from Saw Mill Road through the Township’s maintenance facility. This will require additional fencing and buffering to allow the two uses to coexist.
- Constructing four new pavilions along Saw Mill Run.
- Constructing an amphitheater along the slope from the landform playground to Saw Mill Run. This includes creating a long, arching staircase/walkway that could be a central sculptural landform feature to serve the amphitheater, act as an improved connection between the upper and lower parks, and become a cool place to hang out and enjoy the view of the natural landscape to the west.
- Improving paths and trail connections to Preston Park.
- Creating of disc golf course on the various slopes of the former ski slopes.
- Modifying the landscape management program to reduce the amount of mowed turf through the creation of meadows.

High-Priority, Next-Step Recommendations – Next 3-5 Years

- 1. Establish a formal Butler Township Parks and Recreation Advisory Board with board member requirements, expertise/qualification descriptions, roles & duties and term limits** - This board would assist in overseeing the Township’s overall parks and recreation system, with a liaison board member to serve on this board and the Preston Park Advisory Committee.
- 2. Hire a Parks and Recreation Department Director** – In order to plan, design, execute and manage the proposed improvements identified in this master plan, as well as develop and deploy the type of parks and recreation programming desired by the community, dedicated, full-time staff are needed.
- 3. Develop a comprehensive landscape management manual for the parks, especially Preston Park** – This master plan provides an overall landscape framework for the parks and makes specific recommendations for next-steps landscape management activities, such as the “Hit List” of invasive plants that should be aggressively eradicated from the parks. Fundamentally, the Township should be focused on removing all of the invasive plant material and other vegetation that is dying due to age or disease before other considerations are made regarding new projects or facilities. Part of this equation includes making sure that desirable plants are planted to replace the voids are created by the removed plants, otherwise additional disturbance will just create new opportunities for invasive plants to re-establish themselves. A much more detailed ecologic assessment, following both scientific/ecology protocols and landscape architectural considerations, should be performed. This effort would establish specific management tasks for each landscape zone, habitat and garden treatment and include designated plant lists of desired species within each zone along with performance measures to determine the relative health and success of each landscape zone.



Significant stands of dead or dying trees will require removal and management to ensure that invasive species do not take their place.



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- 4. Undertake a community education process focused on the vision statements for all parks** - A critical next step for building further support for the recommendations in this master plan should include a formal educational program that provides information about the parks, their history, the visions and the strategic campaigns for capital improvements. This includes continuing to build upon the strong volunteer involvement. It could also include a formal capital campaign to approach regional foundations, corporations and other potential financial supporters for capital-intensive improvements.
- 5. Develop an annual parks and recreation Capital Improvement Program (CIP)** - A long-term capital program for all of the parks should be developed that projects at least 5 years into the future. This will greatly aid in annual budgeting, garnering matching funds for grants and potential bonding and other sources of project funding.
- 6. Implement circulation and parking improvements in Preston Park** - One of the most negative aspects of the site from a visitor's perspective is the arrival experience and the existing parking lot configuration. Currently the parking is poorly defined and the entry area from the parking into the site is a poorly constructed chain-link fence that has a very utilitarian aesthetic. A carefully designed entry drive and parking area will create a strong sense of arrival from the point of entry from S. Eberhart Road. Furthermore, the entry to the park, once people leave their cars, is even more important, so the master plan relocates parking in a manner that most people will enter the site through the Oval Arboretum, along one of the original important site axes identified by Dr. Preston.
- 7. Establish a funding plan and strategy for pursuing the best sources of federal, state, philanthropic and private sector resources** – Building off the Resources Strategy in Section 3 of this report, but tailored to the specific projects and initiatives that emerge as priorities in the Township's Capital Improvement Plan, Butler Township should
- 8. Implement dek hockey, parking lot and landscape upgrades to Saw Mill Run Park** - The dek hockey facility is heavily utilized and the desire for a regulation-sized facility is very strong. The addition of second dek hockey rink along with re-aligning and increasing parking facilities to the perimeter of the site will reduce vehicular circulation from the core of the park, creating an entirely pedestrian park setting in the center. Due to the limit availability of flat land within the park, the active areas are intensely programmed with facilities, creating a fairly utilitarian aesthetic. Lusher plantings and attention to landscaping will aid in making the park more desirable for passive and active recreation.
- 9. Undertake needed maintenance on the dam and surrounding areas** - The master plan effort included a comprehensive engineering assessment of the dam and the pond. The assessment report identified several improvements to be performed to ensure their safety and long-term preservation. The pond is a critical landscape feature that should be preserved for the benefit of the site and habitat diversity.
- 10. Develop a comprehensive branding, interpretative and wayfinding signing system design standards manual to serve all parks in the Township system** – One of the simplest improvements that can be made it is to create a high-quality, well branded comprehensive image and signing system for all of the parks. A branding and signing system should be developed which creates logos and color palettes for items ranging from printed park guides and maps to web-based promotion. The same branding palette should be extended to include all types of signing from destination signing to trail, interpretation and regulation signing.
- 11. Develop the Machine Building into an indoor/outdoor classroom education facility with restrooms** - There is a great need for a classroom facility that includes basic support facilities, such as restrooms and ultimately a generous indoor multi-use classroom space with a great deal of flexibility of use, especially one that allows

establish a comprehensive strategy for identifying potential funding sources, shaping projects to be competitive for these sources, securing matching funds and leveraged resources, coordinating with funding agencies, and drafting and submitting effective grant applications. Further, the Township should pursue the best handful of potential grant sources now as recommended in Part 3 of this report, in order to make progress on park improvements, maintain momentum, and attract additional leverage.

seamless flow from indoor to outdoor learning space. After evaluating the existing structures, the Machine Shop Building was determined to be the most suitable for reuse as such a facility. This would allow for re-purposing of one of the existing Preston Laboratory buildings in a manner that is very consistent with its original use, as a space for creative inquiry and the pursuit of knowledge. A dedicated architectural reuse assessment that determines floor plan options, required restoration and deferred maintenance improvements, and detailed costs, should be performed to determine the building's full utilization potential.

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- 12. Document, maintain, moth-ball and/or raze the remaining buildings in Preston Park per the master plan's recommendations** – All of the Preston's historical items should be inventoried and accessioned per museum standards to ensure their protection and preservation. Existing structures identified for future use should be maintained to a minimum standard to ensure their future reuse potential. Structures identified for razing should be fully documented and removed.

Public Process and Background

Planning Process

The master plans for each of the parks are rooted in a strong public participation process. The ideas and concerns of the community formed the foundation of the planning considerations. Blending ideas from the experiences of the community regarding the existing sites with ideas for the future helped to create a vision for the physical design, programming and operation of each of the parks included in this master planning effort.

The master planning process included extensive and broad public participation activities to ensure that a large and diverse group of individuals had the opportunity to shape the future designs of each of the parks. The public participation process ranged from one-on-one interviews to large, facilitated public meetings and hands-on activities.

Field Reconnaissance

The planning team conducted extensive on-site field inventory and assessment activities to fully quantify the existing attributes of the sites. Due to the physical size of the parks, there was limited topographic survey information available. Digital base mapping data was extensively amended based on site observations to support the master planning effort. The consultant team also participated in formal public site tours of Preston Park held on a Saturday in November 2012. Interior and exterior visual inspections were performed of all of the buildings with the exception of the former Carnegie Building.

Study Committee

The Study Committee met six times over the course of the project. The consulting team also had work sessions with various committee members throughout the planning process. The members served as advisors to the project, provided direction and guidance for planning the parks, critiqued the design renditions, and offered input to the future financing, management and operation of the facilities. The Study Committee provided sage advice on everything from historical accounts of the parks and their uses to the reality of the economic conditions and attitudes in Butler Township toward phasing-in park improvements over time. Meeting minutes from the Study Committee meetings are provided in Appendix E.

Key Person Interviews

Key person interviews helped to identify important ideas, issues and concerns related to the physical design and operation of the parks. The consulting team identified topics and led in-depth discussions. Interviews were conducted via telephone and in-person. The questions dealt with issues such as community recreational needs, preservation and management issues (especially in relation to Preston Park), coordination of programs and services, partnerships, and operational challenges. As part of the interviewing process, the consulting team visited recreational sites in the region to see firsthand available parks, open spaces, and play area facilities.

The Master Plan Study Committee consisted of member representatives of:

- Township elected officials and staff;
- Partnering agencies including the County;
- Preston Park Advisory Board members; and
- Interested community business, organization and resident representatives.

Public Process and Background

Key person interviews performed for the park master planning effort included the following groups and or individuals:

- Vice President of Continuing Education and Off-Campus Sites Butler County Community College
- Director of Parks and Recreation Butler County
- Butler Township Manager
- Project Engineer from the Butler Area Sewer Authority
- Butler County Convention & Visitors Bureau Executive Director
- Several members of the Preston Park Advisory Board
- Resident teacher and person performing programming activities in Preston Park
- Monday Morning Maintenance Member of Preston Park
- Multiple Preston Park visitors
- Butler Dek Hockey Manager
- Butler Township Parks & Recreation Intern
- Staff from the Western Pennsylvania Conservancy

Key Points Identified through Interviews

- Great support and community pride for Preston Park.
- Partnerships can be expanded.
- Preston Park has important regional tourism potential.
- Different feelings about the Preston Park buildings are out there, but the common element is that people are concerned about the cost to maintain them over time.
- Telling the Preston story is important.
- Promoting the parks, especially Preston Park, is crucially important.
- There is a need for indoor recreation and public meeting space.
- Programs are successful in Preston Park. Each program to date had increasing participation. However, the park is not set up for programming. No first aid. No potable

Public Participation Findings

The major finding of the public participation process is that there is overwhelming support for and interest in improving all of the parks, especially Preston Park.

Additional findings included the following:

- The park must be open to the public, safe, clean, and attractive.
- Park development will be phased in over time and not happen all at one time.
- Recreational sports are not a priority for the site, as these facilities exist elsewhere in the community.
- People recognize the potential of parks and recreation for economic development.

The first public meeting was held in November 2012. This meeting focused on “visioning” design concepts and programming; approximately 60 participants attended. The site analysis was formally presented along with findings from key person interviews performed to-date. A discussion was held with the participants regarding the goals and objectives of the project along with potential vision statements for the parks. A visual preference survey depicting examples of various park elements (some contrasting, others based on variation of a single theme) was provided for each participant to evaluate and rank.

Visual Preference Survey

- Completed by 54 participants
- Highest ranked photo (Photo #55 = 2.53) was of a person with day pack on a nature hike

water.

- There is a danger of Saw Mill Run Park being the “forgotten” park.
 - Back of Saw Mill Run park is very inaccessible.
 - Winter sports interest is keen.
 - Deck hockey is very popular, but the rink is undersized.
 - The playground in Butler Township Community Park is important for people renting the building.
 - Volunteers are dedicated but unsure of what to do.
 - Concern exists regarding paying for the development and maintenance of the park.
 - The Township is not set up organizationally for parks and recreation. Based on the amount of park and recreation facilities that exist, it needs a professional parks and recreation department.
- Lowest ranked photo (Photo #41 = -0.84) was of a shipping container/magazine stand
 - Generally, photos with natural elements or educational motifs scored the highest as did un-programmed recreational opportunities (cross country skiing, hiking, etc.).

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Public Process and Background

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Written Questions

- Four questions were posted on yellow comments boards. The community was asked to write their answers to the questions on the boards below each question (The questions and the answers to those questions can be found on the following page).
- In general, people are already enjoying the natural amenities of the site and only requested subtle additions so that these amenities may be better enjoyed without being compromised. These include additional bike trails, restroom facilities, wifi and educational tours.
- The greatest concern expressed was that anything too drastic would occur. “Keep it natural!” was a dominant theme. There is also a well-voiced concern over the ongoing funding of the site, in particular with regard to the buildings.

Key Elements of the Sites

- Based on the surveys conducted during the public meeting held in November 2012, the participants overwhelming identified two key themes for the parks and any proposed improvements: “Nature” and “Trails,” respectively. These themes were defined by asking participants to place “dots” or “stickers of importance” next to words or phrases written on boards at the end of the public meeting. Table 1 summarizes the results. The verbal discussion after the activity confirmed that “Make it better but don’t screw it up” better summarized the overall feelings versus the desire to rank specific improvements or issues (hence why it received “zero” votes).

Table 1 Public Meeting Survey Summary

WORD/PHRASE	VOTES	WORD/PHRASE	VOTES
Lots of programs, activities and events.	(1)	Make it better but don't screw it up.	(0)
Use the buildings	(2)	Trails	(8)
Recreation.	(1)	Nature	(12)
Cost	(1)	Historic Interpretation	(2)
Security	(1)	Preserve the Preston Vision	(4)

Public Process and Background

Questions and Results from the "Written Questions" Exercise

QUESTION 1: If you could add one new use, activity or facility to the parks, what would it be and why do you think it is needed?

- Mrs. Preston's Lily pond behind the house. Mr. Preston started it for her but never finished it and now it is in need of much repair.
- A trail for biking
- Biking (numerous responses)
- Educational tours – children + adults
- Education
- Disc golf, fun, outdoors, great use of space. Low cost
- Pond utilized in winter for skating
- Summer concerts
- Educational classes encouraging the historical studies of the site
- A Bocce court
- Need bathrooms
- Family Bike trails for recreation 1-5 miles circular family picnic sites
- A bike/foot pass through that follows the trolley line + connects Meridian+Highfield – potential for twp. race and connect the trolley line to other trails on the other side of Butler
- I would add an outdoor educational component to Preston Park to provide opportunities for continued outdoor/environmental education in the form of an amphitheater or large-seating area.
- Renovate home as historical museum, since Dr. Preston left a large imprint internationally through his

QUESTION 2: What is your greatest concern regarding the future of the parks?

- Keep it the way Mr. + Mrs. Preston wanted it to be
- Keeping it natural
- Don't disturb the natural beauty
- Preservation of existing facilities, trails, and habitat
- Support of volunteers to maintain park
- Is there really enough money to support them? A mention was made of state & federal grants. Both are broke!
- Preservation of natural habitat - historical key buildings (lab-house-library)
- Preserve the forested sections and trail system
- Keeping them natural
- Expense and maintenance cost should be minimized as much as possible to keep public costs (taxes) low
- Drastic alterations + elimination of buildings – Too many "shelters" built
- The cost involved in maintaining the buildings that are not in use and have little potential future use
- Security of the buildings or outdoor areas as well as personal security

QUESTION 3: What do you like most about the parks today?

- All the great walking trails
- Trails – natural setting, historical
- Quiet + very serene for hiking
- Natural setting
- The historical and cultural conservation aspect

- environmental and scientific contributions
- Outdoor festival program year-round (in office bldg.)
- Programs: Ecology, ornithology, etc.

- The trails and the large wooded areas
- Walking the trails
- Wonderful balance of natural + man-made
- Historic nature + preservation and educational possibilities to teach natural conservation preservation
- Outdoor walking areas lend to variety of visits at Preston Park. I never tire of walking the areas, enjoying them, and learning new things.
- I like the natural element of Preston and the activities elements of Saw Mill Run Park (Butler Township Community Park). Both parks are very accessible to many people and have a lot to offer.

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QUESTION 4: Preston Park has a number of buildings. Do you think there is a need for seasonal or year-round indoor space for civic, recreational or educational use and do you think these buildings could be reused to serve these purposes?

- Very much – right now very limited + old
- Yes! Need updated + more buildings added
- Yes – Historical + educational/recreational uses
- Destroy all
- Yes – Could local clubs use these buildings for regular meeting and activities
- Yes – Civic organizations – environmental – adventure (outdoor) groups/youth clubs, update for dance hall – museum – hostel – bed and breakfast – Twp. Offices – meeting rooms – food/vendor/seasonal reservations nature center – school fieldtrips
- Some of them should be used for a draw of the community year round
- Yes, they could be very useful for educational programs (BC3 classes?)
- Yes, the park could be a unifier for the community.
- Yes! The repurposing of the structures helps to distinguish it from other parks + provide for unique programs + events – arts – festivals – education – spiritual gatherings
- Yes – If they don't conflict with other community availabilities
- Yes, there are a variety of purposes
- I think that offering year-round programs at Preston Park would be well received and accepted by the community. One building should be considered for this. It could be offered to other community groups looking for an event

Online Survey

An online survey was posted to gauge community perceptions of the existing parks. The following is a summary of the responses:

1. Preferred experiences in parks:
 - Walking (93%)
 - Enjoying nature (86%)
2. About 70 percent of the respondents indicated that they visit the parks with slightly more visitation in Butler Township Community Park.
3. While about three out of five respondents are satisfied with the parks, maintenance and appeal outrank all other aspects of concern. Only 10 percent are satisfied with programs and 25 percent are satisfied with the types of facilities that exist today.
4. Preferred Improvements to Butler Township Community Park
 - Restrooms should be open more often.
 - Expand community building.
 - Advertise it and tell people that it is there.
5. Preferred improvements to Preston Park
 - Restrooms and drinking water fountains
 - Leave it natural
 - Better trails

offered to other community groups looking for an event location in a natural setting.



The Visual Preference Survey allows the community the opportunity to express general design aesthetic and program expectations using visual examples as a comparison.

6. Of all of the respondents, 82 percent said that it is important or very important to improve Butler Township Community Park, Saw Mill Run Park and Preston Parks

A second public meeting was held in June 2013 and focused on presenting the design process along with the

Public Process and Background

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preferred alternative of the various schematic alternatives developed for each of the park designs and layouts. An informal public open house was held from 5:00 to 7:00 PM with a series of 16 presentation boards set-up in the lobby of the Township Building. In addition to the Open House, a formal public presentation describing the major aspects of the draft master plan recommendations was held from 7:00 PM to 8:00 PM at the same location. This meeting was an interactive forum for the community and included presenting: the proposed long-term visions for each park; visual renderings of plans and graphics depicting the proposed physical improvements; and potential management and operational proposals needed to oversee the implementation of the master plans as well as supporting maintenance and program requirements.

The community was provided with a score-card to evaluate the draft master plans, based on specific topic areas. The results of the score-card are provided in Appendix E.

Overall the verbal public comments and the score -card comments were very supportive of the project. Key public comments expressed at this meeting included:

- The public overall felt the master plans were somewhat to completely “on target.”
- There is strong support for creating a Parks and Recreation System in the Township.
- There are still differing opinions about maintaining versus

razing any of the buildings within Preston Park.

- There are concerns over the cost of maintaining buildings that may never be used, especially annual heating costs.
- There is support for improvements, especially Tier 1 and Tier 2 level recommendations.
- The capital and long-term costs of each project should be carefully assessed as each project advances to ensure that facilities can be maintained properly, over time.
- Parking improvements in all of the parks are strongly supported.
- The creation of restroom facilities in Preston Park are strongly supported.
- Security and safety are concerns.

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Demographic Overview

- The data from both the 2000 and 2010 U.S. Census was used to produce the following demographic information for this plan.
- Butler Township's population of 17,248 has remained very stable over the last decade with .36% growth.
- Approximately a fifth of the population is under the age of 18. This percentage of the overall Township population had dropped since 2000, when those under 18 comprised more than a quarter of the Township's population.
- Butler County especially has seen growth over the decade, mostly from suburban expansion in the southern and middle areas of the County from expansion around the Pittsburgh metropolitan growth ring.
- Butler Township has experienced significant increases in household and family incomes with increases of 30% and 29% occurring respectively since 2000.
- Per capita income in the Township increased nearly 36% in the period between 2000 and 2012.

Table 2 Population - Municipal, County and State 2000 - 2010

Municipality	2000	2010	Change (%)
<i>Butler Township</i>	17,185	17,248	0.36%
<i>Butler County</i>	174,083	183,862	5.50%
<i>Pennsylvania</i>	12,281,054	12,702,379	3.40%

Table 3 Population Age Distribution 2000 - 2010

Age Group	2000	2010	Change (%)
Butler Twp (<18)	27.60%	21.30%	-6.30%
Butler Twp (18-65)	58.20%	58.10%	-0.10%
Butler Twp. (>65)	14.20%	20.60%	6.40%

Table 4 Population Income 2000 - 2010

Butler Township	2000	2010	Change (%)
Median Income per Household	\$41,274	\$53,662	30%
Median Income per Family	\$51,824	\$66,895	29%
Per Capita Income	\$21,218	\$28,845	35.94%

Site Analysis

Site Description

Preston Park and Butler Township Community Park/Saw Mill Run Park are located near the center of Butler Township. Preston Park is accessed via S. Eberhart Road and Butler Township Community Park/Saw Mill Run Park are accessed via S. Duffy Road. All of these parks abut each other in the valley of Saw Mill Run, and the sites consists of several parcels totaling 184.4 acres.

Surrounding Land Use

Preston Park is almost entirely surrounded by single-family housing. The north, south, and a large portion of the eastern boundary of the park abut rear portions of residential parcels. To the west, the park is fronted by S. Eberhart Road. The park abuts Saw Mill Run Park along portions of its southwest boundary. There is a long, narrow strip of land approximately 200 feet wide that parallels the southern boundary of the park, between the park and the rear of adjacent residential properties. This property is owned by the Carnegie Museum and is undeveloped.

Butler Township Community Park/Saw Mill Run Park is surrounded by single-family housing to the west and



Saw Mill Run Park is adjacent to the Township's maintenance yard.

Existing Site Features

Preston Park

With Preston Park's unique legacy as a former research laboratory facility and private home and preserve it has an unusual mix of existing features (See Appendix G for the Existing Site Features and Existing Site Features Aerial Maps). There is a campus of buildings that includes six primary buildings plus a few ancillary structures dating

north, S. Dutty Road and the Highfield Sports Complex (non-public) to the east, and the Township's maintenance yard to the south. A portion of the southern boundary of Butler Township Community Park is adjacent to the Acme Gas Company property.



Residential backyards transition directly into Preston Park along its northern boundary.

to the Preston Laboratory time period. There are two modern buildings; one large metal storage building that was original constructed by the Carnegie Museum and a concrete block garage building that is utilized as a Township maintenance facility.



The Preston Instrument Building in the foreground with the former Carnegie Museum storage building in the rear.

Site Analysis

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Modern maintenance garage in Preston Park.



Butler Township Community Park - Existing dek hockey rink and restroom.

Preston Park includes the following facilities:

- Machine Shop
- Instrument Building
- Preston Main Laboratory Building
- Hacienda
- Frame Garage
- Modern Garage
- Well House
- Pump House (2)
- Perkins Bridge
- Iron Gate
- Geography Lesson



Butler Township Community Park - Community Building

- Harmony Interurban Trestle
- Far Meadow Bridge
- Dog walk
- The Oval Arboretum (Conifer Garden)
- Parking lot
- Lily Pond
- McCormick's Pond
- Large Pond (Loch Carrie)
- Trail network
- Extensive naturalized and garden plantings

Butler Township Community Park/Saw Mill Run Park

Butler Township Community Park is primarily an active recreation park with the following facilities:

- Community Building
- Dek hockey rink (non-regulation sized)
- Restroom and concession building
- Half court basketball
- Small playground
- Horseshoe pits

Butler Township Community Park - Community building.



Butler Township Community Park - The core of the park has a worn and utilitarian look, partly a result of its intense use.

Saw Mill Run Park is a former ski area that is used for winter sledding. It has no significant facilities. There are a few structures from the former ski operation that are no longer utilized.

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Former ski slopes for sledding and un-utilized buildings.

Topography

The parks are within the boundary of the Appalachian Plateaus Province, the largest physiographic province in Pennsylvania. A physiographic province is a region that contains similar terrain and has been shaped by geologic history. Characterized by elevation, relief, and geologic structure, each physiographic province can be subdivided into sections based on the distribution patterns of historic rock formations, deformation, erosion, specific landforms or other geologic features (Radford University, 2005).

Characterized as a highland eroded by streams to create

that they limit the ability to add additional structural features if deemed desirable.

Butler Township Community Park (upper park) is mostly a flat plateau located above the steep valley slopes of Saw Mill Run Park, whereas Saw Mill Run Park (lower park) includes steep slopes on each side of the stream valley along with the bottom lands. This site was once used as a ski slope area, attesting to its dramatic topography. The park also gently slopes from north to south, following the flow path of Saw Mill Run. Butler Township Community Park's flat topography makes it very desirable for active

Characterized as a highland crossed by streams to create deep valleys and hilly topography, the Appalachian Plateaus Province is further divided into 10 sections. Saw Mill Run and Connoquenessing Creek are located in the Pittsburgh Low Plateau section. The smooth to irregular undulating surface, the narrow and relatively shallow valleys, strip mines, and reclaimed lands of shale, sandstone, siltstone, limestone, and coal are evident in this region. Streams follow a dendritic, or branching, drainage pattern. The elevation ranges from 660 to 2,340 feet above sea level.

These parks are all located along a valley created by Saw Mill Run (See Appendix G for Site Elevations, Slopes and USGS Quadrangle Maps). Preston Park has the highest point within the parks, which occurs approximately at the existing flag pole in the middle of the roundabout in the access drive. The majority of Preston Park consists of gently to moderately sloping topography, with the exception of the easternmost portion, along Saw Mill Run, which has steep slopes, some exceeding 25%. In most cases, the sloping landscape within Preston Park enhances the aesthetic values of the site, by creating interesting vistas and micro-climates, yet none so severe

that topography makes it very desirable for active and passive recreational facilities, and as a result has been significantly built-out with facilities. Saw Mill Run Park's utilization, in contrast, has been very limited by its major topographic character. Opportunities exist to capitalize on the topography for a select type of uses, if carefully designed.



The rolling topography of Preston Park is more apparent in the winter.

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Site Aspect – Directional Orientation

The facing direction of slopes within the landscape can be important because they influence the habitats that occur naturally, along with the specific plant species that will thrive. When combined with the steepness of the slopes, directional aspect can create micro-climates within the parks that can also further influence habitat. Finally, the orientation of slopes can impact the location of new facilities to ensure that the most desirable sun angles are achieved, and, in the case of buildings, the most desirable solar orientation for heat gain and loss are captured. Most of the slopes within Preston Park are north or east facing (See Appendix G for Site Aspect – Directional Orientation Map). This means that plants that like cooler soil conditions, especially in the steeper valleys, will likely thrive better than plants that desire warmer soils and greater sun exposure, as would occur on south or west facing slopes. Ultimately, though, this is also a function of other factors, such as the maturity of the tree canopy cover and soil moisture levels. North facing orientations may also be desirable for meeting facilities

related to the understory, where the west facing slopes are drier and experience a denser, more meadow-like herbaceous plant material edge condition due to the drier soils, versus the east facing slopes, which in general have a cooler soil condition and slightly different understory plant composition. There are more invasive plants growing on the west facing slopes, because these plants typically tolerate the higher stress conditions than many native plant species, therefore taking a dominant role in the habitat.



with large expanses of glass, since they allow for ample indirect natural light without creating direct sunlight glare into interior spaces and resulting temperature swings in the interior that can result from sun-radiant heating.



The steep slopes of Saw Mill Run Park.

Butler Township Community Park is relatively flat and has limited directional orientation as a result of topography. Saw Mill Run Park on the other hand has dramatic east and west orientation of its slopes. This results in slightly different forest cover in the wooded areas, especially



North facing slopes tend to support different habitats for other orientations, especially at the herbaceous level.

Site Geology and Soils

Geology is an important component of these parks, because it influences the soils, plants, animals, groundwater, and topography in a region. Geology also plays a role in determining quality and quantity of groundwater and surface water available within a region. The underlying site geology consists of one major geologic unit, the Glenshaw Formation. This formation, part of the Conemaugh group, dates to the Pennsylvanian era and consists of two primary different rock types, shale and sandstone, with smaller seams of limestone and coal. The formation is dominated by the moderately strong shale and sandstone components, though the limestone and coal seams are interspersed throughout the lithography of the bedrock. There is some dissolution in the limestone seams, but karst formations (which typically are subject to sinkholes) are not particularly prevalent in this formation.

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The park sites contain several different soil groups with some varying properties, but the majority of the soils on site are silty or loamy soils (See Appendix G for Soils Map). Since many of the soils are predominantly fine grained and/or have shallow restrictive layers, a majority of the soil units covering the site have slow infiltration rates and high runoff potential. Soils in Group D have the highest runoff potential; with soils in group A allowing high amounts of infiltration and minimal runoff.

A majority of the soil units on site are classified as low-plasticity silt soils (ML) with some slight variations being more clayey soils in the Cavode, Ernest, and Wharton units and more sandy soils (SM) in the Andover unit. These silt soils have low infiltration rates, causing water to pool at the surface and/or generate significant runoff during major storm events. The general homogeneity of the soils classifications means one can probably expect fairly similar behavior from most of the soils within the Preston and Butler Township Community Park/Saw Mill Run Park sites. The one major departure from the rest of

Based on the information available, keeping this land undeveloped will significantly aid the quality of this watershed and the aquifer. While building on any specific soil on this site is not overtly problematic, when considering the site as a whole, any construction that is considered is best located in the higher elevation areas, which is also complementary to the deed restrictions for the conservations areas, which limits lowland development within Preston Park. The steep slopes throughout the park mean there is some potential for runoff, and developing any impervious surfaces, particularly and intensely at lower elevations where the water eventually collects, will prevent the runoff from being adequately filtered before it enters into streams or groundwater supplies. Much of the soil underlying the sites already has relatively low infiltration rates, and lower elevations are already likely taking on a fair amount of water so any construction that does happen at higher elevations would best be limited so as not to increase additional runoff rates too greatly and potentially cause erosion conditions within Saw Mill Run.

the soils is the Hazleton unit, which is a much more rocky soil and is classified primarily as a gravel soil with some silt and clay mixed in. This more gravelly soil allows water to flow through it much more freely and is less susceptible to erosion, making it much less conducive to runoff.

Soil Unit	Description	USCS Classification	Symbols	Hydrologic Soil Group	% of Site*	Depth to Restrictive layer (cm)
Andover	Loam	SM, ML	AnA, AnB, AoB, AoC	D	15.2	53
Arents			Ar	-	3.0	>200
Atkins	Silt Loam	ML	At	B/D	7.3	202
Brinkerton	Silt Loam	ML	BrB	C/D	2.3	53
Buchanan	Loam	ML	BuB, BuC	C	15.6	74
Cavode	Silt Loam	CL-ML	ClB, ClC	C/D	13.0	145
Cookport	Loam	ML	CoB, CoC	C/D	4.4	61
Ernest	Silt Loam	CL-ML	ErC	C/D	0.9	61
Hazleton	Channery Loam	GM, GC	HaB, HaC, HaE, HgD, HgF	A, B, C	30.4	137
Tilsit	Silt Loam	CL	TaA	C	2.9	63
Wharton	Silt Loam	ML, CL	WaA, WaB, WaC	C, C/D	3.6	175
Water	-		W		1.6	

*Site coverage percentages are approximate

Note: Soil data from the Natural Resources Conservation Service

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Hydrology

Saw Mill Run is the primary surface water resource that travels from the northwest to the southeast through Preston Park and Saw Mill Run Park (see Appendix G Hydrology Map). Dr. Preston constructed a dam, which formed a large, approximately 3.5 acre pond, in the early 1940s. The depth of the pond ranges from approximately 6.2 feet to less than one foot along the perimeter. For the majority of Saw Mill Run through Preston Park, the stream is a small, open water body with well-stabilized slopes and little signs of significant erosion.

Saw Mill Run exits Preston Park at its eastern boundary and travels through six private parcels before entering Saw Mill Run Park. The stream is an open water body until it reaches the base of the former ski slope area, where it travels through an earthen-covered culvert constructed with a series of corrugated pipes.

Saw Mill Run flows into a reservoir near the AK Steel

Dam

An extensive engineering Conditions and Assessment Report of the Preston Dam was performed in October and November of 2012 (see Appendix H).



Saw Mill Run feeds the large pond at Preston Park.



Saw Mill Run flows into a reservoir near the AK Steel Plant, which ultimately flows into the Connoquenessing Creek. It is a tributary of the Beaver River, which flows into the Ohio River, near Monaca, PA. Connoquenessing Creek is ranked as one of the most polluted waterways in the United States, subject to extremely high levels of nitric acid, which is used to “pickle” or clean raw steel for production.

Butler Township is part of the County’s Act 167 Stormwater Management Plan study area. This plan addresses the need to improve regional water quality through a series of policies and on-the-ground techniques. These practices, such as constructing rain gardens that both retain stormwater during peak storm events and pre-treat runoff to remove surface pollution before it enters a main water body, can be applied to all three of the parks. Deploying such techniques will improve the water quality and eliminate the potential for erosion in Saw Mill Run.



Saw Mill Run is piped through a section of Saw Mill Run Park. Note heavy iron deposits in the stream causing the intense orange color. This is typically a sign of post-mining impacts on surface waters.

The assessment made the following recommendations based on current conditions:

- The south spillway chute wall needs to be repaired due to crack damage.
- The stream channel sideslope should be protected.
- The principal spillway pipe is inactive and should be grouted closed.
- The pond is filling with sediment, so the pond should be de-watered and the sediment removed to improve the quality of the ecosystem by creating more variation in the pond’s depth.

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- The small trail dam below the main dam should be removed because it creates an impedance for the proper flow of stormwater from the spillway structure.
- The former Harmony Trolley Line bridge structure should either be removed or structurally rebuilt.
- Downstream and upstream embankment clearing should be performed to remove large vegetation from the earthen embankment, following specific protocols outlined in the Conditions and Assessment Report in order to ensure that the process does not compromise the integrity of the dam.



Natural Landscape Systems and Ecology

In addition to being located in the Appalachian Plateaus geomorphic province, the area is also located in the Humid Temperate Domain ecoregion. An ecoregion is the name given to an area having a distinctive composition and pattern of plant and animal species distribution. Other features such as climate, landform, soil, and hydrology are important in the development of an ecosystem and thus help define ecoregions. The relationship between species and their physical environments are in essence alike. Province and ecoregion delineations frequently overlap, because the presence or absence of plant and animal species relates to the geology. The difference, however, is that ecoregions also view the distribution of species and ecosystems across the landscape.

All of the sites are characterized by mixed mesophytic (adapted to moderately moist conditions) forest and



The spillway of the dam requires maintenance repairs. Note crack in wing wall.



The small impoundment in Saw Mill Run to create a path crossing below the dam should be removed to eliminate risk of secondary pooling of water that could compromise the dam's structural integrity.

Appalachian oak forest. Varying mixed successional forest types can be found throughout the region and are evidenced by the plant material growing on the sites, those witnessed include: mixed oak forest, oak-hickory-chestnut forest, hemlock forest, beech forest, floodplain forest, beech-maple forest, northern hardwood, oak-hickory forest, and oak-maple forest (McNab & Avers, 1994).

Invasive species pose the most significant threat in areas that have been altered by disturbances, such as impoundment, development, mining, oil and gas extraction, poor forestry, and poor agriculture management practices; or those that border development with invasive plants in the landscaping. In disturbed areas, invasive species can displace native plants intolerant to the changing conditions. To make matters worse, native wildlife often prefer native species, and thus tend to avoid feeding on invasive plants, which allows the invasive to proliferate. When a non-native species establishes itself in a foreign habitat, it usually escapes its natural predators and pathogens, allowing it to spread and multiply with few natural controls.

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Some invasive plants pose a threat to health and human safety, and are categorized as noxious weeds. This federal designation, set forth by USDA Animal and Plant Health Inspection Service (APHIS), adds additional penalties and controls on those species. According to the Pennsylvania Department of Agriculture (PDA), it is illegal in Pennsylvania to propagate, sell, or transfer any of the state designated noxious weeds (PDA, 2007b). Giant hogweed, one of the state listed noxious weeds, can cause chemical burns to skin that comes in contact with its sap. Several invasive plant species have legal controls and penalties, including purple loosestrife and multiflora rose, both of which are pervasive within the parks.

It is critically important that invasive species be controlled in these parks, especially due to their environmental importance and the role their natural character plays in the social value. A "Hit List" of invasive plant species

species have been extirpated—locally extinct throughout a portion of their range—as a result of over-harvest, human encroachment, and influence on their habitat, and pollution. In the cases of black bears, mountain lions, and wolves, social fears lead to varying degrees of elimination of those species under the pretense of protecting children and humans from being attacked by vicious creatures. Today, small populations of black bears, beaver, and bobcats may still exist, and these species are rebounding from the devastating effects humans have had on their species (McNab & Avers, 1994).

Typical bird species found within the region and the parks include the wild turkey, ruffed grouse, barred owl, pileated woodpecker, red-bellied woodpecker, eastern phoebe, bluegray gnatcatcher, Acadian flycatcher, white-eyed vireo, ovenbird, Kentucky warbler, yellow-breasted chat, summer tanager, red-tailed hawk, great-horned owl,

the social value. A list of invasive plant species identified in the parks is provided in Appendix D.



There is a significant Whitetail deer population, especially in Saw Mill Run Park. These deer are quite tame and will maintain a close distance to visitors, creating a potential hazard.

Common mammals that inhabit these ecoregions include the whitetail deer, red fox, gray fox, woodchuck, raccoon, opossum, gray squirrel, white-footed mouse, striped skunk, cottontail rabbit, fox squirrel, eastern chipmunk, short-tailed shrew, and meadow jumping mouse. Less common mammals include the hairy-tailed mole, porcupine, smoky shrew, masked shrew, and the rare eastern woodrat. Other mammals, such as the bison, elk, black bear, mountain lion, timber wolf, and bobcat, were once abundant throughout the area. Many of these

chat, summer tanager, red-tailed hawk, great-horned owl, belted kingfisher, northern flicker, great crested flycatcher, white-breasted nuthatch, red-breasted nuthatch, eastern bluebird, gray catbird, American redstart, scarlet tanager, chipping sparrow, rubythroated hummingbird, screech owl, and wood duck, to name a few. Many migrating birds nest in the region during the spring and summer months, and offer spectacular displays for bird watchers to enjoy. Collecting data and evaluating bird population patterns was of especial interest to Dr. Preston. Peregrine falcons and bald eagles, once devastated by pollution and adverse effects of DDT and other pesticides in the food chain, are rebounding and returning to western Pennsylvania. These species are high-profile examples of nature's resiliency and serve as good educational tools in teaching youth about environmental responsibility, which fits well with the contexts of Preston and Saw Mill Run Parks.



Whitetail deer are feeding on specimen plants in the Arboretum.

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Amphibians and reptiles typically found within the region include the red-spotted newt, dusky salamander, fence lizard, American toad, wood frog, spring peeper, box turtle, snapping turtle, painted turtle, ringneck snake, northern water snake, black rat snake, copperhead, smooth green snake, and milk snake. Many amphibians, particularly lungless salamanders, can be studied as indicators of ecosystem quality. Reptiles, such as snakes, turtles, and lizards, help to keep populations of pests, such as mice, voles, and insects, under control. Fish species vary depending on the size, temperature, and degree of pollution in a particular stretch of stream. Species common in smaller, cold-water streams include trout, southern redbelly dace, creek chub, barred fantail darter, and greenside darter. The impact of sedimentation on the large pond has likely impacted the temperature of the

There are significant hemlock stands within the parks, especially Preston Park, including along Pine Cover Pass (which is not accurately named). It is not unrealistic to assume that within the next decade all of the hemlocks will be invested by this insect and will begin to decline and ultimately die, resulting in a significant expense for removal and also creating a dramatic change in the forest canopy (and potentially creating a greater opportunity for the spread of invasive plant species).



water body and therefore the type and diversity of fish species.

Ecosystem Threats

Hemlock Woolly Adelgid: This tiny, fluid-feeding insect was introduced from Japan in the early 20th century, and was first discovered in Pennsylvania in 1969. Forty-four counties in Pennsylvania have been infected, including Allegheny County within the Connoquenessing Creek watershed. Infestation is currently heaviest in southcentral and eastern Pennsylvania, but is significantly increasing in western portions of the state, which includes the project area. Cold weather may contribute to high mortality, and will likely prevent expansion of this pest, unless global warming eventually defeats very cold weather in the area. The hemlock woolly adelgid most commonly affects hemlocks, but can also affect spruce trees (PADCNr).

The species prefers mild conditions, and is most active from October to June. Eggs hatch in February or March. Damage is inflicted when an immature nymph or adult sucks sap from twigs, which causes hosts to lose needles, and possibly die. Biological control agents include a beetle, which was released by DCNR in 2004 on affected hemlock trees in central and southern Pennsylvania. DCNR is also in the process of establishing sites for chemical applications against the hemlock woolly adelgid (Spichiger, 2004).



Woolly adelgid was witnessed on hemlock branches in Preston Park.

Emerald Ash Borer: The emerald ash borer (EAB), an invasive insect, was first positively identified in Pennsylvania on June 21, 2007 in Cranberry Township, Butler County. The EAB has already defoliated millions of trees throughout the country, and now threatens Pennsylvania's forests. An immediate ban on the import of firewood to State Parks and State Forests was relayed throughout the state to suppress the spread of the species. Because it is difficult for the average person to tell what species of tree the firewood was derived from, the ban includes all hardwoods. In addition, PDA has quarantined Allegheny, Butler, Beaver, and Lawrence counties. The quarantine restricts or prohibits the transport and sale of ash wood products and plants that may harbor the pest (DCNR, 2007a).

It is not the adult emerald ash borer beetles that cause the devastating effects of girdling and killing trees, but rather their larvae that feed under the bark. As the larvae eat paths under the bark, called "galleries," they

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disconnect the cells that carry nutrients and water to the limbs and leaves of the tree. Over time, usually within three years of the infestation, the tree dies as a result of stress and inability to circulate life-sustaining nutrients and water throughout the plant. EAB presence is most easily identified by the D-shaped exit holes bored into the wood of a tree. Adult beetles are approximately a half inch long and slender with dark green metallic coloration. If you suspect the presence of EAB in your area, notify your regional DNCR Bureau of Forestry, PDA, Penn State Cooperative Extension, or the EAB hotline: 1-866-253-7189. Emerald ash borer damaged has not been exhibited at the sites, but a comprehensive survey was not performed.

forested land containing 250 or more egg masses per acre may be eligible for insecticide applications administered through the DCNR Bureau of Forestry. However, the biggest factor controlling populations is a natural fungus, which grows on most hardwoods, and adversely affects the gypsy moth (Purdue Research Foundation, 2004). Gypsy moths pose a particular threat to areas predominately composed of oak species, such as Preston and Saw Mill Run Parks, because oak is one of their preferred species to feed upon.

Access, Parking and Circulation

Vehicle access to Preston Park is via an entry drive from S. Eberhart Road. The parking area is currently a vaguely defined gravel area with no striping. Preston Park has a

Gypsy Moth: The gypsy moth was introduced to the U.S. from Europe in the 1980s. It feeds while in the larval, or caterpillar, stage. Eggs are deposited in July, and overwinter on bark and stones. Gypsy moth caterpillars hatch and begin feeding from mid- to late-April in southern Pennsylvania, and in early- to mid-May in the northern part of the state. Oaks, sugar maple, beech, and aspen trees are preferred food sources for this caterpillar's voracious appetite. Large gypsy moth populations may strip entire trees of their foliage, leaving them weakened and susceptible to disease, drought, and attack by other pests. A tree begins to suffer when 30 percent or more of its leaf surface is lost (Purdue Research Foundation, 2004).

According to the 2006 Pennsylvania Annual Pest Conditions Report compiled by DCNR, Bureau of Forestry, Division of Forest Pest Management (2006), "Gypsy moth defoliated more acres of forest than any other pest or pathogen in 2006, and is considered to be at outbreak levels." The state of Pennsylvania initiated a suppression program in 2006, which included the cooperation of five counties, four forest districts, one state park, the PGC, and two stewardship landowners. Gypsy moth populations are expected to continue to increase and the suppression program that expanded in 2007 to include at least 14 counties on 45,474 acres of land, though those estimates are expected to change.

Gypsy moth populations are typically highest following wet, more temperate winters, while cold, dry winters cause the death of egg masses. Private landowners with

denied gravel area with no striping. Preston Park has a series of formal asphalt drives that are wide enough to support maintenance vehicles and fire truck access to the existing structures. The driveways also act as formal pedestrian pathway through the campus area of the park. There is an extensive system of paths and trails throughout Preston Park. All of the paths are identified by a formal naming convention. Hiking trails continue beyond the site to connect Saw Mill Run Park. There are no formal connections to the adjacent neighborhoods, except via the formal access drive.

Butler Township Community Park is accessed via a driveway from S. Duffy Road. The driveway accesses a parking lot located on the north side of the site. There are a few pedestrian walkways through the park. There are no formally defined connections between this park and Saw Mill Run Park.

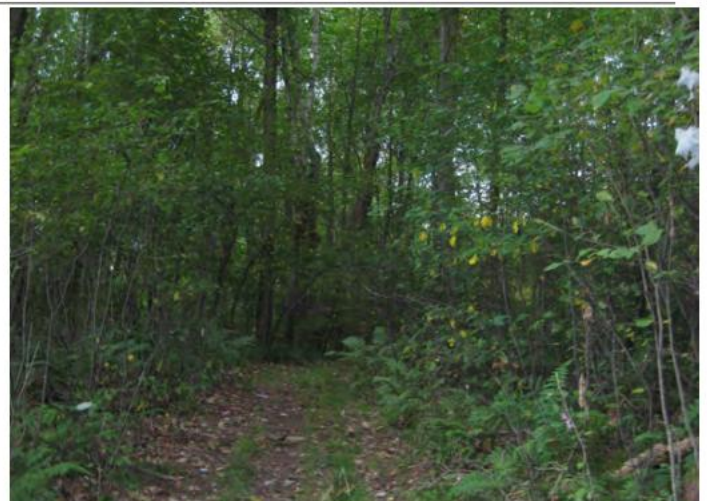
Saw Mill Run Park does not currently have a formal public vehicular entrance. Maintenance vehicles can access the park via a driveway through the Township's maintenance yard. There is no formal parking area on the site. There is an extensive network of trails extending through the western slopes of the park and connection at four formal trail points into Preston Park.

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Current access drive into Preston Park.





The current Preston Park parking area is poorly defined, is inefficient and lacks a positive arrival experience.

Zoning

Preston Park is currently zoned: R-1 Single-Family Residential - Exclusively a single-family residence district with adequate lot areas required and including the customary accessory and secondary uses. (see Appendix G – Zoning Map)

Butler Township Community Park and Saw Mill Run Park are currently zoned: A-1 Agricultural - Primarily an agricultural district providing for agriculture, silviculture, aquaculture, dairying, farming, pasturage, beekeeping, horticulture, floriculture, animal and poultry husbandry uses.

Preston Park is protected as permanent open space as conservation land and/or for community park and recreational uses in the Last Will and Testament of Jane E. Preston. Butler Township Community Park and Saw Mill Run Park are not permanently protected. The Township should consider adopting a Parks District zoning classification, either as a district or as an overlay, that permanently protects these park areas as dedicated public open space.



Example woodland trail through Saw Mill Run Park.

Utilities

Sanitary Sewer: According to information provided by the Butler Area Sewer Authority (BASA) public sanitary sewers appear to be available to the Preston Park property (see Appendix G – Sewer System Map). There are sanitary sewers located in S. Eberhart Road to the west, running the entire length of the property from south to north. The sewers also run across the entire northern portion of the property, located to the north of the pond on the property, flowing toward the southeast and the BASA Deshon Pump Station located a 120 Saw Mill Run Road. BASA will not be able to ascertain whether or not gravity sewer service may be provided to Preston Park until an official application for a project is received. The connection to the public sewer system, whether by private sewer lateral or sewer main extension, will be the responsibility of the Township.

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In order for this proposed facility, which would be categorized as either a commercial or institutional facility, to be considered for public sewer service, the Township would have to have a Sewage Facilities Planning Module approved by the Pennsylvania Department of Environmental Protection (DEP), and a Sanitary Sewer Plan approved by the Authority. The Authority and Butler Township are under a Consent Order and Agreement (CO&A) with the PADEP, therefore a full and complete Planning Module will be required, as a Planning Module Exemption is not permitted under the CO&A. These steps would need to be taken into account when increasing restroom facilities on the Preston Park site.

As an example, the Machine Shop Building has areas of rust-through in the metal exterior siding panels due to their proximity to grade. Care should be taken to remove any debris that has accumulated against the bottom of the building, and make sure that ground-water is properly directed away. The Preston Laboratory building has visibly clogged roof drains, which should be cleared.

As a general protocol, a periodic building maintenance program should be undertaken to prevent any further damage to the structures.

Potential for the Reuse of Buildings per PA's UCC

Potential for the Dietary Cytotoxicity

Butler Township Community Park and Saw Mill Run Park are currently served by public sewer, and the Butler Township Community Park has recently constructed public restroom facilities along with the amenities provided in the Community Building. If restroom facilities are included as part of any improvements to Saw Mill Run Park, the process described above for Preston Park would apply.

Public Water: Public water is available to serve Preston Park. Currently the site is not connected to the municipal public water system. This connection would also eliminate the need for the wellhouse to provide water supply to the site, as exists today. This was identified as a major limitation through the analysis and the public involvement feedback. Butler Township Community Park and Saw Mill Run Park are currently served by public water.

Dry Utilities: Electrical supply is provided via overhead lines to all of the parks.

Buildings and Historic Resources Condition

A cursory walk-through of the buildings within Preston Park (except the Carnegie Building) revealed some maintenance and repair issues that could be expected due to their age, but there were no notable visual conditions that indicated any major issues. Past problems that have been previously identified and repaired, such as water infiltration, should be re-investigated to make sure they have been controlled. Further in-depth investigation of each building should be done on an individual basis to identify any other outstanding issues.

(Building Code)

In 2004, Pennsylvania adopted a new statewide building code called the Uniform Construction Code. This superseded all previous versions of the state's Fire and Panic Regulations. The code is based on the International Code Council's (ICC) various International Codes. The state is currently operating under the 2009 edition with Chapter 11 and Appendix E (Accessibility) from the 2012 IBC (International Building Code) for any project after January 1, 2013.

Butler Township has opted in to the UCC and is responsible for building code review and approval. Any issues of accessibility, including any required variances, would remain the responsibility of the PA Department of Labor and Industry.

Research into remaining drawings of the existing buildings stored in the Preston Laboratory building shows that at least some of the structures constructed on the site were submitted and approved by the PA Department of Labor and Industry when they were constructed years ago. They would have been reviewed under previous versions of the State's Fire and Panic Regulations in effect at that time. This is potentially helpful in establishing the original use and approvals of the buildings so that they would not be designated as "Uncertified" and possibly subject to more stringent requirements for code review. Theoretically, the buildings could still be used today, without modifications, as originally designed and occupied, but not as a "repurposed" part of the new Preston Park concept without undergoing the required occupancy change.

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As part of their reuse, any change of occupancy, alterations, or additions to the existing buildings would fall under the 2009 International Existing Building Code (IEBC), which specifically addresses the change of use.

Most potential uses for these structures, whether some form of multi-use space, museum display, or place for conference and events, would fall under the new IBC Occupancy Group A-3 (Assembly). This would not include facilities primarily intended for food consumption, which would be considered Group A-2 (Restaurant). A catering kitchen would not be considered as a restaurant and



should fall under Group A-3. A more detail explanation of the code evaluation is provided in Appendix C.

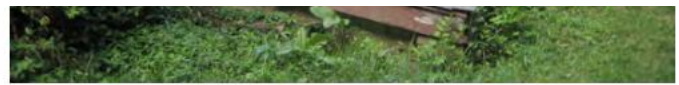
More than likely the change of occupancy for re-purposing the structures will be determined on a case by case basis for each building. The likely scenario, should the building be reused for the likely anticipated set of use options considered for the site, would be as follows:

Preston Laboratory – Partial change for the second floor caretakers quarters from R-3 (Residential) to A-3 (Assembly). Remainder (Research Laboratory/Office) the same as Scenario #1. The second floor is not required to be accessible unless containing an area of primary function, and its use could be limited without accessibility. The existing restroom could remain as a functioning facility; however a new ADA compliant unisex restroom may be required.



The Former Preston Laboratory Building.

The Well House – Single-story building with basement. First floor originally used for winding of motors of test machines. Change from F-2 (Factory, Low Hazard)



The Wellhouse.

to A-3 (Assembly) occupancy and therefore must meet requirements of the IBC. Basement use could be limited without accessibility. Main floor level is elevated above grade and would require exterior ramp or platform lift for accessible entrance. A minimum of one ADA-compliant unisex restroom may be required.

Machine Shop – Multi-story building originally used for the fabrication of test machines. Change from F-2 (Factory, Low Hazard) to A-3 (Assembly) occupancy and therefore must meet requirements of the IBC. Partial second floor use could be limited without accessibility. Based on the possible occupant load of the building, separate male and female ADA-compliant restroom facilities (possibly with multiple toilets) may need to be constructed.



The Machine Shop Building.

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Garage and Storage Building – Single-story building could remain as current storage/garage or undergo a change of use.



National Register of Historic Places

The recent approval of the listing of the property and associated contributing resources to the National Register of Historic Places has some implications on any potential modifications or removal. Federal and state funds may not be able to be used for any modifications that would not meet the Secretary of Interior Standards and following a Section 106 Review, including for the demolition of any of the contributing resources.



The Instrument Building and Garage.

Instrument Building – Multi-story building could be originally considered a Research Laboratory therefore a change from Group B (Business) to A-3 (Assembly) occupancy. Same as Scenario #1. The second floor is not required to be accessible unless containing an area of primary function. This may require the installation of an elevator or platform lift in order to fully use the floor as an assembly space. The second floor would most likely be required to have an automatic sprinkler system. Based on the possible occupant load of the building, separate male and female ADA-compliant restroom facilities (possibly with multiple toilets) may need to be constructed, but only on the accessible floor.

Carnegie Building – Single-story building could remain as current storage occupancy or undergo a change of use if the non-contributing resource were to remain.

Maintenance Building – Single story building could remain as current occupancy or undergo a change of use.

Hacienda – Small, single-story building (approximately 625 sq. ft.) could most likely be converted to other uses without much difficulty.



Hacienda

When no federal or state funding or publicly licensed activities are involved, the National Register listing does not prevent removal (demolition, etc.) of resources included in the nomination, whether considered to be contributing or non-contributing. It is best to pursue input from the State Historic Preservation Office (the Pennsylvania Historic and Museum Commission (PHMC) in Pennsylvania), because any removal or major changes in character to contributing resources could jeopardize the listing and thus place future funding possibilities in jeopardy.

Other Physical Analysis Conclusions

The parks, specifically Preston Park, is at risk of becoming cluttered with small, yet very well-meaning improvements. The images on the following pages illustrate that there is no comprehensive approach to signing, and site fixtures are of all different styles and types. In addition, plantings and other elements are being placed with little sense of how they “fit,” in terms of integrity to the vision and history of the site as well the quality and selection of materials. Each park should have an established protocol for determining what can be included and how it conforms and supports the overall quality of place. In the end, if procedures and protocols are not establish the park is at risk of being visually cluttered and requiring unnecessary maintenance demands, all of which will in the end deplete the high quality experience of the place.

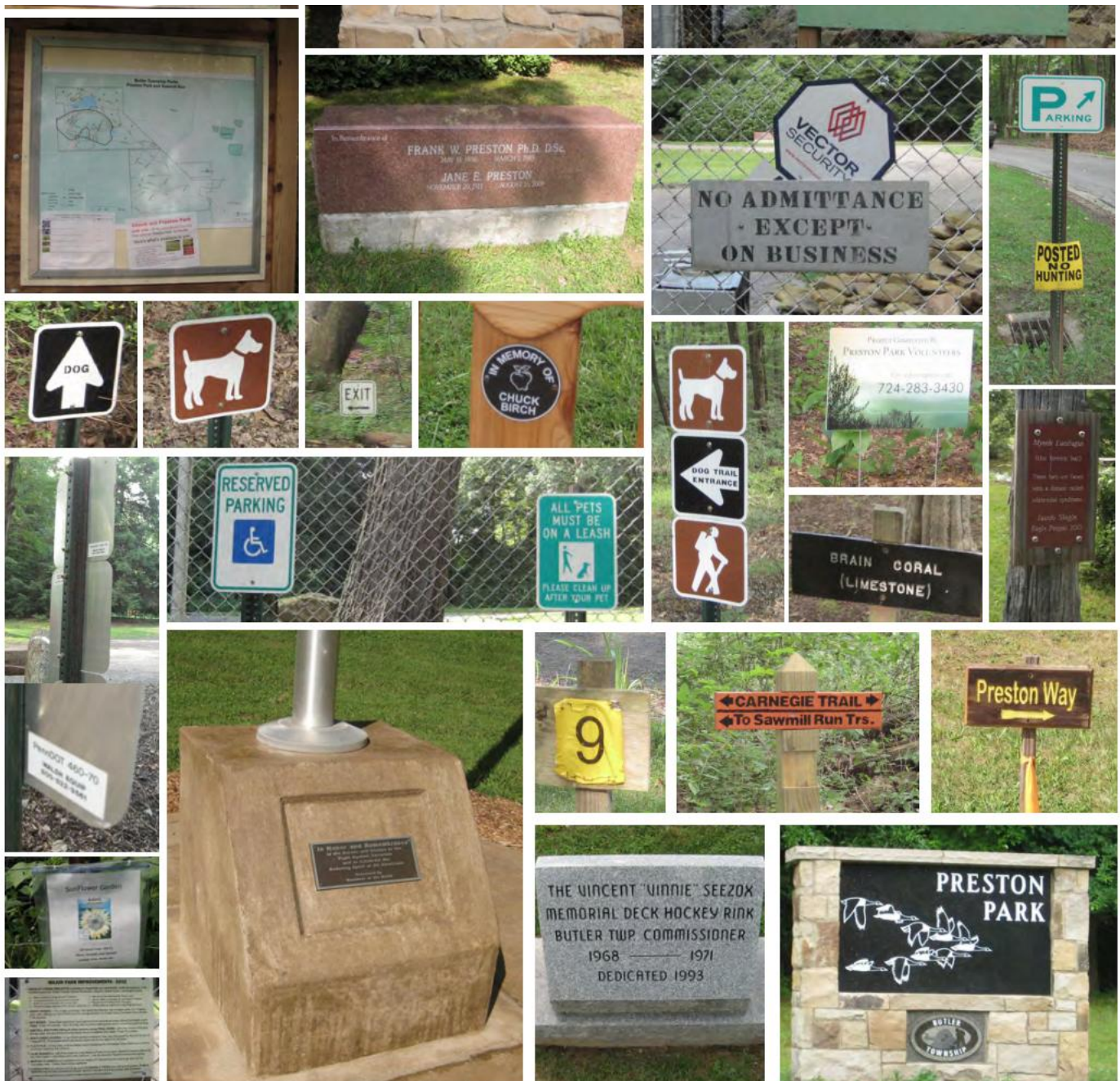
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The lack of uniform signing standards is creating visual clutter in the parks.

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The continual installation of small elements into the parks with limit regard to how each item relates to another and/or their durability and long-term maintenance implications is a concern. Also volunteer projects are great gestures of support for the park, but each project, their design and material selection should be carefully evaluated to ensure that they are appropriate in a public park facility.

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Preston Park

Site Organizational Strategy – “Walking with Dr. Preston”

Through the public workshops and key stakeholder interviews, the community recognized that natural

Reading the Layers of Landscape – A “Palimpsest” Approach

Tapping into Dr. Preston’s approach to inform the master plan of Preston Park requires both delving into the

landscape, the trails, and the Preston “vision” or “story” are the critically important elements of the overall value of Preston Park. They should be strongly considered as ways to preserve and enhance the park are developed. In addition, a repeated and underlying theme of these statements was, “Make it better, but don’t screw-it up.” The ability to propose new elements and yet not change the fundamental character of the park posed an unusual challenge. The design team needed to balance the demand for new park amenities and programs with the desire to preserve the foundational landscape and architectural elements that make Preston Park a desirable place to visit today. To achieve this knitting together of the “new” with the “existing” into a single strategy, a totally unique planning and design approach to Preston Park was employed. As a result, the master plan’s organizational strategy references, as much as can be interpreted based on available historical mapping and writings, an analytical and process-based approach to the site, similar to that of Dr. Preston himself.

To begin the analytical and process-based approach, the consultant team developed a series of questions or rules that became the foundation for developing the plan’s organizational strategy. This effort focused on creating parameters that could inform how and where new public park components could be added, in a manner that is consistent with the Vision Statement. The questions include:

- How can new elements acknowledge the property’s history and promote a greater understanding of how Dr. Preston viewed his property, from the perspective of his “values” toward land and landscapes?
- How can Dr. Preston’s research and his understanding of science, mathematics, technology and/or ecology be applied to the future design and management of Preston Park?
- What influences affect Dr. Preston’s approach to locating facilities and landscape management?

process he utilized to understand his property and also reading and attempting to interpret his broader scientific methodologies and values toward ecology and landscapes; not a simple exercise to undertake in a brief summation! Presented here is a very cursory attempt to summarize those aspects of Dr. Preston’s work deemed most relevant to the topic and how they ultimately informed the master plan.

Prior to Dr. Preston’s purchase of the property, it was home to a series of farm fields, the Saw Mill Run stream valley, and an abandoned inter-urban trolley line. These key features are still apparent in Preston Park today if one knows where to look. The outlines of the old farm fields have since dissolved into other landscape forms, but the lasting presence of cultivated farm field’s invasive and/or naturalized plant species such as *Alliaria petiolata* (Garlic Mustard), *Rosa multiflora* (Multiflora Rose), and *Daucus carota* (Queen Anne’s Lace) are constant reminders of the property’s earlier cultivated origins. Parts of Saw Mill Run were dammed to create Dr. Preston’s Loch Carrie, a man-made pond; however, much of Saw Mill Run’s water course remains relatively undisturbed as a natural stream valley through the site. The Pittsburgh/Harmony trolley line that bisected the property closed in 1931, yet what remains is a permanent impression, or footprint, in the landscape that has influenced pedestrian and vehicular circulation patterns on the Preston Park property for 82 years. Although these key features have somewhat receded into the background of today’s park landscape, they were once the dominant features that Dr. Preston saw when purchasing the property, and were influential in how he transformed the site. They were in many cases Dr. Preston’s “datum” that served as his base map and as a result influenced his process of landscape discovery through mapping, data collection, observation, and organizational studies.

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Dr. Preston spent years, decades in fact, investigating his property that allowed him to gain an intimate level of understanding of the property. It is believed that the first full triangulation survey Dr. Preston conducted on the property was in 1943. His survey indicated locations of

that extended over many years. Each study approached the design and layout of his property differently; he was repeatedly exploring for new, different or improved ways to configure his property. The fascinating outcome of these studies is the fact that he would partially build

existing infrastructure, historic alignments, his perception of significant site features, and potential visual and physical connections to other areas of the property extending outward from what he perceived as the central and highest point of the property. Although vertical information was not provided on the 1943 survey, it can still be gleaned that his understanding of the site was much deeper than the face-value aerial images of today. He clearly understood the site at the ground level, in a three-dimensional way, and this understanding strongly influenced his approach toward the placement of buildings, roads, trails, gardens, bridges, water bodies, etc. The 1943 survey had a very fine-grained level of investigation that directly related to the way Dr. Preston scientifically processed information and formulated conclusions about the place; the survey contains an “x” and “y” axis and an associated coordinates table that is of exacting detail. This clearly illustrates the level of precision that Dr. Preston typically employed in his laboratory and it appears that he carried this level of detail consistently through into his work on his property and his work in conservation. This process of *intellectual exploration and creative inquiry* resulted in his identification of critical “nexus” points on the site.

Dr. Preston understood the “universe,” as referenced in his land conservation topic papers, as a fluid term to be used to describe the earth’s natural environment at all levels and scales through variations of space and time, in other words, the building blocks of evolution. The term “universe” is a great example of how Dr. Preston made sense of the world that he engaged with in an analytical way. Based on these papers, he was fully aware that nothing was ever in a static or complete state, but rather everything was in a constantly evolving process and there was always a way to improve on something believed to be complete.

This scientific approach is therefore believed to have strongly influenced how he developed and organized his property. Dr. Preston applied an investigative process of conceptual site studies of the laboratory and arboretum

elements from one study, but never completely. Through the process of building, he apparently moved on to a new generation of study that would build or improve upon the prior work, leaving his property in a constant state of evolution. Inventors, scientists, and conservationists like Dr. Preston appreciated the fact that nothing is ever finished or complete, but is in a constant evolutionary process that builds from or improves upon what was done prior.

In the words of Frank W. Preston:

“All of the world’s a palimpsest. The writing on its surface in the form of rivers, lakes, and drainage channels is continually erased, modified, and re-written.”

To be accurate to Dr. Preston’s work, it is important to understand that the term “preserve” as it relates to the master plan framework is not about preserving an object at a specific moment in time, much like objects in a time capsule. In this case “preserve” is about preserving Dr. Preston’s process of discovery and invention as the property’s spaces evolve over time. Nothing is static or mausoleum-like about Dr. Preston’s life or work, so Preston Park should not be treated as if it were a shrine in a time capsule. Instead it should be treated as a living and continually evolving landscape.

Therefore, these guiding principles were identified as a basis for establishing the overall design framework:

- **Dynamic:** Embrace the idea of change in terms of design and management – all of the parks exhibit a great deal of landscape “dynamism” that can allow for changing conditions, whether seasonal or longer-term landscape growth to add to their values and experience.
- **Inherent not Literal:** The Preston story can be interpreted as an embodiment of ideals throughout Preston Park and does not require a static museum to be most compelling.

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- **Creative:** New interventions should represent the most current “state of technology” and the “here and now” – the aesthetic should not be overly “park romantic” or “faux rustic.” Modern materials that are appropriate to the particular needs of the use are perfectly appropriate

different and less discovered areas of the park.

Circulation: (Rooted in the Site’s history)

Dr. Preston made the circulation framework right! One

the particular needs of the use are perfectly appropriate to the site.

- **Continual Inquiry:** Using Preston's own thoughts about the property illustrates that at one level, all of the park sites are not particular extraordinary or unique from a scientific standpoint, but they are complex when closely investigated and therefore have value, especially from an education standpoint. It's the sense of place for people to interact with the environment and learn about it that is potentially special.

To formulate the Preston Park master plan framework, the concept of continual change combined with the physical points of reference from Dr. Preston's site studies were combined to create the basis of the plan. In some cases the recommendations of the master plans are well developed while other are proposed at a very conceptual level to evoke the idea of what is possible. In all cases further study is required to fully determine the feasibility and full design potential of some recommendations.

Foundational/Programmatic Nodes: (Investigative Process or Evolutionary Discovery)

To continue from the point where Dr. Preston left off, the foundation of the park's master plan framework must be rooted in his 1943 survey. This survey notes locations where his originally surveyed points can be extracted as activity or programmable nodes, which are used in this master plan as a methodology to organize and introduce new elements, amenities, and programs into the park. We know this is the case because this methodology was used by Dr. Preston to locate the primary circulation on the site, the axis points for the [Oval] Arboretum, and other site elements. In the master plan, Dr. Preston's nodes can be treated as amenity infrastructure points; seasonal or activity driven amenities; educational, art, or performance based events. The programmed nodes can change and rotate to different nodes, creating a park that evolves and adjusts to the needs of the community over time. Furthermore, these extracted nodes are not the only points where new park amenities can be placed. New nodes can be built upon and extended from the foundation nodes of Preston's work to attract visitors to

of the strongest outcomes of Dr. Preston's numerous studies is his understanding of the necessity for a circulation hierarchy. The most incredible part of the existing site circulation patterns, in the form of trails, pathways, and roads, is how well they align with the original survey developed in 1943. One of the potential reasons for this is that Preston recognized the importance of approach, arrival, and destination, and how to fit them into the landform and long vistas of his property. The circulation patterns of the property have remained relatively unchanged for 82 years since the 1943 survey. The master plan's circulation framework should prevent drastic changes to existing circulation patterns, because it is so deeply imbedded in the history of the site's development. The proposed circulation framework builds upon and improves the circulation patterns to transition the property from a residential estate to a public park.

Life Management Zones: (Park Organization that tells the Dr. Frank W. Preston Story)

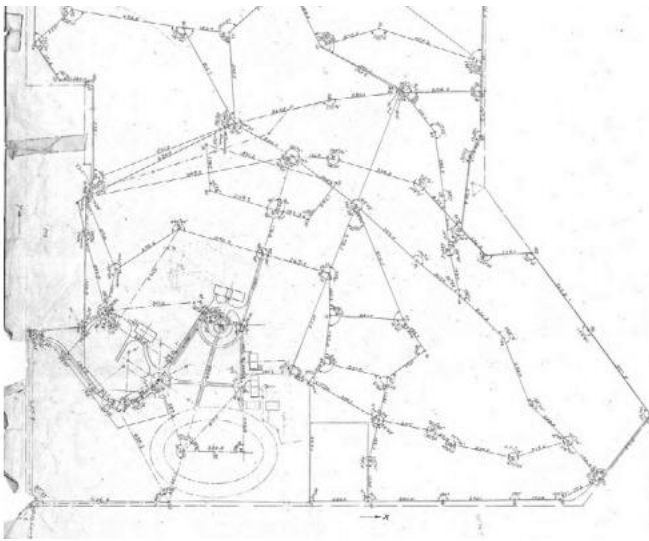
There are three distinct organizational zones or areas to the Preston Park property that will illustrate and tell the story of Dr. Frank W. Preston's lifelong work and passions. They are the Campus, the Arboretum, and the Preserve, which, when combined, provide a true "transect" through the major influences or aspects of his life's story. The Campus was the part of the property where his "day job" activities occurred. This is where he developed fabrication processes for new glass materials as an inventor and chemist. The Arboretum was rooted in his childhood past in England, which mirrored the popular English garden styles and influences that date as far back as the 18th and 19th centuries. The Preserve was the part of the property that drove his true passion for land conservation. Dr. Preston strove for a deeper understanding of the ecological "universe" in which he was observing relationships between space and time, the common and the rare, sample and universe, and ultimately a mathematical understanding of evolution and places. The management and maintenance of the Campus, the Arboretum, and the Preserve should help maintain the story of Dr. Frank W. Preston and have a true and

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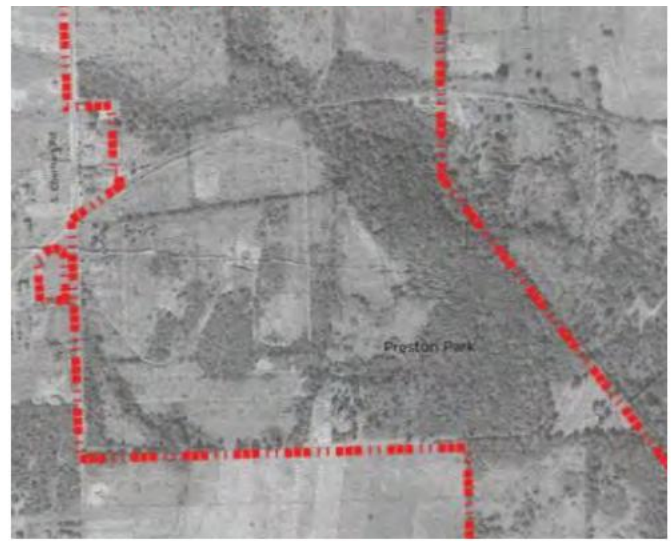
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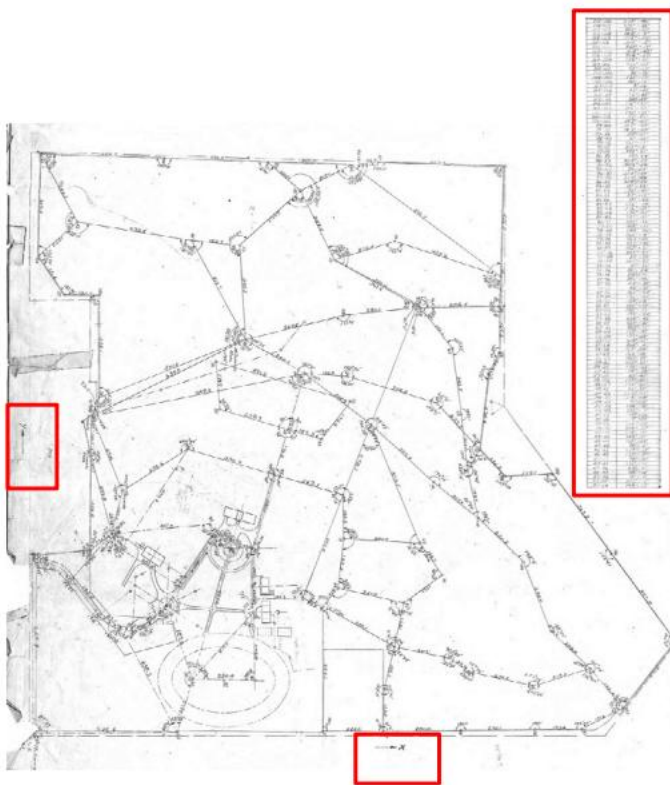




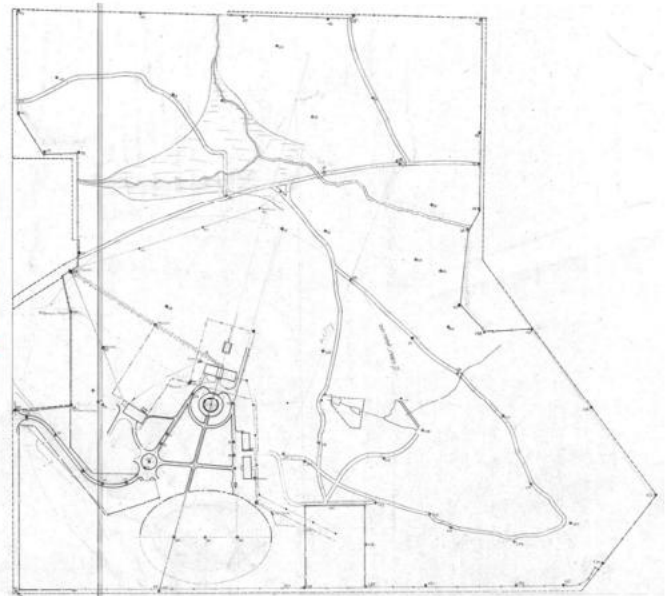
1943 Preston Survey



8-29-38/April 5, 1962 Aerial



1943 Preston Survey



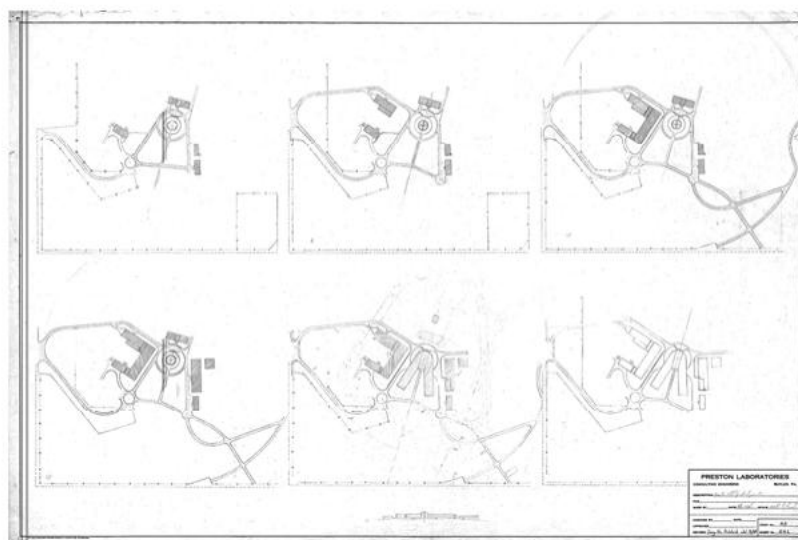
July 8, 1948 Map of Grounds

Organization Strategy and Programming Packages

Park Master Plan

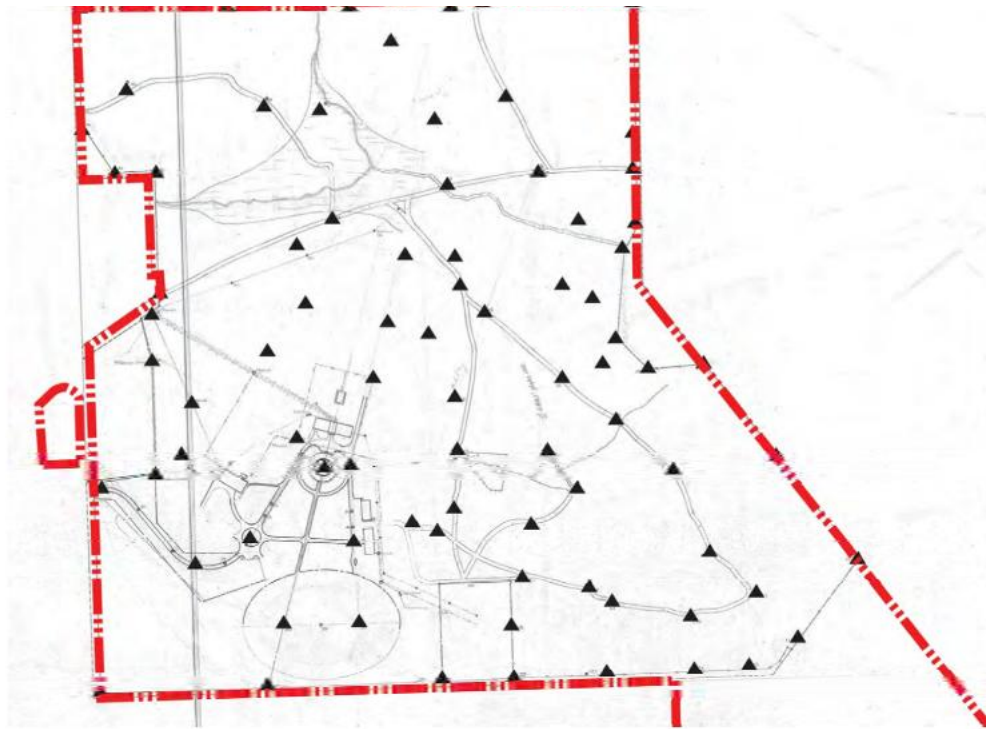
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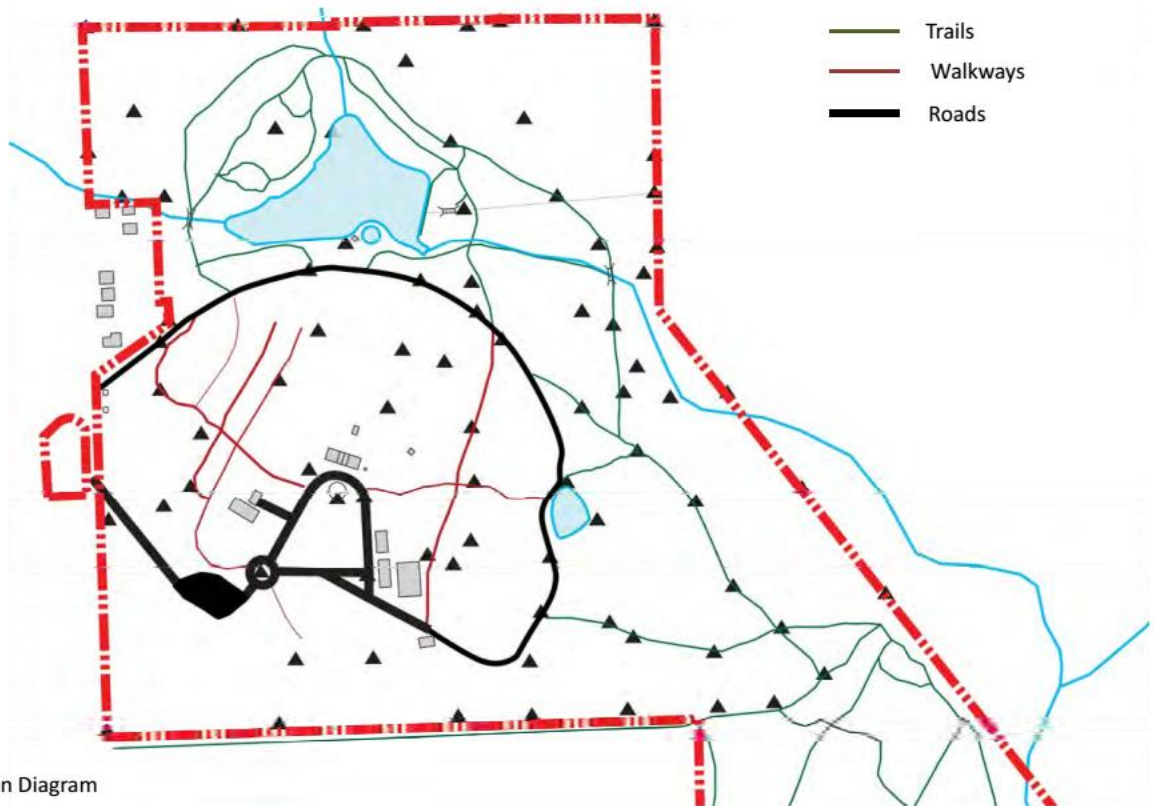


July 9, 1948 Hilltop Development and Concepts

Organization Strategy and Programming Packages



July 8, 1948 Map of Grounds



Node and Circulation Diagram

Organization Strategy and Programming Packages

meaningful personal experience in nature, while at the same time allowing park visitors to in essence “Walk with Dr. Preston” and see and explore the site in a new and potentially different manner than they would otherwise.

Landscape Zones

Preston Park’s master plan design consists of categorizing areas within the park by landscape zones. These zones are defined by the overall landscape planting and management approach most suited to specific areas, either as a result of existing vegetation or based on the realignment or reprogramming of areas within the park as part of the park’s Vision Statement and the overall site organizational strategy.

Special emphasis is given to the promotion of:

Ecosystem Diversity: This promotes a variety of broad landscape types in the form of ecosystems and habitats that are considered regionally or site appropriate, and therefore provide greater site diversity because of the overall factors that impact what species will thrive in particular conditions.

Species Diversity: Species diversity is supported by ecosystem diversity, which enhances the opportunity for greater variety and abundance of species and organisms that inhabit a specific ecosystem or habitat.

Natural Landscape Zones

These landscape zones are indicative of regional habitats and are promoted within the master plan as the contextual and broadly applied landscape treatments.

Meadows: Meadow is a term that can refer to any open area of grasses or flowering plants with few or no trees. Usually it is a transition ecosystem and will change over time into the natural climax ecosystem of the area. In the region, that would be a successional forest. Meadows are maintained by human intervention with controlled fire, mowing, and/or by grazing domestic animals to prevent trees and shrubs from taking hold. Native warm season grasses and native herbaceous plants and wildflowers can serve as an important landscape treatment to provide open vistas through the landscape and habitat diversity while reducing mowing and maintenance costs. The use

of species especially native to western Pennsylvania is desirable and should be promoted. Four- to eight-foot wide areas of maintained lawn treatments should be provided adjacent to the meadows, when not directly adjacent to woodlands areas, to create a visually pleasing visual effect and a formally defined edge.

Location: Meadow areas are proposed to be extended along the primary trail (Preston Way) from the entry area at the iron gates through the site to the main parking area around the Oval Arboretum.

Key Design/Management Recommendations: The meadow areas would be established in a manner similar to the existing prairie areas, with a different mixture of plant species, and managed through select removal of invasive plant species and an annual fall mowing regime.

Prairie: The term “prairie” is usually used when someone is recreating native grasslands either as a restoration or as a prairie garden. A prairie is a climax ecosystem that stays grassland and does not become forest due to the effects of natural fire and natural low rainfall; therefore the prairies in Preston Park are in essence artificially achieved. The prairie areas should contain about 50% grass and 50% flowering species, the grasses and flowers should be native to the eastern Midwest of the United States and the ones usually found together in a natural prairie ecosystems. A prairie will be self-propagating once established through natural plant self-seeding or vegetative plant spread.

Location: The locations of the prairies are to remain as they exist today.

Key Design/Management Recommendations: The continued management of these areas through the use of controlled burns is essential to maintain the species regeneration and the removal of invasive plant species. Efforts to expand the plant diversity through the careful introduction of additional native species should be pursued. A management strategy which scientifically monitors the plant diversification should be implemented, possibly as a volunteer project, as a way of evaluating the health and success of the ecosystem.

Stratified (Multi-Layered) Successional Forest: There are several variations of stratified forests on the site, mostly differentiated by elevation and to a lesser degree, their directional orientation. These forests are extremely important because they cover a vast amount of the park's area and represent an important habitat to support wildlife, especially bird species. Successional Upland Forests are upland areas in the Campus, Arboretum and Preserve that have a clear layering of vegetation including a super canopy (a tree that has its crown almost entirely above the main canopy, receiving light from all sides), canopy, understory, shrub and herbaceous layers at ground level, with species desiring soils that are variably well-drained by the primary species. Successional Lowland Forests occur mostly along the lower portions of slopes, along Saw Mill Run. They should also exhibit a strong layering of vegetation, although in the denser canopy areas, the understory and shrub layer tend to be less dense than in upland forests. The species growing in these areas will tolerate soils with higher moisture content and periods of inundation at the lowest points, closest to the stream.

Location: Successional Upland Forest would be maintained in areas surrounding the main parking areas, the dog park and portions of the Preserve. Successional Lowland Forests occur mostly along the lower portions of slopes, along Saw Mill Run.

Key Design/Management Recommendations: The management strategy for these areas should focus on the removal of invasive plant species, especially vines, which in some locations have completely encroached into the canopy of the forest. Removal should follow the recommendations outlined in Appendix D. Edge areas are especially vulnerable to invasive species, so special attention should be given to their removal in these areas and the planting of native successional edge species. Edge conditions are also critical habitat areas that support animal species that do not occur in other areas. This is due to their unique locational attributes of plant cover near open areas for feeding. Steeper sloped areas should be monitored for signs of erosion damage, especially from visitors venturing off designated trails or creating rouge trails that follow vertical slopes. Target areas within the overall forests should be identified for long-term monitoring for species health and diversification.

A management strategy that scientifically monitors the plant diversification should be implemented, possibly as a volunteer project as a way to evaluate the health and success of the ecosystem. New native species could be propagated and introduced to ensure that greater diversification is achieved along with preservation of future canopy cover.

Cultural Landscape Zones

These landscape areas are designated as “cultural” due to the fact that they are deliberately planted and/or managed and rely on continual maintenance to remain.

Lawn: Turf grass is considered a landscape treatment to be used only in areas where it supports a specific purpose or desired effect. It is not utilized as a “default” treatment to cover land. In most cases it is utilized for areas where there is a medium level of public traffic or places where tents or other events can be hosted.

Location: Lawn is proposed within the center of the Oval Arboretum, around the proposed Indoor/Outdoor Classroom Building, and the Great Lawn and surrounding approach areas. The overflow parking area could consist of lawn (possibly with a geo-structural system to support more intense use), depending on light conditions to be determined through more detailed design. The Far Meadow is actually designated to be lawn and not meadow, which could receive a less frequent mowing regime consistent with its level of public utilization. This should be evaluated further, because it could also be converted to true meadow with mowed paths. It is a wonderful spot in the park that is not well utilized. It should be promoted as a space within the park for smaller, educational activities, which would support the need for lawn as a treatment.

Key Design/Management Recommendations: Limiting the amount of lawn as much as possible should allow for better management and maintenance of the turf that is desired. The various lawn areas could be designated by sub-area from a maintenance standpoint. For example, the central lawn within the Oval Arboretum would be designed and constructed as part of the surrounding parking improvements to be properly graded and drained to support its intense use for special events, including large tents. As a result, this turf will likely require much

more intensive mowing and fertilization than other areas, such as the Great Lawn or the Far Meadow. In all cases, chemical fertilizers and pesticides should not be used as a general practice of turf management.

Woodland Gardens and Groves: Woodlands differ from the natural forests described above in several ways. They typically do not include all of the plant layers of a true stratified successional forest. Also they will likely include a mixture of native and non-native plant species to create a more idealized “garden-like” naturalized aesthetic.

Location: These areas are all located within the Campus or Arboretum organizational zones of the park.

Key Design/Management Recommendations: In the case of the Campus, the woodlands should mostly be managed as a high canopy with a low shrub and herbaceous plant layer. Understory trees should be placed as accent specimen trees only in strategic locations to frame vistas and to accent entry ways or transitional zones. In the triangular areas between the buildings (the area that includes the geography lesson), the lowest branches of the canopy trees should be pruned up to create a high ceiling. The extensive shrub layer of rhododendron should be pruned much lower, to approximately three feet in height, to allow for visual site lines between buildings. The shrub and herbaceous layers should also be inter-planted with other plant species in order to diversify the number species, should the existing plant material be subject to significant disease or insect damage. Sapling growth should be monitored to ensure that the long-term canopy is maintained, and if it is not regenerating, seedlings should be planted to foster regrowth and species diversification.

The Preston Eco-Transect (the former Pinecover Pass) will likely lose much of its hemlock tree canopy due to the growing influx of the Woolly Adelged. As a result, the systematic under-planting of new plant species should be performed now, to allow for maturation until the larger trees will need to be removed. At the first sign of infestation, trees should be removed. New tree species should be diversified to eliminate the susceptibility of having one species (a monoculture) wiped out due to disease or insect damage. Due to the limited number of native evergreen species, the replanted species will likely

need to include deciduous species.

Throughout the site, especially in the evergreen grove areas along the Tin Temple and Bitter Sweat trails, mature evergreens, mostly Blue spruce and Norway spruce trees, are nearing their maturity, with 90% of the lower limbs dead. Trees in this area are also riddled with mature invasive vines such as Japanese wisteria, which is completely taking over the grove. All of the vines should be eradicated from these areas and dying or aged trees should be removed. A mix of new native and appropriate non-native species should be inter-planted.

Orchard: The orchard area is a relic landscape from the Preston era of the site. Although not integral to the mission, it can be maintained.

Location: Existing orchard.

Key Design/Management Recommendations: Older trees should be removed and new flowering fruit trees should be replanted to evoke an orchard without the maintenance issues of the falling fruit and the disease susceptibility of fruiting varieties.

Nursery: The area next to the orchard was historically utilized as a fenced garden. This area should be cleared and prepared as a native plant nursery to generate plant material to be deployed by volunteers across the park, especially areas that are heavily cleared of invasive plant species and require immediate stabilization to limit the potential of the regeneration of invasive material. The creation and management of the nursery could be a great Eagle Scout and volunteer project. It would also allow for the regeneration of Preston-specific plant material through the collection of seed stock and cuttings from the site, ensuring the most site-adapted plant species. This strategy could create a very cost-effective method of generating large volumes of new plant material.

Oval (Conifer) Arboretum: This is a special landscape area deliberately created by Dr. Preston to be a signature place within the site. His drawings show how the radial points of the oval were established based on his survey work of the site, dating as far back as 1943. The Oval Arboretum’s form is established by a ring of large conifer trees surrounding a lawn. The proposed alignment of the vehicular entry and parking is oriented so visitors

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exit their cars and begin their park experience by walking through the Oval Arboretum, via the axis established by Dr. Preston. The master plan proposes to redesign the central lawn area so it is nearly level to accommodate tents and events. The lawn would be ringed by a crushed (decomposed) granite walkway with a formal edge. Understory trees, shrubs and meadow-like plantings would be located around the perimeter of the walk to reinforce the oval shape of the space.

Location: Existing Oval Arboretum.

Key Design/Management Recommendations: Many of the older evergreens (conifers) are dying or have already been removed, especially on the western end of the oval. Dying trees should be removed. New evergreens, including those of specimen quality (see State Champion Trees), should be planted and the invasive plant species should be removed. This space should be managed to the highest degree of care within Preston Park because it is a signature landscape space that can be utilized for events and supported by revenue fees for its rental.

State Champion Trees: Preston Park has seven trees identified as State Champion Trees.

Location: Throughout the park.

Key Design/Management Recommendations: These trees are not replaceable therefore should be treated as special specimen trees. Generally they are not part of groups of similar plantings and great care should be given to their maintenance including ensuring that the root zones of the trees are protected and that vines or other encroachments by adjacent plants do not occur. The trees should be monitored for diseases and insect damage.

Pond Areas: The large pond, Loch Carrie, and the small McCormick's Pond are both signature elements in the landscape of Preston Park. In both cases the ponds should be maintained for their ecological and aesthetic value. Both ponds are heavily overgrown with White Water Lily, *Nymphaea spp.* Although not technically an invasive plant, it can rapidly reproduce and create a challenging habitat for animals since it has a dense and tangled stem system below the water surface. Its expanding coverage is

a symptom of the sedimentation of the pond, because it prospers in water that is six feet deep or less.

Location: Current locations and not expanded.

Key Design/Management Recommendations: In the case of both ponds, the invasive plant species, specifically Purple Loosestrife, *Lythrum salicaria*, should be completely eradicated per the recommendations in Appendix D. Soft bio-engineering of the pond edges should be performed, using coir logs and plantings consisting of a highly diverse palette of native plant aquatic edge species (see <http://www.pinelandsnursery.com/erosion.htm#coir> and <http://pubs.cas.psu.edu/freepubs/pdfs/agrs110.pdf> for more details). The population of White Water Lilies should be significantly reduced, which in the case of Loch Carrie, could occur during its draining as needed to undertake the spillway reconstruction and the dredging of the pond's bottom to increase its depth.

Dog Park: This facility is extremely popular and is heavily utilized. Due to its location within a woodland area, great care should be given to keep visitors on the designated trail system. Currently large branches are loosely placed along the trail edges to define the trail system. This should be reinforced by increasing the planting of native shrubs a foot or two beyond the edge of the trails to reduce the potential for dog walkers to deviate from the trail system and disturb the woodland floor.

Buildings and Structures (Existing and Proposed)

Indoor/Outdoor Classroom Building (former Machine Shop): This building should be studied in detail for its reuse as a larger indoor/outdoor classroom and multi-purpose space for programs and classes. The open two-story portion of the building could be the classroom space, offices and restrooms could be located under the mezzanine area. A full architectural feasibility study should be performed to determine the ability to fully program the building within the existing wall envelope or if the restrooms, for example, should be located within a small addition to allow for indoor and direct exterior access to serve other site needs even when the rest of the building is not open to the public. The aesthetic of the

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building as an industrial building should be maintained, in a slightly polished manner, to pay homage to the building's historical use. The building's theme possibly could evoke the notions of Dr. Preston's ideals, focused on creative inquiry and expression of green technological aspects.

Preston Laboratory: Significant debate occurred over the course of the master planning process regarding the value and future of this structure. In the end, the determination was made that this building had limited reuse potential beyond a static museum-type space. It was felt that although it was interesting to experience the spaces in which Dr. Preston and Jane Preston lived and his staff performed research, the structure itself was not inherently necessary to tell a comprehensive story of his work or their personal story, especially when considering the cost to maintain the structure versus the overall benefits to the entire site and its physical constraints.

It is, however, extremely important that all of the object collections within this and all of the buildings be comprehensively documented and accessioned so there is complete inventory of every object. An evaluation of each object should be performed following Museum Assessment Program standards to determine their historical value and relevance. There are specific grant opportunities available to support these types of activities. An inventory is also important to ensure that materials are properly accounted for and do not leave the site. The best way to approach the conditions of individual collection items is through a survey. One method that institutions have found highly successful is to cooperate with several conservators who have training in different specialties, for instance, those who are knowledgeable about paper materials and books, furniture, glass and ceramic objects, etc. This would be a long-term process and may be done in conjunction with or following cataloguing. Each item's survey can be handwritten on a single sheet of paper that has been laid out as a checklist. It should be possible to record a "priority number" or other indicator within PastPerfect (a common museum software cataloguing system) related to the stability of the given item that can ultimately be used to gain an overview of the collection's

needs. Using this approach the collection could benefit from the contribution of multiple professional opinions and perspectives to determine its value, especially since the Township is not equipped to evaluate and manage museum artifacts. This can assist not only in gaining substantive information about conditions of collections, and their interpretative value but can also support future conservation funding and other preservation activities on the site.

The laboratory structure should be fully documented per Historic American Building Survey (HABS) standards (see <http://www.nps.gov/history/hdp/>) and razed. In addition, a thorough 360° panoramic interactive photo documentation for future interpretation purposes should be considered. The extent of the possibilities of such documentation can be viewed at: <http://www.abandonedamerica.us/panoramas>

This level of photo documentation would allow every existing physical nuance of the spaces within the structure to be fully documented and also allow for an extensive web portal to be set up to greatly enhance access by the public. In addition this documentation could be utilized on-site to tell the story of the Preston's history in a very interactive manner, in-situ.

Preston Park Pavilion and Overlook: The master planning process identified the regional need for an events and meeting space that could accommodate up to 250 people. A setting such as Preston Park would create an attraction that would further support the attractiveness and desirability of such a facility and establish a revenue-generating use within the site. It was determined that a premiere location for such a facility would be on the site of the existing Preston Laboratory Building. The master plan proposes a building that is approximately 6,000 square feet in size and constructed to a minimum of gold level LEED accreditation. The building's form could evoke some of the massing of the original laboratory building. Two vertical elements would form entry elements and house service uses. These elements could be made from some of the reused Roman brick of the

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original structure. The remainder of the building's walls would be glass. The primary interior event space could be a wide-open room, with a broad vista overlooking the great lawn, the prairie and the pond. The space could be divided up with movable walls to allow up to three separate rooms within the building. A broad cantilevered canopy could extend beyond the glass walls and above an outdoor overlook plaza. The overlook plaza would have views of the restored lily pool, the Great Lawn and Loch Carrie. Operable glass walls could open to provide free-flow between indoor and outdoor spaces. The canopy would be covered with a green roof. The floor plate of the proposed building is larger than the original footprint of the laboratory building, so the original floorplan, including key elements such as Dr. Preston's desk, could be depicted in the masonry flooring treatment, allowing visitors to obtain a sense of the original location and activities that occurred within the previous building. One could literally place a chair in the location of Dr. Preston's desk chair and see the same view he experienced across the site as he pondered his great experiments, yet allowing for a completely modern utilization of the site and creating a cutting-edge and modern facility for the promotion of learning.

Themed Installations: Various artistic architectural and landscape installations are considered for key nodes identified from the original Dr. Preston surveys of the site. The master plan alludes to themes for these installations and their potential locations. The concept is to have basic natural elements such as wind, water, light, etc. inform the design of these elements. Part of the intention of these installations is to create built elements in the landscape that create additional destinations that draw people through the landscape in a manner very similar to follies in the English garden tradition. They should also be designed in a way that creates a heightened awareness of some aspect of the landscape. The specific use of technology, such as special materials like structural glass, is desirable as a way to tie multiple site themes together. In some cases these installation could be temporal. In fact a complete installation of four or five separate landscape interventions could be placed on the site as part of special seasonal events and then removed, adding to the concept of continual change and evolution within the park.

Preston Eco-Transect, Woodland Canopy and Bird Boardwalk: This installation is conceived as a linear memorial to Dr. Preston and specifically his work as a conservationist and his work in studying ecology. The concept extends on the linear axis he especially emphasized in his survey studies of the site and partially exists through the existing allée of hemlock trees. The proposal would extend this linear walk into the woodland areas as an elevated walkway. It would be elevated on a single post structure to practically eliminate all footprint on the land. The walkway would be cantilevered off of the central posts, creating a switchback walkway at two different elevations within the tree canopy. The concept promotes the idea of creating an altered sense of prospect for visitors, providing them with a different point of view of both the landscape and the structure of the forest. In addition, the walkway could allow for excellent bird watching. The switchback of the two elevated walkways would converge at a point heavily emphasized by Dr. Preston's site studies and could include specific interpretation of the field of conservation and his role in that movement. The structure could also support high-grade glass panels that provide interpretative information of bird and animal populations, allowing visitors to view information and, due to their relatively transparency, the landscape behind at the same time.

Garage and Storage Building: The Township has been making small upgrades to the structure, mostly routine maintenance. Until a larger classroom facility can be constructed, this building serves as a vital indoor/outdoor space for smaller on-site programs. In addition to routine maintenance that needs to continue, large screen door panels could be created for the garage doors to allow for an improved indoor/outdoor experience for programs.

Instrument Building: A specific reuse of this building has not been determined at this time. The structure, especially the ground floor, is conducive to reuse as administrative office space. This building could be considered as a Parks and Recreation Department headquarters building along with display areas for Preston artifacts and collections. The structure would require a new HVAC system, ADA upgrades, and new restroom facilities. Interior spaces would need to be modernized.

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Besides space considerations, historical collections that will be housed in the building should be subject to appropriate environmental parameters including climate controls (active and passive), lighting control, and ultraviolet light mitigation, and protection from indoor pollutants that have sources in building materials as well as the outdoors. It may be that the existing structures will require special modification to achieve levels that protect against deterioration of collections. The exterior requires some routine maintenance, and the roof should be inspected prior to renovation to determine its remaining lifespan.

Carnegie Building: This building can remain as long as it is deemed to be valuable for park maintenance purposes only – not for any general Township maintenance needs. The building should be repainted a dark green or grey-brown color to help it visually fade into the landscape. Vertical green-screens should be placed around it to further visually buffer the structure from primary public areas.

Maintenance Building: This building is in good condition and should remain. The master plan shows that it should be visually buffered on all sides, especially from vehicular traffic traveling in a counter-clockwise direction, which makes fencing and plantings on the buildings rear and eastern sides especially important. Dense shrub plantings and screening on the Oval Arboretum side are also important to buffer the building from the event lawn. The building should be painted a dark green or grey-brown color to help it visually fade into the landscape. No equipment should be left lying around on the exterior of the building, especially outside of the visual buffer area.

Hacienda: This building should be maintained in its existing state. The building represents an opportunity to tell the story of the Prestons and their values of nature-oriented simple living. Graphic interpretation exhibits could be placed inside the windows of this facility when it is not being utilized for other programming.

Pump House (by Loch Carrie): This structure is in very poor condition but is constructed of similar Roman brick as other structures of the Preston Laboratory era. It can be reused to create a small seating overlook of the pond. The roof and the upper two-thirds of the walls should be

removed to create a seating wall enclosure. This will allow the building's neglected sections to be removed, yet allow the structure's footprint to remain and be re-purposed on the site.

Well House: Once public water is provided into the site, this structure will no longer be necessary. This structure should be fully documented per HABS standards and razed.

Harmony Trolley Bridge/Gazebo: This structure was evaluated in detail as part of the dam assessment. The underlying structure requires some maintenance, and the remainder of the structure requires a complete reconstruction. The exact design of this structure should be studied before any construction occurs. It is in an important location and therefore should be treated as an important element in the landscape and not designed as a basic volunteer-led effort.

Bridges: The existing bridges have recently been restored and are in excellent condition.

Circulation, Parking and Services

Entry Drive: The sense of gateway and arrival is important to establish the connection between the park, the community, and visitors arriving for the first time. The master plan proposes to extend the sense of entry to Township-owned property located on the western side of S. Eberhart Road. This could include a simple extension of special plantings or could consist of a traffic roundabout that becomes a neighborhood gateway as well as a park entry element. The entry drive would essentially continue in its existing location and be lined with understory flowering trees to form an entry allée.

Parking Areas: A formal parking area would be established in a curvilinear form, echoing the shape of the Oval Arboretum. The ideal configuration of the parking and vehicular circulation considers the acquisition of the Carnegie Museum property, adjacent to the park. A less desirable configuration is possible without acquiring the additional property. Approximately 80 to 90 permanent parking spaces could be creating in the proposed loop circulation system. Approximately 80 overflow spaces could be provided in an adjacent temporary parking area. ADA-accessible spaces could be provided in the

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permanent parking lot, along with special spaces adjacent to the key building facilities.

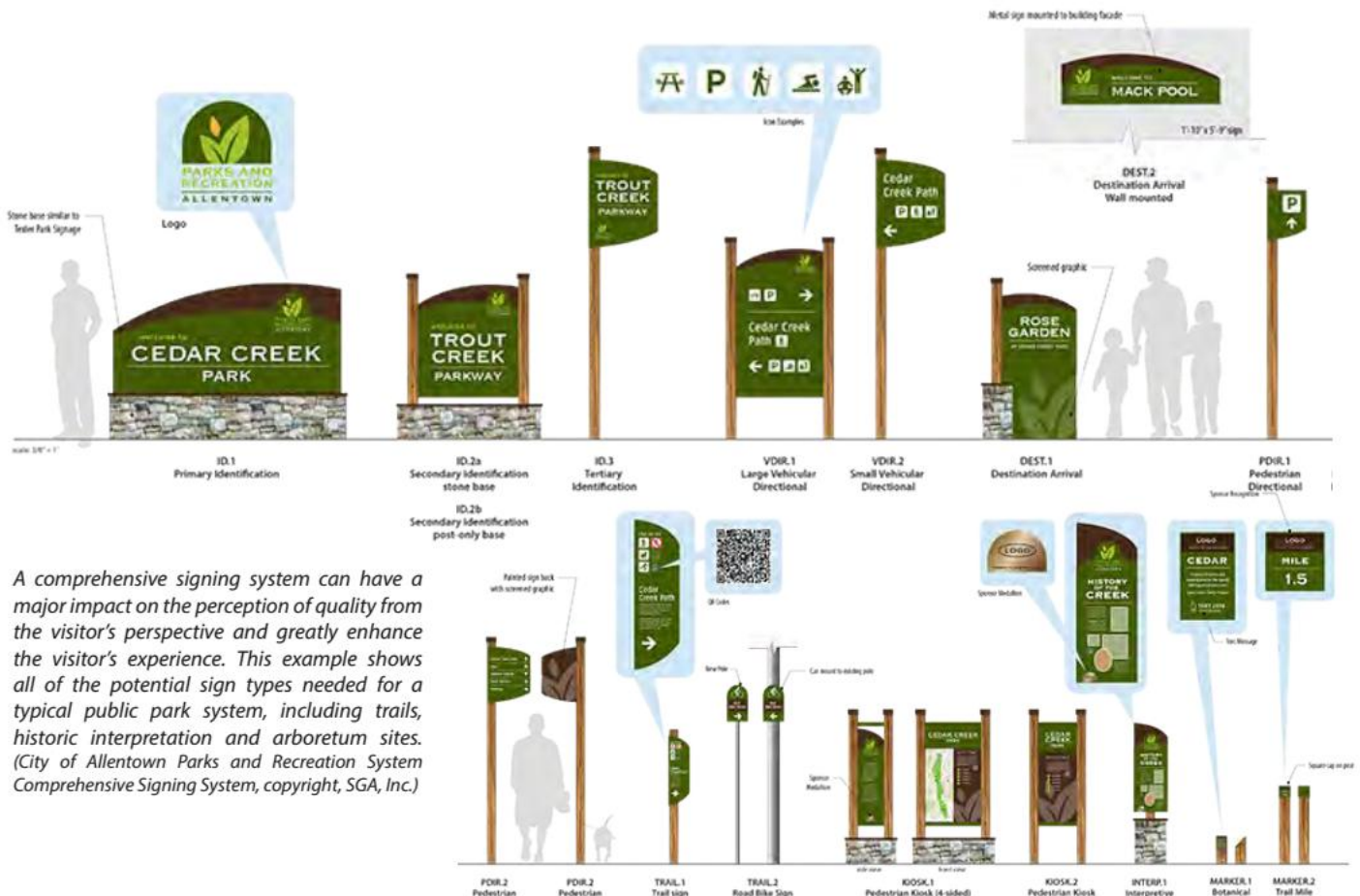
Vehicular Site Circulation: Primary pathways within the Campus are currently paved and are at least 10 feet wide to allow for maintenance and service vehicles along emergency service access. The large Preston Way drive should be paved through the entire site to serve as a service drive through the site and also serve as the primary pedestrian loop.

Multi-Use Pathways: A system of pedestrian trails is proposed with corresponding trail surface treatments, based on their hierarchy, level of expected utilization, and topographic slope. Preston Way should be considered to be paved along its entire length through the site from the Iron Gates to the Oval Arboretum to denote its prominence as the primary trail and to provide full ADA accessibility through the core area of site. Beyond the

existing paved drives within the Campus, the other trails could be a combination of crushed gravel (decomposed granite with a special binder for stabilization) or chipped wood, based on the context and intensity of use.

Site Fixtures

Signing: This park is in dire need of a comprehensive branding and signing systems. In the last year, multiple signs and monuments have been placed on the site, each of a different material, style, design, and type of construction. Because signing is so easy to make and deploy, it is the most common item to spread quickly across parks, creating a very cluttered and unprofessional effect if not well planned in advance. A comprehensive signing system that considers the concept of creating a “brand” for a Butler Township-wide Parks and Recreation System as well as a Preston Park specific brand should be developed.



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The signing system should include the following sign types:

- Primary and secondary identification/arrival
- Parking arrival and orientation
- Park destination signing for special gardens, buildings, etc.
- Trail signing and trailblazing signing
- Interpretative signing
- Botanical identification
- Informational kiosks
- Regulatory

Lighting: Although the park is expected to continue to operate from dawn to dusk, special events may require strategic lighting, especially within the Campus. In addition, security lighting should be installed. Appropriate fixtures should be selected and used throughout the site to ensure that all lighting is consistent and lighting levels are appropriate to the specific application areas.

Benches and Waste Receptacles: As with signing, this site has experienced a proliferation of benches of varying designs and materials. In general, two bench palettes and corresponding waste receptacles should be used. In the Campus, a metal bench and waste receptacle should be used. The current metal benches may not be the best design for Preston Park, so these benches maybe best relocated into Butler Township Community Park and Saw Mill Run Park. Several options should be considered in relation to the overall Vision Statement and aesthetics of the park before one is selected. It is important that all elements that are placed into the park are given a thorough evaluation for how they fit into the overall desired vision and not randomly picked from a catalog. In the Arboretum and Preserve areas, the wooden bench designed by the consultant team should be used. A matching wooden waste receptacle or a very simple, off-the-shelf unit should be selected that is appropriate.

A Few Words about Unplanned “Improvements” to Preston Park

Over the course of the master planning process, the consultant team received numerous requests to respond to individual request by residents to “make improvements” to the park. The number of requests, especially from

the community’s strong interest and desire to invest time and effort into the park. These projects also represent a real potential set of future problems. Until the master plan was developed, there was a decision-making vacuum in which to determine which ideas would be well-suited and which would not. Examples, such as the sunflower garden on the great lawn, represent a well intentioned idea that is actually detracting from the vision and integrity of the place and creating a future maintenance headache for the Township. Now that the master plan is prepared, only projects that directly reinforce the vision and specific recommendations of the master plan should be approved. This does not in any way mean that the Township should turn away volunteers. Instead it should direct those interested in participating by providing specific direction as to what projects are most needed. The Township’s staff and an advisory board well-versed in the master plan should be defining every improvement that occurs in the park, not relying on anyone who visits the park to advocate their own personal vision, without the context and benefit of the extensive master planning effort and supporting documentation.



This comfortable and simple wooden bench should be adopted as the standard for the Preserve areas within Preston Park. It is designed to be relatively easy to construct, install and to be durable and easy to maintain.

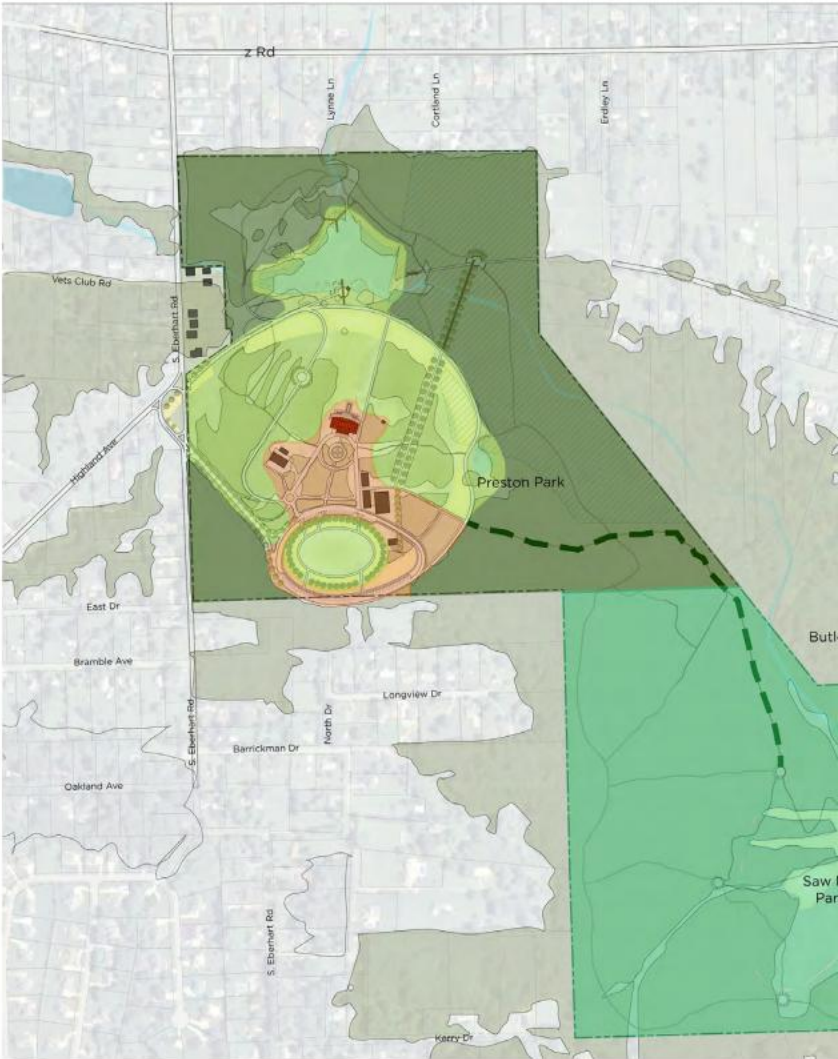
Park Master Plan

Map Legend

↑
NORTH

Date: October, 2014

- Preston Campus
- Preston Arboretum
- Preston Preserve
- Butler Community Park
- Saw Mill Park
- Primary Trail Connection Between Parks








Preston/Butler Park Master Plan

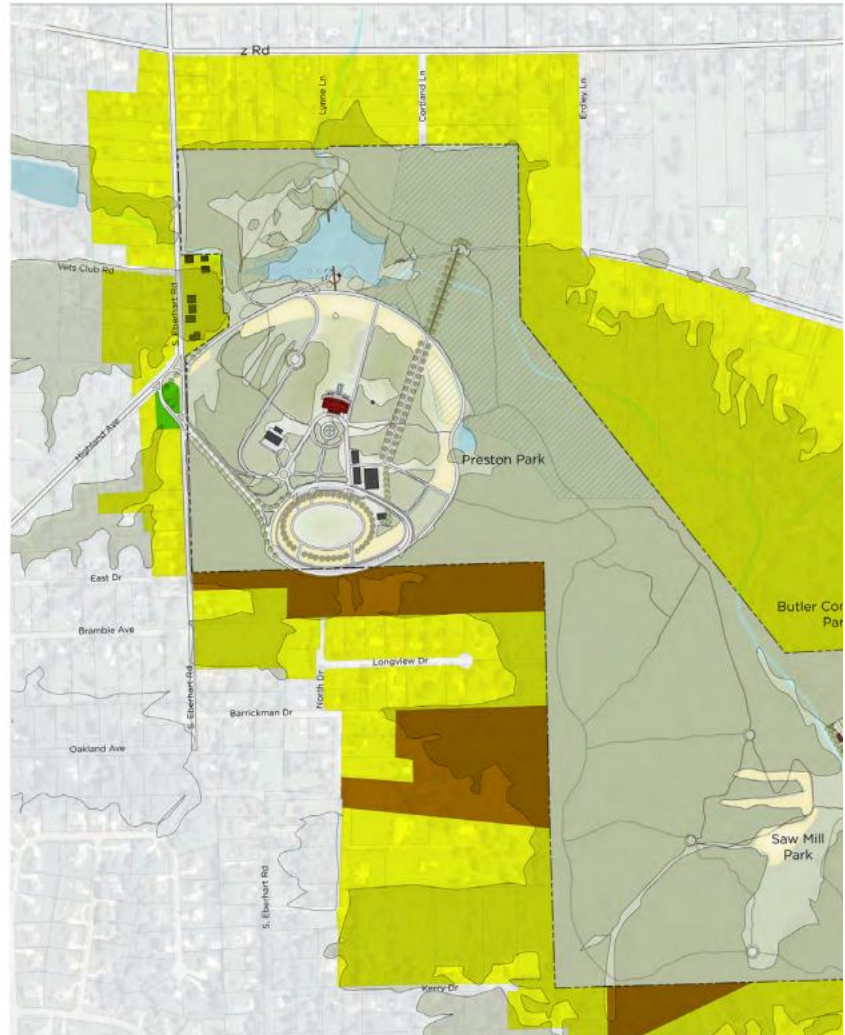
Park Master Plan

Map Legend



Date: October, 2014

	Residential
	Industrial
	Civic/Institution
	Parks/Open Space
	Vacant



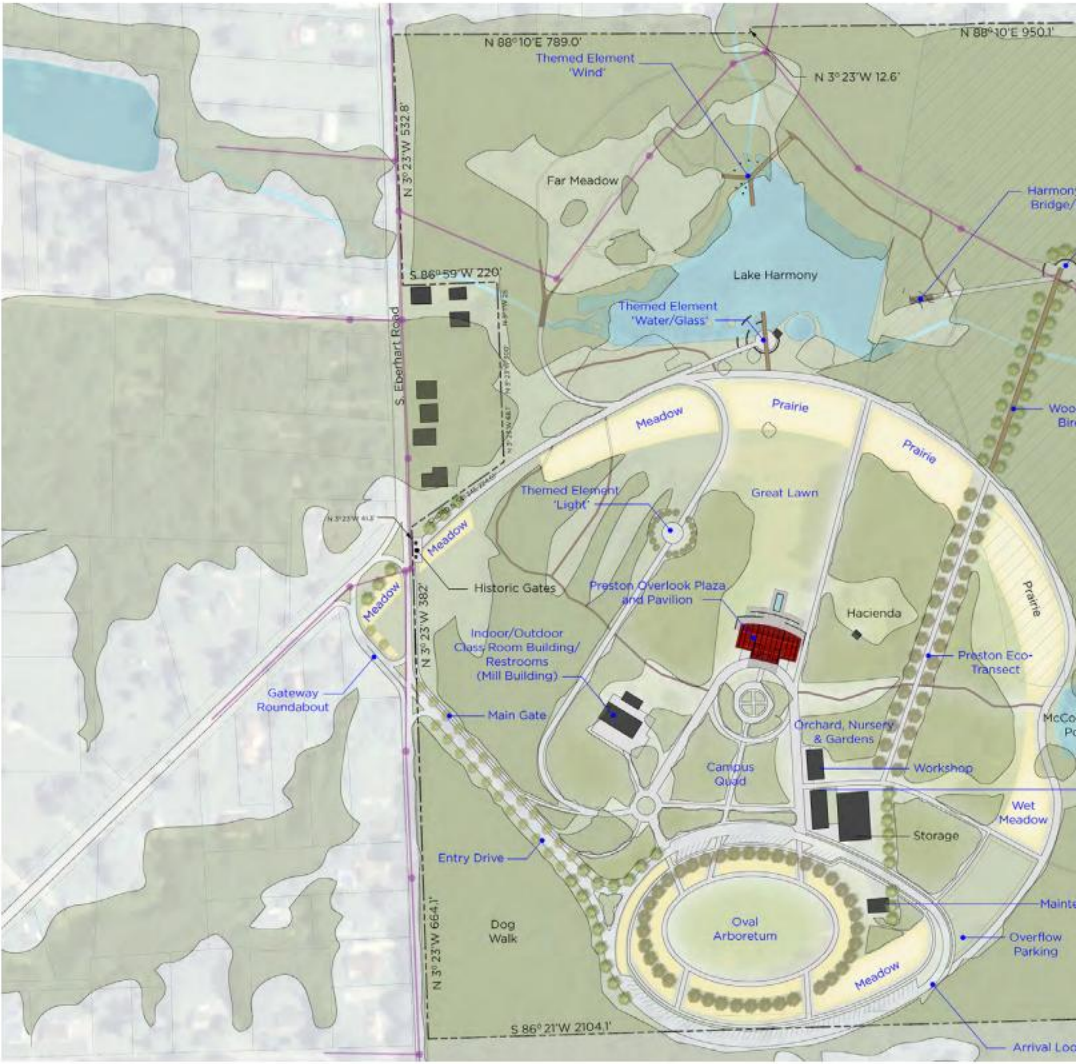
Preston/Butler Park Master Plan

Park Master Plan

Map Legend

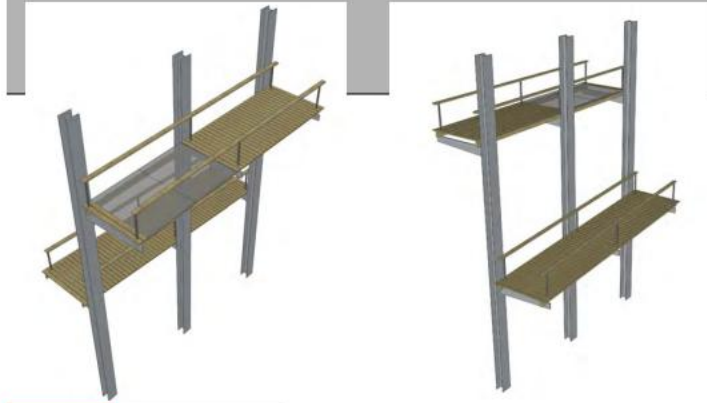
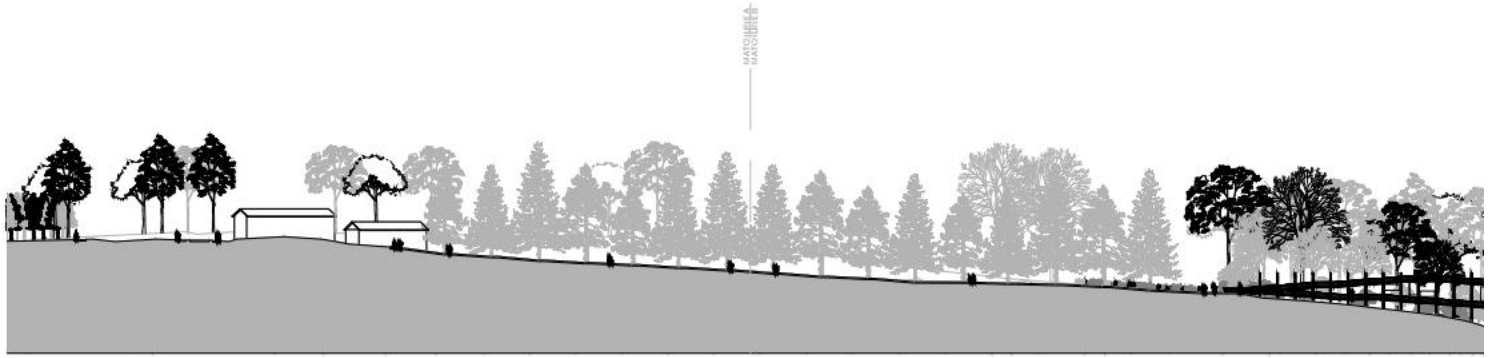


NOTE: BLUE COLORED LABELS INDICATE PROPOSED FEATURES

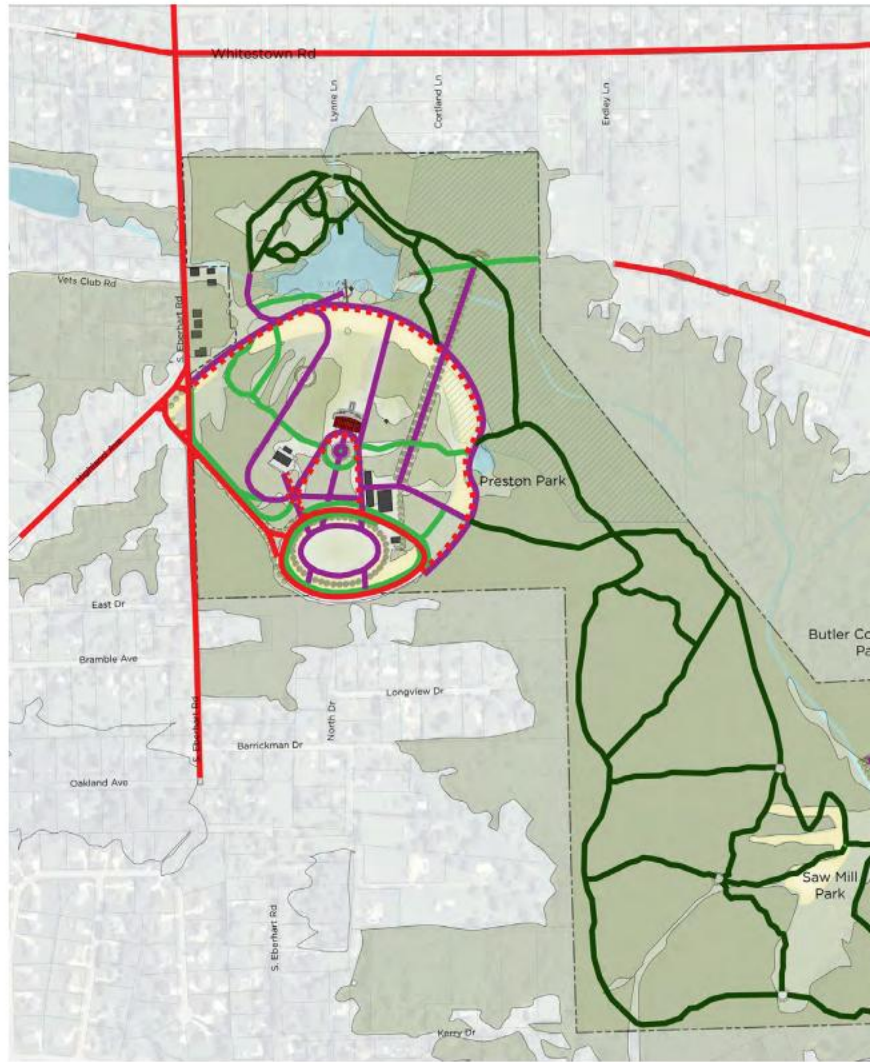


Preston/Butler Park Master Plan

Park Master Plan



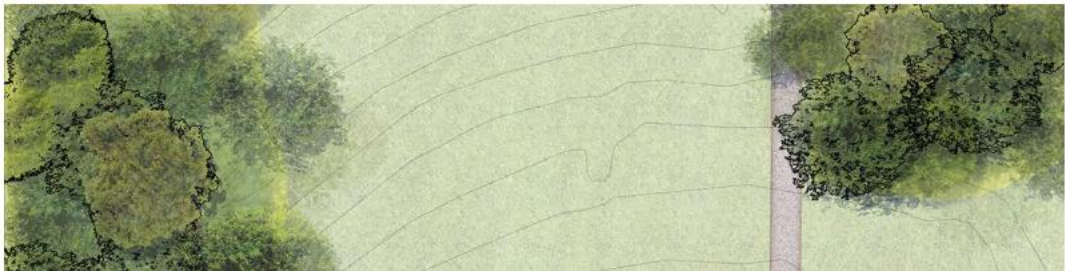
Park Master Plan

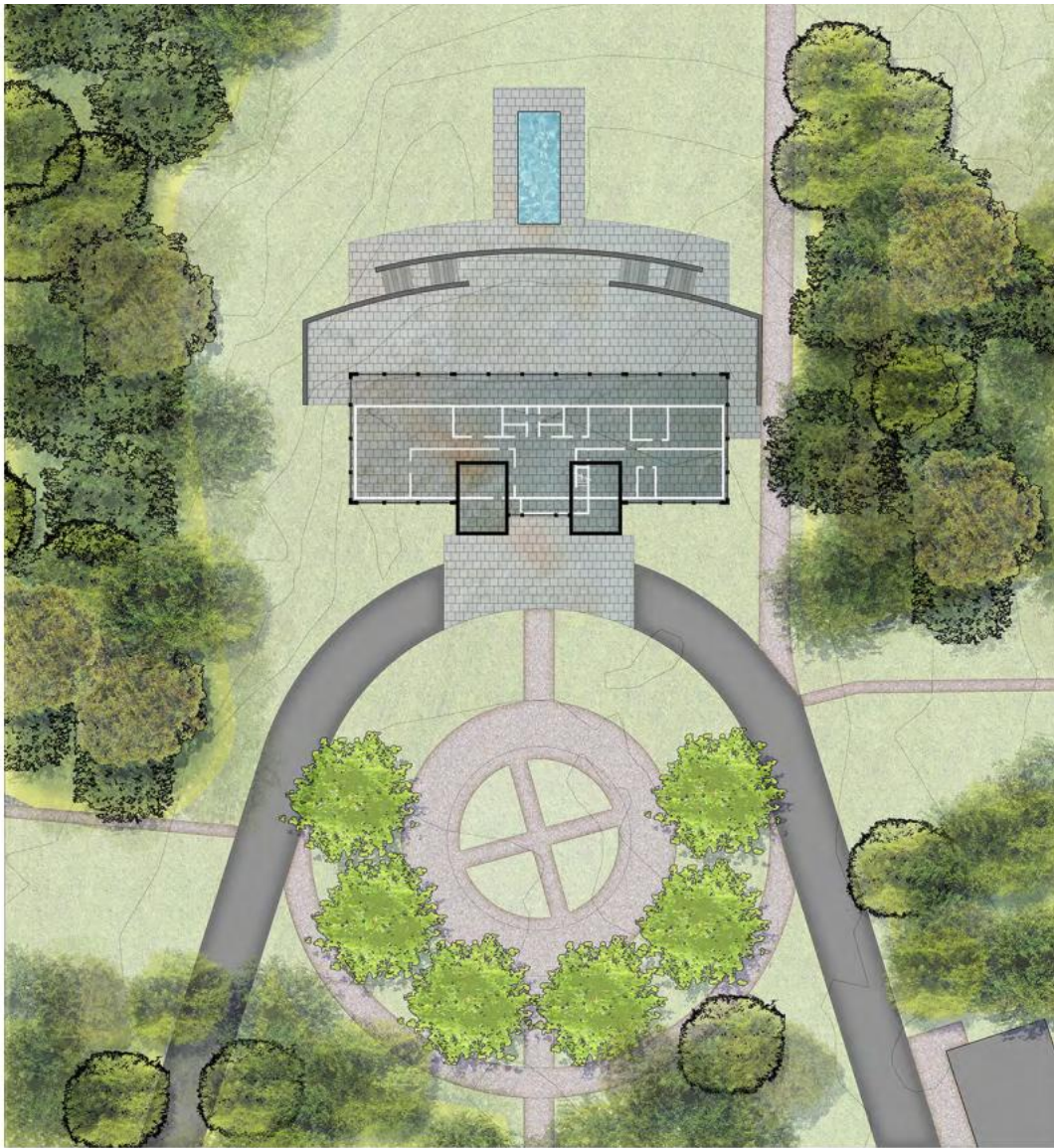


Preston/Butler Park Master Plan

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Park Master Plan



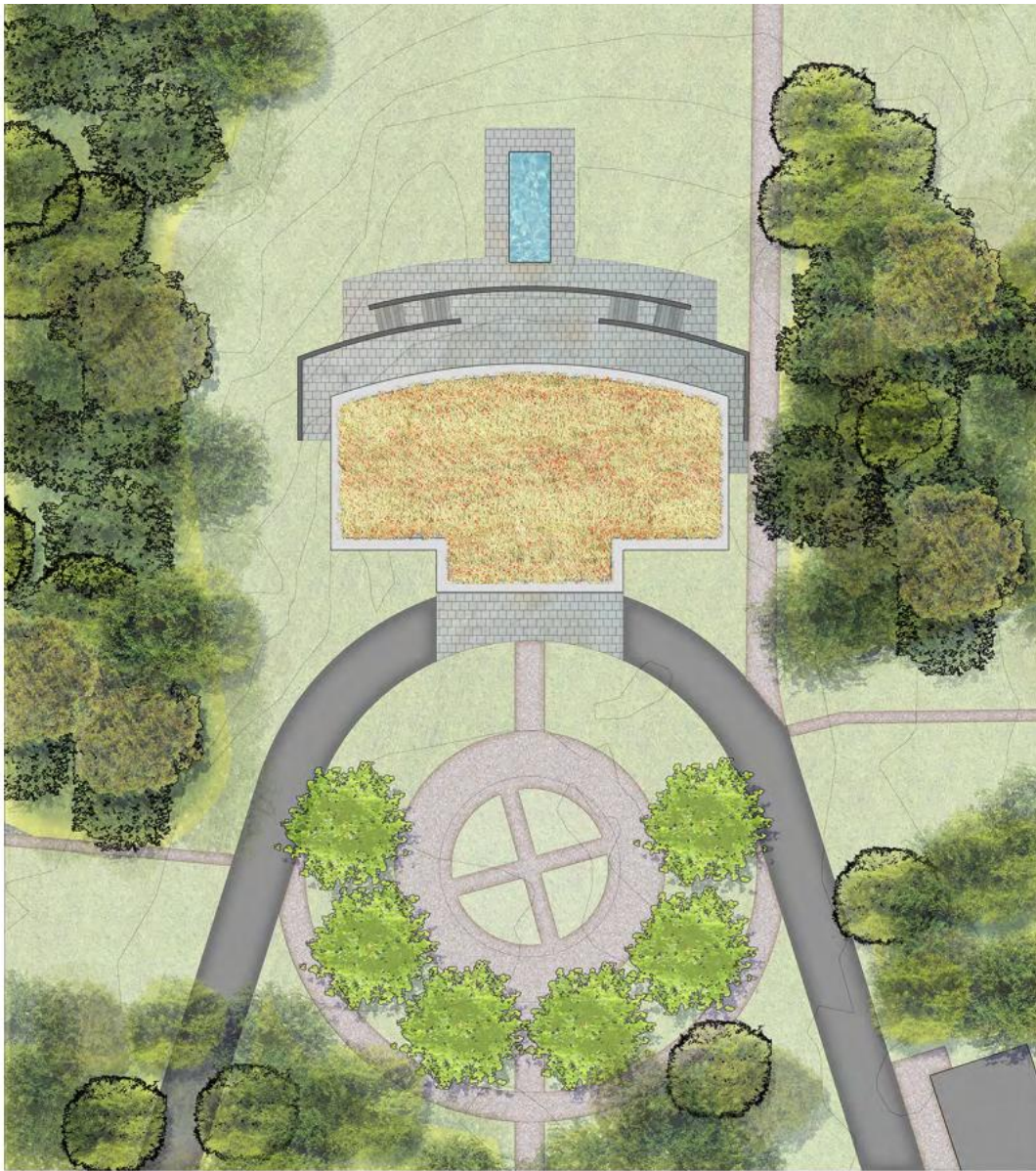


Preston Pavilion Building- Floor Plan and Great Lawn Terrace

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Master Plans
Butler Township, PA*



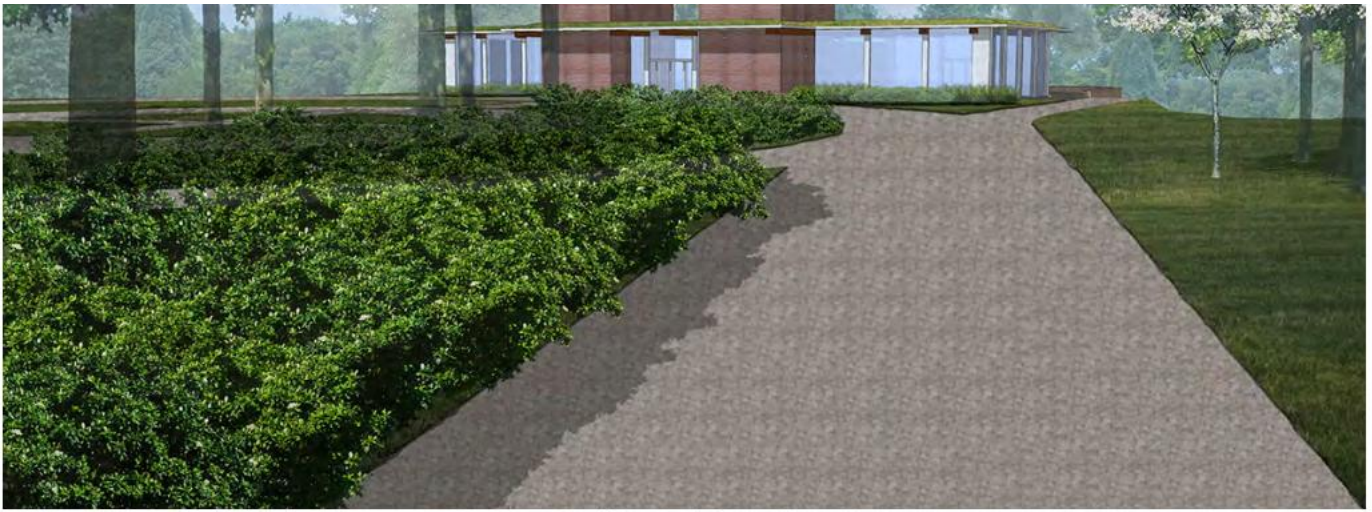


Preston Pavilion Building- Greenroof and Roof Line

Park Master Plan

*Preston Park/Butler Township Community Park/Saw Mill Run Park
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Preston Pavilion Building - Front Entry



Preston Pavilion Building - Great Lawn

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Butler Township Community Park/Saw Mill Run Park

Overall Site Strategy

As discussed earlier in the Analysis section of this master plan document, although Butler Township Community Park technically encompasses the entire area of study outside of the boundaries of Preston Park, the area is

be included where space is available to enhance the aesthetic character of the park. Planted bio-swales and rain gardens are proposed for the median islands within the redesigned parking lots. Plantings along the perimeter, especially along the northern property line, adjacent to residential properties are important to provide a buffer between the park and private properties, especially once the parking is relocated closer to the property line.

perceived by the community as two separate park facilities. This perception is partly a function of the historical naming of the park area (as Saw Mill Run Park) and a function of the way the landform dramatically separates the upper and lower areas. Therefore, it was determined that it would be advantageous to actually formally brand the upper park, which is primarily an active recreation-oriented facility Butler Township Community Park. The lower park, which is mostly a passive recreation and natural area, will be identified as Saw Mill Run Park.

Butler Township Community Park

The master plan concept for this park maintains the emphasis on active recreational facilities and focuses on moving the parking, as much as possible, to the perimeter of the park in order to create an entirely people/pedestrian zone at the core. Today, there is parking inter-mixed with recreational facilities, specifically between the dek hockey rink and the restrooms building and the top of the slope down to Saw Mill Run Park. This is prime parkland that should be allocated to recreational or public open space use, not for parking.

Landscape Zones

The majority of this park is either lawn or hardscape. The master plan proposes to increase the tree canopy throughout the park to provide additional shade and organizational structure to the park. In general trees are proposed to be planted in rows, or grids (often referred to by landscape architects as a bosque of trees” using the Spanish term for a cluster of trees in a woods). Establishing an aspect of formal geometry to this park will provide a mechanism of organization, because the park is heavily programmed with active and passive recreational facilities tightly located to fit on the site. Lush plantings, mostly of native shrubs and perennials herbaceous plants, should

Buildings and Structures (Existing and Proposed)

Community Building: The master plan shows how this building could be expanded from the rear to possibly double the size of the main multi-purpose room. The location would take advantage of the great views of the Saw Mill Run valley and Saw Mill Run Park. Additional outdoor space, in the form of a deck that would allow for indoor/outdoor use of the building, would dramatically increase the building’s utilization and revenue potential for public and private events.

Picnic Pavilions: Four new picnic pavilions are proposed within the core of the park. They are oriented around a central lawn space to establish a formal green public gathering space.

Restroom/Concession Building: This building is a relatively recent addition to the park and would remain in its current state.

New Recreational Facilities

Regulation-Sized Dek Hockey Rink: The existing undersized rink is heavily utilized and would remain. The master plan shows how a second regulation-sized facility could be placed into the park, along with bleachers for spectators, to create a dek hockey complex. Both facilities would be lighted to allow for extended play hours.

Landform Playground and Tot Lot: The creation of a destination-scaled landform playground and tot-lot would allow for the utilization of a portion of the sloping areas of the park and also create a stronger connection between this park and Saw Mill Run Park. Creating a landform playground would provide an opportunity to create a truly unique facility on the site, one that is not a standard “cookie-cutter” playground bought out of a catalog. It would also provide a different recreational play

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opportunity from the great playground equipment located in Butler County’s Alameda Park. A small spray pad could be included as part of the overall play area, if it is determined that physical conditions could accommodate such a facility. The park could capitalize on the landform to provide built-in slides and soft-surface play mounds and other elements that foster creative play for a broad

Duffy Road, a full topographic survey of the site would need to be performed. This lot should be lighted.

Site Fixtures

Signing: This park should be part of a comprehensive signing system which considers creating a comprehensive branding for a Butler Township-wide Parks and Recreation

range of age groups. This facility would likely be placed into a series of terraces connected with ADA-accessible ramps, allowing for spectacular views of the Saw Mill Run Valley and the park below.

Existing Playground Equipment: The existing playground equipment would remain, although once the landform playground is completed, it may be determined that this equipment would be better utilized at another future tot-lot location within the Township.

Circulation, Parking and Services

Parking Lot #1: The current parking lot is inefficiently configured and creates significantly unusable spaces between it and the property line along the northern boundary of the site. The proposed configuration creates approximately 139 spaces while eliminating the current lot in the core of the park, providing a net gain of approximately 40 spaces. The parking lot is proposed to have bio-swales integrated into the medians to provide integrated stormwater management to aid in eliminating the engineered basin that currently exists which is unattractive and also takes up valuable park space. The parking lot should be lighted with architectural lighting.

Parking Lot #2: This lot is depicted as straddling the property line with the Acme Gas Company property along the southern boundary of the park. Due to the location of gas piping and valves, this may not be possible. Discussions for a parking easement or other arrangement should be pursued with the gas company to determine if opportunities exists to utilize any portion of their site for parking. The master plan shows how a double-loaded lot could be created to accommodate 40 parking spaces. If the gas company property cannot be included, this number would likely be reduced to 20. In order to determine exactly how this facility would be configured, including determining site visibility sight triangles from S.

System. The signing system for this park should include the following sign types:

- Primary and secondary identification/arrival
- Parking arrival and orientation
- Park destination signing for buildings, etc.
- Trail signing and trailblazing signing
- Informational kiosks
- Regulatory

Lighting: The park is expected to continue to operate from dawn until after dusk, therefore requiring parking lot lighting as well as lighting for the existing and proposed dek hockey rinks. The existing cobra-head utility lighting should not be used within the park. With the exception of the dek hockey lighting, which should include cut-offs to limit light pollution spread, all lighting should be of architectural quality. The lighting fixture palette should match those utilized in Saw Mill Run Park and possibly Preston Park, if compatible.

Benches and Waste Receptacles: The current metal benches used in Preston Park should be relocated to Butler Township Community Park and used as the standard along with matching metal waste receptacles.

Saw Mill Run Park

The master plan concept promotes a way to increase public access to this facility to greatly increase the park's utilization beyond winter sledding, minimal trail use and natural area preservation. This is done by providing a vehicular access through the Township's adjacent maintenance facility. The master plan also proposes providing parking and other support facilities within the park and creating a major pedestrian access staircase, as a major landscape element along with an amphitheater, to connect this park with Butler Township Community Park located at the top of the valley.

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Landscape Zones

As with Preston Park's master plan, Saw Mill Run Park's design consists of categorizing areas within the park by landscape zones. These zones are defined by the overall landscape planting and management approach most suited to specific areas, either as a result of existing vegetation

and more direct sunlight exposure in the lower areas. These forests are extremely important because they cover a vast amount of the park's western area and represent an important habitat to support wildlife, especially bird species. They also provide a valuable buffer between the park, its vistas, and the adjacent residential properties

to specific areas, either as a result of existing vegetation or based on the realignment or reprogramming of areas within the park as part of the park's Vision Statement and the overall site organizational strategy.

Natural Landscape Zones

Since this park has large open space areas that are not programmed for a specific recreational use, maintaining and managing natural landscape zones is an important component of the park's overall master plan. As with Preston Park, these landscape zones are indicative of regional habitats and are promoted within the master plan as the contextual and broad landscape treatments.

Meadows: The master plan promotes converting some of the sloping areas that are currently mowed to native warm season grass meadows with native herbaceous plants and wildflowers. This landscape treatment provides open vistas through the landscape and habitat diversity while reducing mowing and maintenance costs. Mowed paths through the meadows should be provided to connect to the extensive woodland trail system that extends to Preston Park (see the Preston Park Landscape Zones section for additional information on meadows and their application).

Location: Meadow areas are proposed for the three secondary slope runs located north of the main slope.

Key Design/Management Recommendations: The meadow areas would be established in a manner similar to those within Preston Park and managed through selective removal of invasive plant species and an annual fall mowing regime.

Stratified (Multi-Layered) Successional Forest: There are several variations of stratified forests on the site, mostly differentiated by elevation and directional orientation. Most of the slopes in this park are oriented with east or west orientations providing for dryer soils

west of the site. Successional Upland Forests have a clear layering of vegetation including a super canopy (a tree whose crown is almost entirely above the main canopy, receiving light from all sides), canopy, understory, shrub and herbaceous layers at ground level with species desiring soils that are variably well-drained by the primary species. In the case of Saw Mill Run Park, there are large areas of unbroken Upland Forests that provide valuable habitat conditions for wildlife along with linear areas of Upland Forest cover which create hedge-row like conditions that maximize forest edge conditions. These areas also provide special habitat conditions for some wildlife, especially when adjacent to meadows. Successional Lowland Forests occur mostly along the lower portions of slopes, along Saw Mill Run. They should also exhibit a strong layering of vegetation, although in the denser canopy areas, the understory and shrub layer tend to be less dense than in upland forests. The species growing in these areas will tolerate soils with higher moisture content and periods of inundation at the lowest points, closest to the stream. In the case of the area directly along Saw Mill Run, there is a very high level of invasive plant species, mostly likely due to the level of disturbance that has occurred historically on the site in these areas.

Location: Successional Upland Forest would be maintained in the existing areas, mostly on the western side of the site. Successional Lowland Forests occur mostly along the lower portions of slopes, along Saw Mill Run.

Key Design/Management Recommendations: The management strategy for these areas should focus on the removal of invasive plant species, especially vines, which in some locations have completely encroached into the canopy of the forest. Removal should follow the recommendations outlined in Appendix D. Edge areas are especially vulnerable to invasive species, so special attention should be given to their removal in these areas

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and the planting of native successional edge species. Edge conditions are also critical habitat areas that support animal species that do not occur in other areas due to their unique locational attributes of plant cover near open areas for feeding. Steeper sloped area should be monitored for

where it supports specific activities that require turf.

Location: Lawn is proposed for the areas surrounding the paved pavilion and on the main slopes to support sledding and a proposed disc golf course. The proposed

signs of erosion damage, especially from visitors venturing off designated trails or creating “rouge” trails that follow vertical slopes. Target areas within the overall forests should be identified for long-term monitoring for species health and diversification. A management strategy linked to similar areas within Preston Park should be performed that scientifically monitors the plant diversification. This effort could possibly be a volunteer project as a way of evaluating the health and success of the ecosystem. New native species could be propagated and introduced to ensure that greater diversification is achieved along with preservation of future canopy cover.

Day-Lighting and Restoring Saw Mill Run: Saw Mill Run currently is conveyed through a series of large corrugated pipes in the area at the base of the main slope, originally to accommodate the ski slope operation. The master plan allows for the day-lighting and restoration of the stream in this area. This will require a small boardwalk structure to span the stream in the area of the proposed picnic pavilions and parking area. The stream should be restored using soft-engineering techniques to restore the riparian habitat (see the Pond Area description under Preston Park for more information about soft-engineering techniques).

Cultural Landscape Zones

These landscape areas are designated as “cultural” due to the fact they rely on deliberately planted and/or managed plantings, even though they may appear to be “naturalized” in character.

Lawn: As mentioned in the Preston Park master plan, turf grass is considered a landscape treatment to be used sparingly, only in areas where it supports a specific purpose or desired effect. It is not utilized as a “default” treatment to cover land. In most cases it is utilized for areas where there is a medium level of public traffic or places where tents or other events can be hosted. As a result, its use within Saw Mill Run Park should be limited to the areas

landform amphitheater would also have terraces treated with turf to allow for lawn seating for events or hanging-out and enjoying the great views of the valley.

Key Design/Management Recommendations: Limiting the amount of lawn as much as possible should allow for better management and maintenance of the turf and reduce mowing costs on the other secondary slopes that are not needed for sledding. The only intense turf management areas within this park would be the lawn terraces within the amphitheater. Chemical fertilizers and pesticides should not be used as a general practice of turf management.

Woodland Gardens and Groves: Woodlands differ from the natural forests described above in several ways. They typically do not include all of the plant layers of a true stratified forest. Also they will likely include a mixture of native and non-native plant species to create a more idealized “garden-like” setting.

Location: These small woodland areas are located on the eastern slopes adjacent to the Butler Township Community Park and the proposed landform playground and the proposed amphitheater and the staircase.

Key Design/Management Recommendations: In most cases, these areas will require the planting of understory trees and strategic groupings of native shrubs to form backdrops and frame vistas and walkway entry points. The shrub and herbaceous layers should also be inter-planted with other plant species, especially near the edge of walkways, in order to diversify the number species. Invasive species plant removal is required in these areas, which currently have excessive populations, especially of Japanese Knotweed. Removal should follow the recommendations outlined in Appendix D.

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Buildings and Structures (Existing and Proposed)

Picnic Pavilions: Five new picnic pavilions are proposed along a new promenade paralleling Saw Mill Run and

Parking Areas: A formal parking area to accommodate up to 56 parking spaces is proposed at the terminus of the park access drive from Saw Mill Run Road. Parking for major events at the amphitheater would rely on

the boardwalk crossing of the stream. No restrooms are currently proposed in this park; however one of the pavilions could be initially constructed to be larger to accommodate future restrooms, once the amphitheater is constructed, should they be determined to be desirable later.

Landform Amphitheater: This facility would be designed to provide ADA accessibility from the parking areas and the pavilions to the first viewing terrace. There was strong community desire for an amphitheater. It would take advantage of the topography of Saw Mill Run Park, which excludes many other uses. It would require further feasibility study to determine the exact placement and size, based on topography and directional orientation for performances, etc. The size of the facility is proposed to seat between 200 and 300 persons, based mostly on parking capacity.

Circulation, Parking and Services

Traffic Study: The point was raised by multiple residents regarding the potential for traffic congestion as a result of adding additional facilities to this park and to Butler Township Community Park. A traffic generation estimate should be performed as part of the design of parking and access improvements based on the estimated traffic generation rates from the uses proposed in the master plans. The traffic study should also look at the public access locations and intersections to determine if any additional off-site roadway improvements are required.

Entry Drive: Vehicular access to this park is badly needed. Access would be provided via the service drive to the Township's maintenance yard. This will require some reconfiguration of the maintenance facilities, security fencing, landscape buffering and an allée of large canopy trees to block existing facilities and to create an attractive and safe accessway into the park. The sense of gateway and arrival is important to establish the connection between the park, the community and visitors arriving for the first time, especially for a performance at the amphitheater.

parking within the Butler Township Community Park to provide additional spaces. The two parks combined could potentially provide 180 to 220 parking spaces, based on more detailed design and if the gas company property could be utilized.

Multi-Use Pathways: A system of pedestrian trails is proposed with corresponding trail surface treatments, based on their hierarchy, level of expected utilization, and topographic slope. A hardscaped pedestrian promenade is proposed to connect the parking area with the amphitheater and masonry staircase that curves up the slope to form the amphitheater. A combination of mowed turf paths and crushed gravel (decomposed granite with a special binder for stabilization) or chipped wood would form the trails in the natural areas beyond the core of the park along Saw Mill Run.

Site Fixtures

Signing: This park should be part of a comprehensive sign system that considers creating a comprehensive branding for a Butler Township-wide Parks and Recreation System. The signing system for this park should include the following sign types:

- Primary and secondary identification/arrival
- Parking arrival and orientation
- Park destination signing for buildings, etc.
- Trail signing and trailblazing signing
- Informational kiosks
- Regulatory

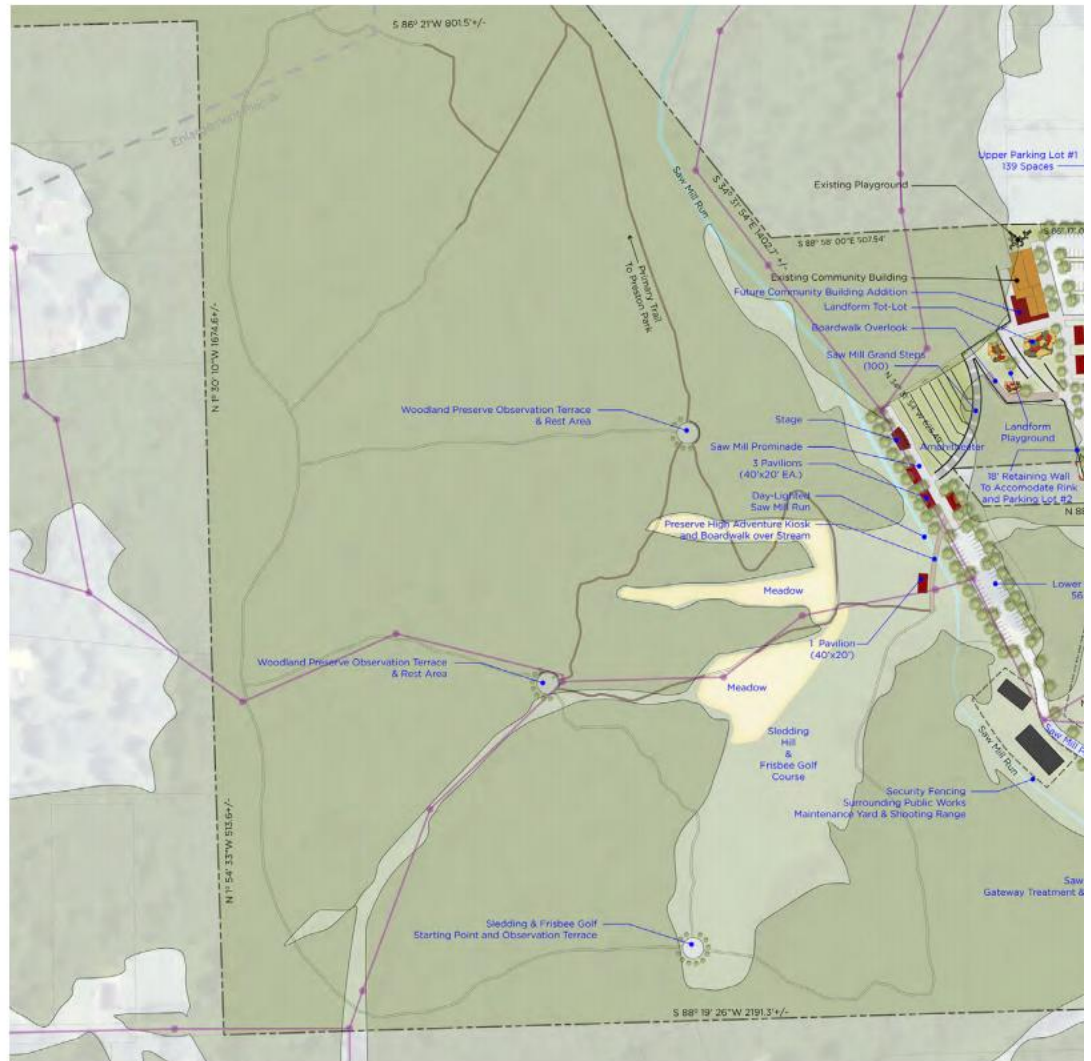
Lighting: This park, on most occasions, would be open from dawn until dusk. During events at the amphitheater, lighting in the parking lot, along the pedestrian promenade and the amphitheater would be required. Minimal security lighting should be provided at all times. Due to the somewhat remote location of this park, the ability for Township public safety to monitor the site after hours would be aided by strategic site lighting around the developed areas. The lighting fixture palette should

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match the one utilized in Butler Township Community Park and possibly Preston Park, if compatible.

Benches and Waste Receptacles: The metal benches and waste receptacles in Saw Mill Run Park should match those in Butler Community Park.

Park Master Plan



Preston/Butler Park Master Plan

Butler Township Com

Operations and Management

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Introduction

Butler Township's park master plans include Preston Park and Butler Township Community Park/Saw Mill Run Park. Preston Park has 88 acres while Butler Township Community Park/Saw Mill Run Park combined cover about 97 acres. Together, the parks comprise the township's public parks and recreation system. It is important to note that each of these parks have the potential to be of the highest caliber, quite distinct from traditional community parks found in most communities. They are very special places, each in their own way.

recreation operations, management and financing: **Where are we now?** and **Where do we want to be with our park system in the future?** These questions formed the foundation for this plan to manage, operate and support the parks as Butler Township's Parks and Recreation system.

The Current Operations, Management, and Financing Scenario

Butler Township is responsible for these parks. However

Preston Park's important history and cultural heritage merited inclusion on the National Register of Historic Places. Dr. Preston, a glass scientist, ornithologist and ecologist created this site as a place in which to live, work and enjoy nature. Jane Preston was ahead of her time with her emphasis on active healthy living and philanthropy. The park has unique vegetation, fields of well-maintained prairie grass, ponds, an abundance of wildlife, two pedestrian bridges, an arboretum of 40 different species of pine trees, several state champion trees, and 50 acres of second-generation forest. These natural features, combined with the important and fascinating story of the Preston history make this park a destination.

Saw Mill Run Park is a jewel of a natural area. While it would be easy for this park to take a back seat to Preston Park, it is a starkly scenic area that both conserves some of the finest natural resources in the region and provides opportunities for people to recreate in the great outdoors, year-round. It features active recreation facilities nestled in a significant area of natural scenic beauty that enable residents to experience nature close-to-home.

In undertaking this project, Butler Township specified that a special effort would focus on building partnership opportunities and capacity building to ensure quality long-term stewardship of the lands.

In developing this Operations, Management, and Financing Plan as part of the overall master planning effort, the consulting team conducted interviews with the Preston Park Advisory Board Members, key stakeholders in the community, and the Township Manager. Two essential questions emerged regarding parks and

Butler Township is responsible for these parks. However, there is no dedicated parks and recreation staff. The Butler Township Buildings & Grounds Division of the Highways, Roads and Streets Department performs park maintenance. The Township Manager oversees parks and recreation management functions. Volunteers contribute heavily in support of Preston Park. The Township operates under a philosophy that all municipal employees are a team that together works toward accomplishing Township goals in providing excellent public service. "It's everybody's job." is the mantra of Township employees in functioning as a team.

In 2010, Butler Township participated in the development of the Butler Area Multi-Municipal Plan: A Comprehensive Parks, Recreation & Open Space Plan (the BAMM! Plan). The Township worked in partnership on the BAMM! Plan with City of Butler, East Butler Borough, Penn Township, and Summit Township. The plan recommended the formation of a multi-municipal parks and recreation board and the establishment of the position of a regional Parks and Recreation Director to serve the five municipalities. Grant funding was and continues to be available to fund the establishment of a Circuit Rider through the Pennsylvania Department of Conservation & Natural Resources Bureau of Recreation's Circuit Rider Program. A Circuit Rider is essentially and Parks and Recreation Director serving two or more jurisdictions. The Circuit Rider grant lasts for four years to fund the salary of the regional Parks & Recreation Director in decreasing amounts from 100%, 75%, 50%, and 25%. The municipal partners match the balance over the four-year program. The goal is to use these four years with a parks and recreation professional to build and

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stabilize the parks and recreation department to continue when grant funding lapses. The recommendation was not implemented, and Butler Township continued to operate independently. The Township established the Preston Advisory Board when the Township received the property through the bequest of Jane Preston.

Municipal Staff Serving Parks & Recreation

Butler Township has two fulltime employees in Buildings & Grounds Division of the Highways, Roads and Streets Department. They are also responsible for park

vision, goals and objectives. Volunteering in Preston Park is particularly attractive. The United Way has reported that for its annual "Week of Caring" in which volunteers contribute their time to community improvements, 90 percent of volunteers want to contribute their efforts in Preston Park.

Partners

Butler Township works with a few important partners in addition to the Preston Park Advisory Board. These include the Western Pennsylvania Conservancy, the

Streets Department. They are also responsible for park maintenance. In addition to the Buildings & Grounds Employees, the Township uses Community Service Workers. Since they require supervision, the crews are split into two for each of the Buildings & Grounds Workers, who supervise up to four Community Service Workers per crew. There is no Township recreation staff. Programs are provided by community organizations such as Butler Dek Hockey and the Preston Park Advisory Board. The Township Manager coordinates use and management of the parks and is responsible for the overall planning, management and direction of the sites along with all township public property.

Volunteers



The Preston Park Advisory Board oversees Preston Park. The volunteers do everything from leading tours to planning, programming and maintenance. Their role in park operations is vital. Having a master park plan in place will help the volunteers in working toward a common

include the Western Pennsylvania Conservancy, the Butler County Parks Department and the Dek Hockey organization. The community engagement process for this master plan found a great deal of interest in the parks from potential partners such as the Butler County Convention and Visitors Bureau, the Historical Society, schoolteachers, environmentalists, scientists, Master Gardeners, Moraine State Park, and people who have had lifelong interests in the Preston property and knew the Prestons.

Equipment

Butler Township has made a concerted effort to purchase state-of-the-art equipment for maintenance. Zero turn mowers, trailers, a new truck, leaf blowers and trimmers all help to create maximum efficiency.

Financing

In 2013, the Butler Township budget was \$7,205,532. The Recreation budget was \$36,875. The budget for park maintenance is included in the Highways, Roads and Streets budget with no separate cost tracking for parks. While there is no doubt that the Township is investing in park maintenance through the Highways, Roads and Streets Department budget, it is not possible to determine the annual operating investment for park maintenance based upon present record-keeping practices. This is not unexpected, as the Township is just beginning to develop its parks and recreation system. Over time, the Township can institute park and recreation information management processes to provide facts and figures about parks and recreation workload and cost tracking. Such information is essential in planning, decision-making, the allocation of resources, setting fees and charges, purchasing, contracting and other management functions.

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Given the expenditure information available, the Township is spending about 0.5 percent of its budget on recreation. The national average municipal investment in parks and recreation as a function of the overall municipal budget is about 2.14 to 3.00 percent with departments managing very successful parks and recreation system have a minimum of five percent of the municipal operating budget. With a population of 17,248, the Township is spending about \$2.18 on recreation per capita. In Pennsylvania, the average is about \$30 per

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Findings and Implications about Parks and Recreation Management

The interviews and assessment about parks and recreation maintenance have established an accurate understanding of the challenges and opportunities facing Butler Township in establishing Preston Park and improving Butler Township Community Park/Saw Mill Run Park. This understanding forms the basis for the strategy and recommendations framed for these park master plans.

per square foot of land, the average is about \$65 per capita. Nationwide, it is \$65. This information merely presents some benchmarks in order to frame parks and recreation planning in Butler Township. The figures are not inherently good or bad, but instead offer perspective for considering how to move forward. Nor do they include the value of volunteers who contribute important knowledge, time and support for Preston Park. The 2013 value of a volunteer hour is about \$21.25 in Pennsylvania according to the Independent Sector.⁽¹⁾ Since 2010, the volunteers of Preston Park have contributed 15,200 hours of valuable work. They contribute about 5,000 hours of volunteer time per year, the equivalent of 2.5 full-time employees. Using the value of a volunteer hour this translates into \$106,250 in work value annually or \$318,750 since the volunteer group began operating in the park three years ago.

Preston Park Endowment

Jane Preston bequeathed a \$2 million trust fund to Preston Park. The endowment requires that only the interest from the proceeds be used to care for the park. When interest rates were at six to seven percent, the yield was much better than at the current interest rates in this economically challenging time.

Deshon Woods Sale Proceeds

The Department of Veterans Affairs (VA) purchased the 21-acre Deshon Woods property from Butler Township. The VA will build the new Health Care Center (HCC) on the property. The Deshon Woods tract was designated as Butler Township parkland. The Township purchased this site in 1959 for \$9,700 and sold it in 2011 for \$2.3 million. The Township designated that \$500,000 would go into a capital reserve fund for parks.

1. http://www.independentsector.org/volunteer_time. August 1, 2013.

Recommendations made for these park master plans. The key findings include the following:

1. Butler Township operates in a progressive manner in the public sector with its philosophy that the employees work as a team and pitch in to provide excellent public service.
2. A committed cadre of community volunteers is passionate and visionary about telling the story of the Prestons, preserving this community treasure, and making Preston Park a regional destination. They provide many hours of their own time in Preston Park.
3. Butler Township Community Park/Saw Mill Run Park and Preston Parks are attractive and appear to be well cared for. They appear to be safe, clean and ready to use. The staffing appeared to be sufficient for Butler Township Community Park, but the addition of Preston Park requires additional labor. The development of additional facilities or other sites would require additional work hours or contracting out work.
4. No formalized workload tracking system is in place for park maintenance. Since park maintenance is part of the Highways, Roads and Streets budget, there is no tracking of labor and costs that go specifically to park maintenance. Therefore there is no basis for estimating the true cost of maintaining township parks and recreation facilities. The recreation budget covers only participant recreation.

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5. While there is no plan in place for natural resource management, Butler Township has in fact engaged the Western Pennsylvania Conservancy in addressing resource management through a program to deal with invasive species. The need for a natural resource management plan is particularly crucial given the ecological assets and landscape of Preston Park. Expertise and experience in managing precious natural resources is a pressing need in Preston Park.
6. While there is no plan in place for natural resource management, Butler Township has in fact engaged the Western Pennsylvania Conservancy in addressing resource management through a program to deal with invasive species. The need for a natural resource management plan is particularly crucial given the ecological assets and landscape of Preston Park. Expertise and experience in managing precious natural resources is a pressing need in Preston Park.
7. While there is no plan in place for natural resource management, Butler Township has in fact engaged the Western Pennsylvania Conservancy in addressing resource management through a program to deal with invasive species. The need for a natural resource management plan is particularly crucial given the ecological assets and landscape of Preston Park. Expertise and experience in managing precious natural resources is a pressing need in Preston Park.
8. While there is no plan in place for natural resource management, Butler Township has in fact engaged the Western Pennsylvania Conservancy in addressing resource management through a program to deal with invasive species. The need for a natural resource management plan is particularly crucial given the ecological assets and landscape of Preston Park. Expertise and experience in managing precious natural resources is a pressing need in Preston Park.
9. Developing a formal park maintenance plan is essential in order to ensure that Preston Park and Butler Township Community Park/Saw Mill Run

sufficient budget to adhere to industry best practices for regular park maintenance, it will be important to prioritize maintenance requirements, seek alternative sources of funding, and find partners for park facilities and programs.

natural resources is a pressing need in Preston Park. While volunteers are more than willing to contribute to Preston Park, they need direction and guidance in their work efforts.

6. The buildings represent a huge sustainability and maintenance challenge. They were designed for use and functions that are no longer viable. While indoor space is greatly needed in Butler Township, these buildings have high utility costs, require custodial care, are not ADA compliant, and by their configuration are a challenge with respect to using them for public purposes. The Machine Shop Building and the Instrument Building have the most potential, but the cost of maintenance is a very real concern.
7. The prospect of partnerships for various park functions is promising. These include the Western Pennsylvania Conservancy, the Butler County Convention and Visitors Bureau, Butler Dek Hockey, Butler County Parks & Recreation Department and Master Gardeners. Other potential partnerships could be pursued for the Amphitheater, the trails, the playgrounds, Arboretum, and general park friends groups.
8. The dilemma for Butler Township in terms of park maintenance is the Township's inability to quantify the requirements of existing park maintenance labor, equipment and supplies. This is not a criticism, but rather an explanation of the experience of municipalities statewide that are growing their park systems. When municipalities are in the early stages of their park operations, they must fit in park maintenance responsibilities with existing municipal functions and do the best they can with what they have to work with. Since it is unlikely that Butler Township (like most municipalities in Pennsylvania) would ever have

Park are sustainable over time both financially and environmentally.

Where We Want to Be with the Parks

Butler Township is in the process of establishing a nationally significant park in Preston Park, an opportunity that few communities will ever have. Because of the stature of Preston Park, it is important to strive to also maintain a focus on Butler Township Community Park/Saw Mill Run Park as well, as it physically encompasses half of Butler Township's public parks and recreation system. It is important to recognize that all of the parks offer significant natural resources and opportunities for active healthy living through recreation. Together they comprise the Butler Township Parks and Recreation System. Therefore, developing a plan to manage, control and evaluate park operations overall is vital. Fortunately, the level of public support and interest in the parks is high. Research into successful park and recreation systems elsewhere conducted by the Trust for Public Land and the National Recreation & Park Association offers guidance for how Butler Township can organize its operations for Preston Park and Butler Township Community Park/Saw Mill Run Park. The factors common in successful award-winning parks and recreation systems throughout the United States include the following:

1. Parks must rank high on the political agenda to get funded.⁽²⁾
2. The public is involved in the planning, design and operation of the park.
3. The park design conveys a strong vision and purpose for the park.
4. The parks are programmed with many and varied activities for visitors of all ages.

2. Harnik, Peter. (2000) Inside City Parks. Washington, D.C.: Trust for Public Land. p xi.

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5. The parks and each of their facilities are safe and clean. Clean, attractive appearance is crucial to a park's success and positive perception by the public and the business community.
 6. A mix of public and private funding sources support park improvements and operation.
 7. Community parks are an organizing element for
- Conservation – Conserving the natural features and scenic beauty of both sites is crucial. While Dr. Preston's scientific acumen and accomplishments are well documented, his role in the landscape and conservation is equally compelling in telling the story of Preston Park. Butler Township Community Park/Saw Mill Run Park combined covers a large track of undisturbed forest, steep slopes and natural features. The community

7. Community parks are an organizing element for initiatives such as economic development, neighborhood improvement, increasing livability of the municipality, tourism, and so on.

8. Parks and recreation departments, advisory boards, directors and staff must play a leadership role in insuring that parks are part of overall community and economic planning.⁽³⁾

These factors are serving as the model for Butler Township's parks and recreation system featuring Preston Park and Butler Township Community Park/Saw Mill Run Park. The key recommendations detailed below were derived from the involvement of the Master Plan Study Committee, input from township management, key person interviews, and the experience of the staff, volunteers and partners in Preston Park and Butler Township Community Park/Saw Mill Run Park and the philosophy and goodwill of the benefactors of Preston Park: Dr. Frank and Jane Preston.

1. Establish the Importance of the Parks with a Vision and Mission.

Elected and appointed officials need to have a clear vision for the parks in order to get behind them and support them. In defining the vision and mission for Butler Township's Preston Park and Butler Township Community Park/Saw Mill Run Park, the community public participation process identified important values as the foundation for planning and operating the park. These included:

- History – The history of Preston Park is so significant that the park achieved the status of listing on the National Register of Historic Places. The community recognizes the importance of telling the story of Dr. Preston and his wife.

3. Garvin, Alexander and Berens, Gayle. (1997) Urban Parks and Open Space. (New York: Urban Land Institute) pp 36-40.

treasures these natural features.

- Value in Tourism – Preston Park can help to position Butler Township as a regional tourism destination and play an important role in the Butler County economy. Depending on the nature and extent of the amphitheater in Sawmill Park, an interesting schedule for the performing arts can also be tourism attraction.
- Sustainability – Ensuring that the parks are sustainable both environmentally and financially over time is key.
- Community Pride – The citizens expressed great pride in having Preston Park in their community for the story of the Prestons, the park and its resources, and the national recognition that it is an important place in the United States of America.

Preston Park Vision Statement: Preston Park is a historic, public, recreational, environmental, and educational center with the mission to promote healthy living and an understanding of the relationships between plants, ecology, science, people and places through land stewardship, conservation, arts and technology.

Butler Township Community Park/Saw Mill Run Park Vision Statement: Butler Township Community Park and Sawmill Run Park provide diverse recreational opportunities and the ability for interaction with natural landscapes to attract visitors of all age groups through traditional and unique forms of recreation.

Butler Township Parks & Recreation Mission Statement : We will accomplish the visions for our parks by providing a safe, clean and attractive facility through effective and efficient management and maintenance provided by professional and caring employees, contractors, and volunteers.

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2. Continue to Involve the Public in Park Planning, Design, Programming, and Operation.

Public support is vital to park success. The Preston Park Advisory Board is a major force in advancing the

3. Implement the Park Master Plans.

Follow the recommendations in phasing in the park improvements. Continue the momentum begun in the master planning process by developing a work plan for year one.

establishment of Preston Park. Supporting their efforts is important.

- Continue to involve the public in park planning as the master plan is phased in over time.
- Consider establishing the Butler Township Parks and Recreation Advisory Board to oversee the overall township parks and recreation system. The Preston Park Advisory Board would continue to operate separately but collaboratively with the Butler Township Parks and Recreation Advisory Council. This Board would represent diverse community interests, generations, and skills.
- Because the Township is newly organizing for parks and recreation, consider joining the Pennsylvania Parks & Recreation Society. Membership in this organization has many benefits including state-of-the-art knowledge and information about parks and recreation, training and information about funding and networking. PRPS offers a “no match” grant program of \$2500 called recTAP to municipalities who are PRPS members. The RecTAP grant can be used to solve a problem, tackle an issue or seize an opportunity. It enables the Township to address a specific issue in a relatively short timeframe. The first project that Butler Township might consider is help in establishing citizen boards regarding organization, roles, responsibilities, annual work plans, collaboration, prioritizing, and so on. This grant could help advisory boards develop practices that foster smooth operations and progressive actions. With the Preston Park Advisory Board and a potential township-wide parks and recreation board, this grant would be timely and fruitful.

- Consider applying for two grants in the first year in order to stoke momentum: the Pennsylvania Department of Conservation and Natural Resources Community Conservation Partnerships and the Pennsylvania Department of Community and Economic Development.
- Look for other community champions like the Preston Park volunteers to take on another planning element such as the Amphitheater.
- Continue to publicize advances in the parks through articles in the newspaper, the newsletters, website, Facebook, Twitter, and emails.

4. Make the Parks Lively Places with Many Recreation and Educational Opportunities.

Recent research by the RAND Corporation commissioned to study the use of parks found that the number one factor in getting people to use parks and increasing the use of public parks was programming. This study was commissioned as part of a public health initiative in getting people to be more active in order to prevent disease. The proposed master plan reflects the community values and site conditions that reflect the cultural heritage, natural resources, and recreation needs of those who live, work and visit in Butler Township. These programs and recreation opportunities will make the parks active, lively places for people to enjoy the great outdoors, their cultural heritage and history close to home.



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Educational Programs: Dr. Preston’s scientific, ecological and conservation achievements as well as those of his wife Jane Preston, and their life together offers immense potential for interpretive programs for people of all ages. Saw Mill Run Park’s natural features offer the opportunity to connect people to nature through environmental programs and events. The

be the venues for a variety of programs that would be an important public service, a source of community enjoyment, and revenue generators to offset operating costs. Coordination of nature-based programs with the School District, scout troops and others who would help

to nature through environmental programs and events. The programs offered in Preston Park have been very successful and increasing in participation with each new program added.

Butler Township's Parks as Outdoor Classrooms:

Preston Park and Butler Township Community Park/Saw Mill Run Park can be places to reconnect children with nature. Some of the benefits of using these parks as outdoor classrooms for people of all ages, especially children, include:

- Increased awareness and appreciation of the natural environment and the scientific achievements of a resident of their own community;
- Improve fine motor skills;
- Improved concentration even among people with Attention Deficit Disorders;
- Valuable skill development over all learning domains;
- Enhanced observational skills; and
- Doubling of physical exercise as a component of active learning.

Source: Fazio, James R. (2008) Tree City Bulletin No. 47. *How to Bring Nature to Your Community*, Nebraska City: Arbor Day Foundation.

Trails: Walking is the chief form of exercise in the United States. The Center for Disease Control has called upon communities to develop safe and attractive pathways for people to use throughout their lifetime for fitness and wellness. This will help people of all ages to engage in an enjoyable activity that will extend their lives and enable them to be healthier, happier and more productive citizens. The trails in this park will be an attractive location for walking for, fitness, fun and nature enjoyment.

Enjoyment of Nature: Preston and Saw Mill Run Parks preserve important and valuable resources and scenery as public parkland. Both parks can potentially

to provide programs and support for the park without burden on the Township.

Fitness/Wellness: Fitness extends lives, improves self-image, reduces health care costs, reduces isolation, and makes people happier. According to the U.S. Surgeon General, the top public health issue is the lack of physical activity. One of the most important things that communities can do to help in this cause is to provide attractive, accessible areas for people to walk, jog, and run. The active recreation facilities in Butler Township Community Park/Saw Mill Run Park will enable citizens to engage in organized play such as leagues and events as well as self-directed opportunities that people can enjoy at their own discretion.

Dek Hockey: The Butler Dek Hockey program is operated by an independent league in partnership with Butler Township. The dek hockey rink is heavily used even in the coldest months. Leagues are in place seasonally. The Township provides the facilities in Butler Township Community Park. Due to the success and popularity of the dek hockey program, Butler Township is seeking grant funding to expand the undersized dek hockey rink to full size.

Disc Golf: The proposed disc golf course will provide a new opportunity for people of all ages, including many who have never participated in a sport before. Disc golf is exploding in popularity with the number of course in the USA tripling since 2000 and membership in the PDGA (Professional Disc Golf Association) doubling since 2007. Disc golf offers partnership potential in the planning, design, development and maintenance of the course. It is also a potential revenue source due to the disc golf tournaments proliferating due to the sport's popularity.

Pavilions: The pavilions in Butler Township Community Park/Saw Mill Run Park will provide a destination for community gatherings for families, friends, and businesses. They also offer revenue potential through revenues.

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Amphitheater: The proposed amphitheater will add a new dimension to community life in Butler Township as well as being a potential tourism attraction: a venue for the performing arts.

in diverse and usually unfamiliar terrain, and normally moving at speed. Participants are given a topographical map, usually a specially prepared orienteering map, which they use to find control points.

Family Play: According to a survey by Money magazine, traditional goals for health and money are taking a back seat to the desire to spend more time with the people we love. The top goals among those surveyed included:

- Spend more time with family and friends (30 %)
- Get healthier (19%)
- Manage money better (18%)
- Pursue enjoyable activities (17%)
- Improve career (12%)

The plans for both parks offers venues for families and friends to enjoy time together. Play areas, places to sit and socialize, and community gathering areas as well as programs are expected to be destinations for people of all ages from young children to grandparents for visits with their grandchildren. A design tied to the strong landscape and cultural heritage and values of the sites will foster community stewardship and provide lifetime memories for park visitors.

Nature Play Area: The play areas will be nature-based designs using landforms and natural and harmonious synthetic materials. A traditional play structure will also be included in Butler Township Community Park. The small existing play structure was identified as important to users of the community building.

Dog Walk Area: Facilities for dogs and their human friends are the fastest growing type of park in the United States. The dog walk area represents a unique park facility that lends itself to partnerships. Dog walks/parks often generate a group of advocates who help to plan, develop and manage canine-oriented facilities. Because people tend to use dog walks/parks 365 days a year, they provide eyes and ears on the park, adding a higher level of security.

Orienteering: This sport requires navigational skills using a map and compass to navigate from point to point

Geocaching: Geocaching is a real-world, outdoor treasure hunting game using GPS-enabled devices. Participants navigate to a specific set of GPS coordinates and then attempt to find the geocache (container) hidden at that location.

Butler Township Community Park Community Building: The Community building is used for community gatherings and recreation. Private groups can rent the building. With the adjoining playground, pavilions and grills, this is a great site for social and community get-togethers.

Preston Park Buildings: Preston Park offers an important resource for the community: indoor space for meetings and programs. Research into community needs found that indoor space is lacking for recreation, community meetings, rental space for private parties, and educational programs.

Self-Directed Activities: With the hectic lives we all lead, having a place to go on our own is important. Preston Park and Saw Mill Run Park offer an important respite for people to enjoy at their own discretion. Both parks are especially desirable for self-directed recreation because of their location, natural features, tranquility, scenic beauty, and places to walk and sit. Few communities have wilderness areas within minutes of every resident.

Park Art: Follies in Preston Park will incorporate public art to draw visitors to experience all areas of the park. A folly is a building or structure constructed primarily for decoration, either suggesting by its appearance some other purpose, transcending the normal range of park features or other types of building traditionally found in a park. In the original use of the word, these buildings had no other use, but today could have secondary practical functions such as sheltering or public use.

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5. Establish a Standardized Maintenance and Risk Management Program.

would help to strengthen the capability of the Township and park advisory boards to obtain the resources from the Township necessary to perform these maintenance

Maintenance is the single largest recurring expenditure in parks and recreation. Over the lifetime of a park, about 75 percent of its cost is in maintenance while only about 25 percent is in acquisition, development, design and construction (Lay, 1978).⁴

Maintenance management is the process by which Butler Township would plan, direct, and control the care of parks and recreation facilities. Preston and Saw Mill Run Parks should reflect an effective level of service; an inviting, clean and attractive appearance; the reality of fiscal and human resource limitations of Butler Township; and recognition that volunteers and partners are key to the effective operation of these parks.

Routine scheduled maintenance provides the foundation for effective park security and risk management. A park that is well designed and well maintained attracts visitors. The more use a park gets, the less vandalism occurs. When park visitors see that a facility receives good care, the risk of vandalism and other undesirable social behaviors tends to diminish. Parks that are not well tended get fewer visitors and higher levels of vandalism.

With a maintenance plan in place, there will be a clearly defined direction for the maintenance goals and operations. **Making a repair in an emergency, unscheduled basis costs seven times as much as it does to perform the task on a routine basis.** It is far more efficient and effective to perform park maintenance on a planned and scheduled basis. Ongoing maintenance also prevents the need for costly rehabilitation that results from deferred maintenance.

Importance of Quantifying Maintenance

Over the years that Butler Township has been maintaining Butler Township Community Park/Saw Mill Park, the maintenance requirements have become somewhat normalized. They could be quantified in order to estimate the cost of new park development or improvements. Developing maintenance resource requirement standards

the Township necessary to perform these maintenance functions. This information will also help in planning the phasing in of the master plan and other park developments or improvements. Information that should be quantified includes:

- Workload
- Labor requirements and contracted services
- Material and Supply requirements
- Equipment
- Utilities and Energy

Since the operation of park and recreation facility maintenance is conducted as part of other maintenance in a way that works well for the Township now, based upon the level of parks and recreation development, it is not currently quantified. The following section outlines and approach for formalizing the park maintenance management system.

Workload Cost-Tracking

The first step in standardizing work in the development of planned maintenance management system is to quantify the workload and costs of associated materials, supplies and equipment, sometimes known as workload/cost tracking. This can include:

- Park tasks such as mowing, snow-removal, leaf pick-up, litter pick-up, vandalism repair
- Natural resource management
- Trails
- Indoor facilities
- Special-use facilities such as the Dek Hockey Rink

4. Lay, Francis. 1978. Management of Grounds or Site Operations Manual, Manual of Site Management, Environmental Design Press. p4.

The goal of park maintenance in Butler Township to provide a clean, safe, and attractive facilities for the conservation of cultural and natural resources as well as the healthful and enjoyable use by the people who live, work and visit here through implementation of an efficient and effective management program.

The following guidelines can formalize the Township's approach to park maintenance operations. The guidelines would apply to both municipal employees and contractors and volunteers who assume responsibility for park maintenance tasks.

1. All maintenance will be accomplished in a manner displaying respect and concern for the environment as well as public and private property. Maintenance practices that are rooted in a strong conservation ethic are to be instituted.
2. Maintenance tasks will be accomplished in a way that does not endanger the health or safety of the employees nor the public.
3. All maintenance tasks will be performed as quickly and economically as possible without any loss in efficiency.
4. All equipment and materials will be operated and maintained in such a way as to ensure safe, effective use and long life.
5. Work will be scheduled in such a manner as to make the most use of the resources of other community organizations who are involved or who may become involved.
6. Preventive maintenance will be used in a continuing effort to avoid major problems and correct minor ones.
7. All maintenance work will be performed with a sense of pride.

Maintenance standards set forth the level of care that park and recreation facilities receive.

Importance of Assigning Maintenance Standards

Assigning maintenance standards will enable Butler Township to maintain Preston Park and Butler Township Community Park/Saw Mill Run Park with respect to needs and resources. Targeting the appropriate level of care will enable Butler Township to direct resources to balance public use with cultural and natural resource conservation. The maintenance standards provide a common frame of reference for the community including elected and appointed officials, Township employees, maintenance staff, administration, contractors, partners, sponsors, park visitors and citizens. The common agreement will facilitate discussions and communications about the parks. This will enable elected and appointed officials and parks and recreation management to establish and implement policies on use, fees and charges, volunteer requirements, staffing levels, contractual service requirements, and other issues that may emerge. It will also enable the Township to communicate with the public about the capacity of the municipality to undertake actions in response to citizen demands on the park, park maintenance tasks, natural resource protection actions, and requests for additional facilities and/or services.

National Recreation & Park Association Standards: An Approach

The National Recreation and Park Association advocates a system of maintenance modes for parks. Modes refer to the "way of maintenance" ranging from most intensive to least intensive. Butler Township already operates with the philosophy of modes for maintenance. For example, the grounds of the township building are always pristine and manicured at the Level I mode the public has come to expect. Most of the developed area of Preston Park would be maintained at Level 1 while Sawmill Park would be maintained at the Mode II and III levels. To illustrate how different areas of the parks should be maintained according to different mode levels to ensure maximum use of resources and effort, the community building in Butler Township Community Park should be maintained

at Mode I since it is a rental facility. The natural areas would be maintained at a combination of the Mode V and VI levels with respect to visitation in different sections of the natural areas. The Township can use the modes as guidelines to direct resources towards where the need is greatest and the benefit the most. The modes range as follows:

- **Mode I - State-of-the-Art Maintenance**
- **Mode II - High-Level Maintenance**
- **Mode III - Moderate-Level Maintenance due to moderate levels of development**
- **Mode IV - Moderately-Low Level Maintenance**
- **Mode V - High-Visitation Natural Areas**
- **Mode VI - Minimum-Level Maintenance**

Inspections - Mode I - Park inspection of Preston Park's core visitation areas and the active areas of Butler Township Community Park, such as the building with its associated facilities such as the playground, Dek Hockey rink and the playground should be done daily during peak season. Mode V should be done every other week in the natural areas. About 70 percent of Saw Mill Run Park would receive minimal maintenance as a low visitation natural area. All formal playgrounds should follow CPSC (Consumer Product Safety Commission) guidelines. Recommendations for playground inspections are daily or weekly.

To protect Butler Township's investment in Preston Park and Butler Township Community Park/Saw Mill Run Park; in homage to the Preston's and their generosity; and to position Butler Township as a tourism destination thereby benefitting the local economy, provide efficient and effective public service, and ensure park security the following standards are proposed:

Turf Care - Turf care for the parks would include general park areas.

- **Preston Park** – Mode II turf care would include: the main gate and entry, campus quad, Preston Overlook Plaza area, and the vicinity of the park buildings. Should the park event building be constructed, any lawn area would be maintained at a Mode I. The intent would be,

however, that any landscape design minimize mowing and turf management. Meadow areas would be maintained at Mode IV. Remote areas of the park would be at a Mode V, a high-visitation natural area.

- **Butler Township Community Park/Saw Mill Run Park** – Less than one acre will require mowing and trimming at Mode II mode. About two acres would be maintained as meadow with twice annual cutting at Mode IV. The 5.8-acre open lawn would also be at Mode IV with low frequency mowing to be determined based on usage and grass species. About 70 acres of Saw Mill Run Park would be maintained at a Level V, a high-visitation natural area.

Disease and Insect Control - Modes would vary by facilities.

- **Natural Areas** - Mode V working towards Mode I - In Preston Park, the arboretum, prairie, orchard and gardens would require Mode I disease and insect control with preventive maintenance, control and an integrated pest management program. Disease and insect control is done only to ensure public safety or when a serious problem discourages public use. It is crucial for Butler Township to develop a natural resources management plan for both parks. The Western Pennsylvania Conservancy has already done work with the Township on invasive species, so perhaps work could be extended to establishing a full natural resources management plan. For Sawmill Park, natural areas would be maintained at Mode V done only to ensure safety and when problems occur that would affect public use or the natural resources, especially those that would impact the natural resources of Preston Park.
- **General Park Areas** – Mode I in Preston Park as preventive care. Mode III control measures may be taken in Butler Community Park/Saw Mill Run Park when the health or survival of plant materials is threatened or there is an issue of comfort of park visitors. Disease and insect control is done usually on a complaint basis.

Forestry – A forestry management program should be developed. The forestry program would provide a short, medium, and long-range management program for this important asset of Butler Township's Parks and Recreation System. Typically municipalities obtain the services of county conservation district or a Pennsylvania Bureau of Forestry Service Forester and a private consultant.

Special Planting Areas – Special planting areas should be consistent with the Preston Park Vision Statement and philosophy on landscape design and the resources that would be available to care for specialty plantings in Preston Park. The Master Gardeners could be a source of support in this area.

Tree and Shrub Care – Mode I in Preston Park and Mode IV in Sawmill Park. Mode I requires preventive maintenance and frequent pruning dictated by the species, while Mode IV requires no pruning and care only to remove safety hazards.

Litter Control - Mode I in Preston Park visitation core areas, which is a minimum of once per day, seven days a week. And Mode III of two to three times a week in areas of lower visitation. Mode II in Butler Township Community Park/Saw Mill Run Park which is once per day, five days a week during peak season, weekly during non-peak, and monthly in cold weather months. Litter is always picked up after a special event. For special use facilities such as a picnic pavilion, the permittee should be responsible for litter pick-up while Butler Township would remove it from the park.

Surfaces and Paths – Mode II in Preston Park and Saw Mill Run Park so that surfaces are cleaned and repaired when appearance has notably been affected.

Repairs –Mode I in Preston Park so that repairs to all elements are made so that at no time is there a marring of appearance. Mode III in Saw Mill Run Park when safety, appearance, or function is an issue, repairs are made.

Restrooms - Mode I in both parks. Should be done at least once per day. Special events or times of high use may warrant more than one service per day.

Establish Best Practices

In the National Recreation and Park Association's Green School and Maintenance Management Schools, best management practices for parks are identified based upon the operations of successful parks and recreation systems nationwide. These practices are founded in sustainability and blend energy conservation, use of hybrid vehicles,

LEED design principles, use of alternative energy sources, recycling, tree planting, and reducing the use of chemicals. No doubt, Dr. and Mrs. Preston would support these practices. Since the workload cost tracking for park maintenance is not yet available, the following best practices serve as recommendations for this plan as well as in formulating cost projections.

Best Practices include having:

1. Twelve (12) to 14 MANAGED park acres per park maintenance employee. Consider using contractors where possible to substitute for park employees. Since park maintenance appears likely to remain in the Highways, Roads and Streets Department, consider the use of Full-time Equivalent hours to the number of employees per acre. Using this standard Preston Park and Butler Township Community Park/Saw Mill Run Park, the park maintenance requirement would be about four to five maintenance workers.
2. A formal maintenance management plan in place.
3. Expertise regarding the professional management of parks, recreation, trails and natural resources is available on staff or through outside sources such as through partnerships or contracting.
4. Contracts for the purchase of maintenance services.
5. A written work order system to track labor, materials, supplies, equipment and emergency calls.
6. A formal equipment replacement program.
7. Written maintenance standards for parks and recreation.
8. Design standards for facilities.
9. A budget of at least 2.14 percent of the municipal operating budget or per capita expenditures of at least \$30 per capita for the parks and recreation operation as a whole or 4-6 percent of the value of their total assets without land value for park maintenance or a mix of the three benchmarks.
10. A policy to guide the organization in its green practices.

In addition to the standard best practices, Butler Township has a number of related opportunities and challenges to include in operational planning. These include Volunteers, Policies, Funding, and Sustainability.

Volunteers

Butler Township has been fortunate in having a group of dedicated volunteers step up to manage Preston Park. They perform maintenance tasks, make improvements, conduct programs and tours and work to increase public awareness and support for the park. The Butler Township Highways, Streets and Roads crews provide support for certain maintenance tasks, but the volunteers largely perform the park maintenance tasks.

Volunteers are often considered the means to managing parks and recreation at the least cost. **Although volunteers are important, they are not free.** Volunteers for defined tasks or programs require recruiting, training, supervision, coordination, support, and recognition. Someone has to be in charge of overseeing volunteers and volunteer organizations. Although the Township uses volunteers, it does not appear to have the capacity for extensive volunteer coordination and oversight because of the extensive workload of the Township Manager. It is important to consider that Butler Township is a large community of over 17,000 people. As the second largest community in Butler County, this Township has a high level of service requirements and management demands.

The volunteers work independently under the auspices of the Preston Park Advisory Board and have been operating with their passion and understanding of the site. It is important to note that volunteers are not substitutes for park maintenance expertise and staff. Both parks will require reliable, dependable, knowledgeable workers in the area of natural resource management, park security, play areas safety, and related services. Volunteers usually cannot perform to the level required due to their time limitations and demands in their own lives. Policies need to guide volunteerism to mesh the care of the history, natural, cultural and recreational resources of the parks with the public good and the fact that the parks belong to the community, not to individual groups.

Policies

As Preston Park is developed and Butler Township Community Park/Saw Mill Run Park improved, official effective policies need to be in place regarding park operations and use. Other policy needs will emerge over time. The point is to spend time on policies that are needed to ensure sustainable operating practices but not to spend time on generating prolific rules and regulations. Policies should make operations easier, smoother, and facilitate the generation of public support. Examples of policies that should be considered in the immediate time-frame based upon the current park operations scenario include on the following.

- **Revenue Policy** – A revenue policy will set forth the Township's philosophy on township funding for the parks and revenues to be generated from non-tax sources. A link to an excellent revenue policy in Mecklenburg County, North Carolina, will provide the foundation to Butler Township in developing a similar policy here.

<http://charmeck.org/mecklenburg/county/ParkandRec/Documents/RevenuePricingPolicy++2009-2010.pdf>

- **Gifts and Donations Policy** – Based upon current circumstances, Butler Township will probably receive many requests to install park benches, various plantings and other amenities at facilities under its jurisdiction. It is the intent of Butler Township to encourage and facilitate public and private gifts, bequests, and such contributions that enhance, beautify, improve, supplement, support, or otherwise benefit the Township's park and recreation system. Arlington, Massachusetts, offers a link to a gifts and donations policy:

http://www.arlingtonma.gov/public_documents/arlingtonma_recreation/giftpolicy

- **Sponsorships** – It is important to Butler Township to actively seek sponsorships for events, services, parks and recreation development, and operation for Preston Park and Butler Township Community Park/Saw Mill Run Park from individuals, foundations, corporations, nonprofit organizations, service clubs, and other entities. The purpose of such sponsorships is to increase the Township's ability to deliver services to the community and/or provide enhanced levels of service beyond the core levels funded from the municipal general fund. In appreciation of such support, the Township would set forth a policy to provide sponsors with suitable acknowledgement of their contributions. However, such recognition must adhere to the aesthetic values and purpose of Preston and Butler Parks and any other park to be established in the future. In addition, such recognition must not detract from the visitor's experience or expectation, nor should it impair the visual qualities of the parks or be perceived as creating a proprietary interest. The following link connects to Portland, Oregon's policy on sponsorships that can be a model for Butler Township:

<http://www.portlandonline.com/shared/cfm/image.cfm?id=155566>

- **Naming Rights** – Naming Rights are a financial transaction and form of advertising in which a corporation, business, individual or other entity purchases the right to name a facility or event, typically for a defined period of time. For properties like a multi-purpose arena, performing arts venue or athletic field, the term ranges from three to 20 years. This can range from a fountain to an amphitheater, ball field, or community building. The distinctive characteristic for this type of naming rights is that the buyer gets a marketing property to promote products and services, promote customer retention, or increase market share.

<http://www.sanangelotexas.us/vertical/sites/%257BBD27ED61-E710-4F56-8954-CC319F012B3D%257D/uploads/%257B44D52FEE-D53C-44D4-ABFA-5EBF6E7DE67B%257D.PDF>

- **Advertising** – The intent of an advertising policy is to generate revenues from paid advertising and sponsorships to offset some of the costs associated with producing program brochures and other informative literature, maintaining and improving athletic and other recreation facilities, and procuring capital equipment related to recreational facilities that would not otherwise

be funded in the department budget. The policy must be rooted in the aesthetics, cultural heritage and missions of the parks as well as the visitor experience. The following link provides a model of an advertising policy from Los Alamos for adaption in Butler Township.

<http://recreationguy.com/wp-content/uploads/2011/09/Recreation-Advertising-Policy.pdf>

Funding Challenges

The major challenge for this park is both capital development and the ongoing funding for operations and maintenance. Obtaining funding to build new facilities is relatively easier than getting support to pay for park maintenance and operations. There is a tendency to increase the responsibilities of existing staff, such as the Highways, Roads and Streets crews as well as the Township Manager, for additional facilities with no commensurate support for increased workload. Butler Township recognizes the unique and important nature of these parks. Consequently, an appropriate level of public resources to support operations and maintenance is needed. The goal is to leverage township resources to secure alternative methods of support from private and quasi-public sources. Careful consideration should be given to the capacity of existing staff to provide the caliber of maintenance needed for parks of this caliber along with all of the demands of the current workload. Revenues from program fees and charges, sales, leases, sponsorships, partnerships, donations and grants can help to support development and operating costs.

Operations and Management

Sustainability

Environmental protection and the conservation of natural resources are a primary goal of the design and maintenance of Preston Park and Butler Township Community Park/Saw Mill Run Park. The focus is on establishing and managing the park in a way that enables responsible public use in harmony with the environment as well as interpreting the story of the Prestons. The traditional pattern of park maintenance in the Township has been focused on tasks such as litter pick-up, mowing and trimming to achieve a manicured appearance in the developed areas with the natural areas remaining as is except for the removal of a hazardous condition. This has been the customary approach to park maintenance statewide. It is the “look” that the public has come to expect of parks. In Butler Township, this is particularly true: the public wants and expects “manicured” lawns. This is both costly and harmful to the environment. Park maintenance should set the bar for practices that promote the healthy natural elements of public lands such as water, wildlife and vegetation. Adopting maintenance practices that conserve natural resources requires planning, training, expertise and public education. Public education on a nature-focused approach to park maintenance is vital, as citizens tend to view natural areas as unkempt because of their expectation of a “manicured” park appearance. Butler Township management recognizes that Preston Park and Butler Township Community Park/Saw Mill Run Park represent an opportunity for the Township to establish a “green” approach to park maintenance management. In fact, Butler Township has been most progressive in securing the help of the Western Pennsylvania Conservancy in sustainable park maintenance. The Conservancy did work in Preston Park to address the removal and control of invasive species. Controlling invasive species is a major ongoing work item. Another potential source of help for sustainable maintenance practices in the parks is the Master Gardeners program. The Township could consider establishing a “green team” to oversee sustainability for municipal operations overall including the parks.

Practices could include:

- Recycling, requiring vendors to recycle, and purchasing products from recycled materials.
- Using green purchasing practices such as the Environmental Protection Agency’s Environmentally Preferable Purchasing (EPP), which helps the federal government “buy green,” and in doing so, uses the federal government’s enormous buying power to stimulate market demand for green products and services. Geared first to help federal purchasers, this site can help green vendors, businesses large and small -- and consumers.
- Using hybrid vehicles and alternative fuels.
- Using LEED design principles.
- Using bio-swales, restored forests and woodlands and meadows to reduce maintenance costs, reduce erosion and restore habitat.
- Applying Integrated Pest Management to reduce the use of chemicals.
- Designing the landscape to reduce mowing, use native tolerant landscape materials and provide shade and wind breaks
- Providing an educational program to increase public awareness about township green practices, their benefits, and how this fits perfectly with the mission of the Preston family and the park they bequeathed.

Benefits of Sustainable Park Maintenance Practices

Sustainable park maintenance practices save money. The protection of our natural resources is good both for people and the earth. Connection with nature helps citizens to reduce their stress and mental fatigue and contributes to their sense of well-being. Areas with natural features help citizens develop social ties that foster strong neighborhoods and sense of community.

Operations and Management

Risk Management

Having safe facilities for visitors as well as protecting the public investment is essential to Butler Township. Public perception that the parks are safe is important to their success. As part of establishing safe parks that limit the Township's exposure to liability, effective risk management can help to protect both park visitors and the municipality. Coordination with Butler Township's insurance carrier throughout the development and operation of the park would be helpful in reducing risk. Supportive insurance carriers offer advice, on-site assessment, and sometimes grant funding to support safe facilities through proper maintenance management. Their advice will be helpful in identifying and adopting practices to ensure visitor and park safety.

Risk Management is a standard operating practice of parks and recreation agencies. Risk includes the possibility that harm could result from a hazard that would cause personal injury, death, property damage, economic loss or damage to the environment. To manage risk in Preston Park and Butler Township Community Park/Saw Mill Run Park, three steps are needed:

1. **Risk Identification and Assessment** – It is necessary to identify all of the sources of potential hazards in the parks. The Township must have knowledge at all times of any risk related to the park. This includes park conditions as well as the employees or volunteers who might make the Township subject to liability as the result of how they complete their duties, and any other liability.
2. **Risk Assessment** – The Township should inspect and evaluate the parks and each facility as part of its ongoing park and recreation system operating practices. This would also include tracking of the incidents of injury reported in the parks.
3. **Risk Management Plan** – The Risk Management Plan is important for both safe operations as well as in establishing credibility in case of litigation. The plan should include the following documents, all of which should be reviewed by the township solicitor:
 - Statement that the Township is committed to safety for citizens, municipal employees and Township facilities

- Program registration information
- Accident forms
- Health forms if appropriate
- Participation forms and waivers
- Rental agreements and leases
- Program dates and documents
- Operations information and policies
- Reports for maintenance and procedures.
- Inspection program and reports
- Policy on background checks for Township employees, volunteers working with children, and for permittees of municipal facilities who are providing community recreation services

Emergency Response

Consultation with emergency responders about the parks' operations and design features would be important. The proposed park designs include access for emergency response vehicles. The remote areas of Saw Mill Run Park would require planning the identification of where people might need help and call for assistance. Many emergency response teams are using GIS to establish methods for identifying locations where people are in need of assistance.

Projecting the Maintenance Budget

Estimating what the park will cost to maintain helps in decision-making, staffing, setting of fees and charges, policy formulation, budget planning, resource allocation and securing non-traditional methods of supporting park operations, such as partnerships. Since the current labor, materials, supplies and equipment have not been detailed because the Township is just getting started in formal parks and recreation operations, information is not available regarding what it costs to meet the current maintenance demands. Therefore projections for park maintenance costs are based upon best practices and benchmarks from parks and recreation systems elsewhere.

Operations and Management

Management and Staffing

Parks and Recreation Director – Butler Township has more than 17,000 citizens and 200 acres of parkland including a site so significant that it is on the National Register of Historic Places. These conditions merit consideration of a professional Parks and Recreation Director. The Director would be responsible for planning, directing, controlling and evaluating all aspects of parks and recreation operations including volunteer management. The BMMI Plan recommended a parks and recreation director for a multi-municipal parks and recreation system in which Butler Township would participate. Butler Township can revisit this plan, consider hiring its own director, phase in a director from part-time to full-time, or remain without a director. If the township chooses to operate without a parks and recreation director, increases in demands on the Township Manager's time are in the offing. Since professional parks and recreation directors spend a majority of their time generating partnerships, sponsorships, and alternative revenue sources, their salaries are often investments that yield financial returns. Successful parks and recreation directors in Pennsylvania recover anywhere from 40 to 85 percent of their operating costs through outside sources.

Recreation Program Manager – With a full-time parks and recreation department in place, a Recreation Program Coordinator would be responsible for program planning and implementation, customer service, promotion and advertising, and partnerships and sponsorships. The premise of a Program Coordinator is that he/she generates programs to help in cost recovery.

Park Maintenance Staff – Based on the managed acreage projected for Preston Park and Butler Township Community Park/Saw Mill Run Park, four to five maintenance employees will be needed. The Township already has two employees in the Highways, Roads and Streets Department working on park maintenance, and that was before Preston Park started to get up and running. The Township would continue working with the Community Service workers and could possibly use them more with additional staff available for supervision.

Landscape, Design, Construction and Management

Consultant – Because of the nature of Preston Park with its significant natural and cultural features, the Township is in need of the services of a professional landscape architect on an ongoing basis for consultations, advice and assistance with projects and site management. The benefit of having a landscape architect on-call would be to ensure that the execution of the park improvements is proper and efficient; that the dedicated volunteers have professional guidance in their work; that resources are maximized and costly mistakes avoided; that construction oversight would guarantee desired results; and that the Township has the benefit of guidance on funding sources and grants that is not available otherwise.

Materials and Supplies

Since materials and supply costs require a projection, budgets from other parks served as the basis for formulating potential allocations. For materials and supplies we are recommending using between \$5 and \$7 dollars per labor hour to set a materials and supplies budget.

Utilities and Energy

The utility and energy budget needs to be based upon the park improvements, not present conditions. The current facilities were developed long before the current energy-saving equipment was on the market and energy costs were not a concern. We recommend using the current energy costs as the baseline budget as well as doing an energy audit. This plan recommends developing a cost projection for energy costs for the parks. The renovation of any of the buildings or the decision to retain or demolish structure should include the cost of energy or energy alternatives as a factor. One of the major issues with Preston Park is the cost of utilities to keep the Preston Laboratory and other buildings heated to prevent major winter weather decay of the structures and systems.

Operations and Management

Equipment

Butler Township has a sound equipment replacement program. Recently the township purchased a zero-turn radius mower, new HVAC in the Butler Township Community Park building, new truck and trailer, and minor equipment. With the development of Preston Park and improvements in Butler Township Community Park/Saw Mill Run Park started through this master plan, the impact of these parks on future equipment needs should be considered as the improvements are phased in.

Training

Since most of the parks and recreation budget is devoted to personnel, ensuring that they have state-of-the-art information and training in parks and recreation would be an important investment. A suggested formula for staff development is one to two percent of the parks and recreation budget annually. The training can be through national, state and regional training programs, webinars, networking, having speakers at meetings, brown-bag lunches, and memberships in professional organizations that produce training materials and information.

Cyclic Maintenance

In addition to daily, monthly, seasonal and annual repairs, the park requires cyclic maintenance repairs. Having support and the justification to adequately plan for the regular capital repair and equipment replacements in the park is a challenge. Cyclic maintenance deals with the normal replacement of a capital item such as a roof. Cyclic repairs are a function of weather, use, and other circumstances such as natural events. The cyclic repairs are shown in the following table. Because the time-frame is years away, projecting actual costs is not possible. The American Public Works Association recommends budgeting two to four percent of the development costs annually to establish as a capital reserve account for cyclic repairs. Advances in technology will also impact the future costs based upon changes in design and materials. Cyclic repair and replacement considerations include the following:

- Infrastructure: Roads, parking lots, trails, utility lines for water, sewer and electric. 10-30 years.
- Play Equipment: 10-15 years.
- Buildings and Structures: Roofs, furnishings, picnic tables and benches, shelters, bridges, fencing. 10-30 years.
- Equipment: trucks, cars, tractors, trailers, and large units.

Table 1
Butler Township

Projected Parks and Recreation Operating Budget

This parks and recreation budget presents the projected operating costs for the Butler Township Parks and Recreation System. It will be phased in as the parks are developed and improved and as the Township grows its parks and recreation system. The annual operating budget can be derived from this overall budget in a way that would be consistent with park improvements, programs and services.

Personnel	
Director of Parks and Recreation	\$60,000
Recreation Program Coordinator	45,000
Park Maintenance Workers (4)	\$120,000
Benefits	\$150,000
Landscape Architect Consultant	\$15,000
Materials and Supplies	40,000
Utilities	0
TOTAL	\$430,000
CIP Reserve Budget – 2% of development costs <i>annually</i> in fund dedicated to cyclic repairs and park improvements. This could be phased in as the phases of the park are constructed.	To be determined

Operations and Management

6. Funding: A Mix of Public and Private Resources.

Table 1 presents the projected budget for Butler Township's parks and recreation system. This budget comes out to about \$2,578 per acre cost. This is in the normal range of about \$1,500 to 3,000 per acre in Townships in the area. The Township park and recreation budget is about \$227,000 for operations. With a population of 10,698, this equates to about \$21.22 per capita. The statewide average is about \$33.35 in Townships of this size. In these economic times, the topic of financing is challenging. At the same time, public recreation close to home is very important for citizens especially for families looking for ways to spend time together in a way that does not cost too much money. Public parks and recreation offer many opportunities for that. If high quality facilities are available, that is a tremendous public service.

The projected budget for Butler Township to have a full professional Parks and Recreation Department translates into compliance with sound benchmarks:

- \$24.93 per capita, still less than the statewide average,
- 5.9% of the municipal operating budget, the percentage benchmark for successful parks and recreation systems, and
- Consideration of Preston Park as a nationally significant site that includes buildings.

Table 2 presents the revenues for Butler Township's Parks and Recreation System. Potential revenues for parks and recreation could be derived from pavilion rentals, programs, friend's organizations and user fees. Should the Township move forward with developing a grand park building to honor the Prestons, serve the community with much needed indoor recreation facilities, and act as a revenue generator, the nature and type of the building has the potential to offset parks and recreation operating costs.

7. Preston Park and Butler Township Community Park/Saw Mill Run Park: Tourism and Economic Development.

Interviews for the Master Plan project found that Preston Park has the potential to be a major tourism destination for Butler County. Tourism helps to spur the local and regional economy through visitor spending on food, lodging, gas, and shopping purchases. The Director of Butler County's Convention and Visitors' Bureau was a member of the Master Plan Advisory Committee, and that relationship should continue through the implementation and ongoing management of the parks.

Furthermore, the establishment of Butler Township's parks and recreation system has other benefits. A great parks and recreation system helps to attract and retain businesses, increase property values, retain the valuable

Table 2 Butler Township Parks & Recreation Potential Revenue Sources	
Item	Projection
8 Pavilions - rental at \$70 (average) per day for 50 days.	\$28,000
Building Rentals	\$15,000
Potential program fees from programs and special events.	\$50,000 – 100,000+
Park Friends	\$10,000
TOTAL Projections	\$103,000 - \$153,000+

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demographic of people ages 25-44, and enhance the overall quality of life in the community. A nationwide study of what makes citizens happy found that parks and scenic beauty were the most important factors after faith based institutions in making citizens happy with their communities⁽⁵⁾.

8. Parks and Recreation Leadership is Essential.

In successful public parks and recreation systems, Advisory Boards, staff and departments must play an active role in championing the importance and benefits of parks and recreation. They ensure that parks and recreation is regarded as an essential public service. Furthermore, they work to advance planning of parks and recreation being a part of overall community and regional planning, projects and financing.

Recommendations for Moving Forward

To keep pace with the new park improvements, additional park acreage, citizen demands and expectations as well as to allocate resources effectively, enhancing capacity and expertise in the functional areas of park management is crucial. Consider the following:

- A. Use the eight-point model of successful parks and recreation systems to pattern the newly developing Butler Township parks and recreation system through Preston and Saw Mill Run Parks. Having this vision of successful parks and recreation systems in mind will help in planning, decision-making and in the allocation of time and resources.
- B. Develop an implementation plan for the Park Master Plans. Include in this plan an action plan for year one with specific steps, roles and responsibilities defined and funding sources determined, including plans for grant applications.
- C. Formalize the Preston Park Advisory Committee with a written mission statement; roles and responsibilities defined; a strategic plan established with a three-year schedule; and an annual work program developed. The annual work program should be based upon an evaluation of the accomplishments, opportunities and needs that emerged in the previous year.
- D. Consider establishing the Butler Township Parks & Recreation Advisory Board to oversee the overall township parks and recreation system. The Preston Park Advisory Board would have a liaison member to serve on both boards.
- E. Join the Pennsylvania Recreation & Park Society. As part of that membership, consider seeking a \$2500 non-match RecTAP grant to help the Township establish the foundation and operations of the Preston Park Advisory Board and the Butler Township Parks & Recreation Advisory Board.
- F. Retain a landscape architect for consultation on an annual basis to guide the implementation of the park master plan and the work of the volunteers on site maintenance and determine improvements, and to help locate potential grant funding programs.
- G. Move ahead with formalizing the decision-making process to create the position of Parks & Recreation Director. Develop a staffing plan to add park maintenance staff and when a Recreation Program Manager would be brought into the department.
- H. Develop a workload cost tracking system for the Township parks and recreation facilities. By generating information to understand the real cost of labor, equipment, supplies and utilities, the Township will be able to allocate resources most effectively. The Township would also be able to establish policies on fees and charges based on actual cost recovery. It is impossible to manage what you do not count and track. This information is vital for making decisions such as contracting out tasks, charging fees, setting policy, deciding service levels, and so on.
- I. Consider applying to the Pennsylvania Department of Conservation and Natural Resources for a Peer Study Grant of \$10,000 requiring a township match of only \$1,000 to develop a planned maintenance management system. The natural resource management system would be folded into the planned maintenance management system discussed below.
- J. Work with the Western Pennsylvania Conservancy to develop a natural resource plan for Preston Park. Adopt an implementation schedule with roles and responsibilities to ensure that the plan is carried out.
- K. Develop policies on revenues, gifts and donations, and naming of facilities. Use the samples provided in this plan as

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in place as soon as possible. There is urgency involved in this, as donations are already underway.

- L. Create an employee development program. Establish a five-year program that will enhance the expertise of the parks and recreation staff. This could include seminars, workshops, training programs, memberships, and visitation to other township parks and recreation departments with effective operating practices. Devote a percentage of the annual operating budget for training. One good idea obtained at a training program often more than pays for the cost of the training.
- M. Keep the programs going in Preston Park to attract park visitors who will hopefully turn into park supporters and stewards.
- N. Strive to track the testimonials and benefits of this park to the community. Conduct program and facility user evaluations and interviews with park visitors, program users, facility renters and others. This kind of information helps elected officials to make informed decisions based upon real public sentiment of actual users. This is much different information than what is generally captured at public meetings.
- O. Develop a marketing program for Preston Park and Butler Township Community Park/Saw Mill Run Park that includes the development of a "brand" to promote the parks. Seek funds from the Butler County Convention and Visitors Bureau to undertake a marketing, advertising and branding plan. The plan should have significant benefit to the Bureau by adding an important destination that could create overnight stays through tourism. It would be important to determine the right time to do this based upon park improvements and plans.

Importance of Counting: Little Things Add Up

- American Airlines saved \$47,000 annually by eliminating one olive from the salads served in the first-class cabins.
- The New York Times saved \$200,000 annually by eliminating one period in its masthead and the ink needed for this punctuation point.
- Montgomery County Parks & Heritage Services saved nearly the equivalent of one full-time maintenance worker by eliminating the chopping of wood in one park.

Funding Resources Roster

Resources Roadmap for Park Revitalization in Butler Township, PA

This section of the master plan report provides recommendations on how Butler Township can organize itself to be effective and competitive in your efforts to identify, pursue, and secure grant funding and other resources for your parks projects. Success in funding is a process that takes a well-honed strategy and effective implementation. We provide recommendations below on how you can create and implement such a strategy.

This section allow provides a matrix that outlines specific, potential funding and resource opportunities which match Butler Township's visions for the Preston Park, Butler Township Community Park/Saw Mill Run Park Master Plans, including the most promising opportunities for federal, state, philanthropic and private resources. The matrix also suggests key issues and next steps for pursuing and obtaining the identified resources. This matrix does not provide exhaustive information on the potential sources of funding identified below. Instead, this matrix is meant to be the overall, initial blueprint for ideas and opportunities for the Township.

Unfortunately, many traditional sources for parks and recreational funding have been eliminated or greatly reduced over the past decade, and there are few sources available that could provide significant funding amounts for the large capital-intensive projects. Typically, a community will need to use bonding or other local capital resource strategies for the build-out and development of these types of projects. Also, some projects can incorporate components that produce revenues over time to repay capital costs, such as event center components that can earn rental or event fees. These kinds of parks and recreation projects can also be supplemented and enhanced with seed funding, planning funding, technical assistance resources, or funding that gives a project the bona fides that can be used to leverage further support and funding. This section of the report recommends some of the best potential for these catalytic resources.

A Strategy for Obtaining Resources for the Butler Township Park Projects

Butler Township should consider the following 11 key steps for organizing the community to be effective and competitive for securing park project funding:

Step 1: Confirm Priority Projects, Identify Key Components & Estimate Project Costs: It is critical that Butler Township and its key stakeholders reach agreement on the priority projects to be pursued at the parks. Which ones would make the most important contributions to the overall master plan? Which one can leverage funding, and gain the support of local, state, and federal officials?

Once priorities are clearly identified and confirmed, it is critical to establish preliminary cost estimates for each project. Likewise, it is important to break each project down into individual phases. For example, a project typically has phases including community engagement, design, engineering, permitting, construction documentation, construction, and operation and management – and each of these phases may have different grants that can be used for the particular stage of project development. In short, Butler Township will not be effective in pursuing funding sources if it does not have well-estimated costs for each significant component and phase of each project that has been confirmed as a priority by the Butler Township community.

Step 2: Match Community Priorities to the Best Resources: Once the highest priorities have been confirmed and the right team has been established to pursue resources, Butler Township can match the best sources of grants, low-cost loans, tax incentives, technical assistance, and other resources for those projects. Butler should consider the resources immediately below as top opportunities, as well as the other potential resources identified in the more detailed matrix later in this master plan report. Each one of these funding programs involves its own sets of requirements, competitive factors, and processes, which go beyond the scope of this plan.

Funding Resources Roster

These are the top funding opportunities to consider for high priority Butler Township park projects that could include the repair of the dam spillway, the construction of the Preston Park Pavilion and Overlook, the Preston Park Indoor/Outdoor Classroom Building, the entrance/parking area at Preston Park, or other top priorities:

A.) PA DCNR Parks & Recreational Resources –

The most central and important funding pipeline for the Butler parks initiative is the source that has already funded your parks plan – the Pennsylvania Department of Conservation and Natural Resources. DCNR regional manager Kathy Frankel (your current champion in the Commonwealth) is the gatekeeper for potential additional funds, and should be invited for a site visit and discussion on funds that could include:

- Construction grants: Butler could fund a variety of park construction projects through the Keystone Community Recreation and Conservation Grants (up to \$200,000 or more for parks, recreation and trails projects); the PA Land and Water Conservation Fund (grants up to \$200,000 for a variety of park and recreational projects; and/or the Recreational Trails Program (grants up to \$250,000 for recreational trails). These grants will be announced in January 2014, important funding workshops will be held throughout the Commonwealth in February 2014, and applications will be due to DCNR in mid-April 2014.
- Capacity-Building Grants: The DCNR Partnership Program and the DCNR Peer-to-Peer program could provide valuable technical assistance and resources to Butler Township in the effort to build a Parks & Recreation Department and your local capacity to improve and administer these parks.

B.) PA DCED Funding – Pennsylvania Act 13 established a Shale Impact Fee that, among other programs, funds the PA Department of Community and Economic Development's "Greenways, Trails &

trails, open space, public parks and beautification projects. These grants can be for up to \$250,000.

C.) Pennsylvania Growing Greener – Commonwealth leaders are optimistic that the state legislature will re-authorize funding for the Growing Greener program, which can be used for preserving open space; watershed planning; recreational trails and parks; and other uses. Although the next round of this program is not yet released, average grants under past rounds have been \$350,000.

D.) Keystone Historic Preservation Grants – The Pennsylvania Historical and Museum Commission provides these grants of up to \$50,000 for construction and preservation projects for publicly accessible historic resources listed in or eligible for listing in the National Register of Historic Places. Can be for rehabilitation, restoration, and preservation of buildings, structures, sites, properties or objects.

Step 3: Prepare a Detailed Resource Strategy: With priority projects and targeted resources to pursue, the Butler funding team should prepare a detailed, written resources strategy to guide your ongoing funding efforts and identify key actions. A resources strategy is essentially a detailed memo with all target resources identified and a step-by-step game plan for how to pursue each fund. This strategy should slice each project into its fund-able components and key phases, establish timelines and deadlines for funding applications, and lay out action strategies for pursuing the funds. Butler Township should also produce a 1- or 2-page summary of all the resources that are being sought, which is a useful sheet that can be shared with local, Commonwealth and federal officials who are interested in supporting your initiative.

Step 4: Prepare Briefing Materials: Short, effective briefing sheets of 1-2 pages can be a critical tool for describing your projects to potential funders whom you are trying to recruit for support. This includes agency officials, stakeholder organizations, and elected

Recreation Program” fund, which provides grants for planning, acquisition, development, rehabilitation, improvements and repair of greenways, recreational

representatives. Each sheet should generally provide a concise description of the project and its chief components, the need for the project, the benefits that

Funding Resources Roster

will result, the stage of development of the project, a list of key stakeholder supporters, a nice graphic or picture or two and – importantly – a listing of the specific types of funds and other assistance that Butler is seeking to move the project forward.

Step 5: Organize Stakeholder Support: Funders will always want to see support for your project from a variety of stakeholder organizations. Don't wait until the grant applications are due to cultivate them. Butler Township should use its public outreach efforts already conducted in this planning effort, and your parks advisory committee to build a list of people from key stakeholder organizations including governmental entities, businesses and business organizations, community groups, community institutions, the press, and other organizations. Maintain a stakeholder contact database that is easy to access and use on a quick turnaround. Use these supporters for letters of support to funding agencies, letters to the editor, community meetings, calls to agencies and political representatives, visits to governmental officials, and other support for funding applications. These organizations should also be developed as potential sources of matching fund commitments.

Step 6: Budget and Seek Matches Early: It is a simple truth that a locality will not be competitive for grants without being ready to meet grant matching requirements – or exceed the minimum matches – and to leverage other cash and in-kind support for funding applications. Federal and Commonwealth grants typically require matches of between 20-50%, depending on the program. That requires budgeting in the capital and general fund process, and typically requires the willingness to bond funding to meet big capital project matches. Obviously, these kinds of matches will not materialize easily in the few short days between the announcement of a grant opportunity and the submission deadline, so the Butler Township community needs to plan its matching strategies early. Clearly the Preston endowment and the

the Commonwealth and the private development sector, because these allies may be necessary to meet matching requirements.

Step 7: Coordinate with Federal Agency Leaders & Program Managers: We cannot emphasize enough how important and valuable it is for Butler Township to build relationships with federal agency officials who run these funding programs or who can otherwise support your projects. This should be done by reaching out to them, requesting phone calls, visiting them in their regional and Washington D.C. offices, inviting them to site tours and local meetings, asking them for guidance on their grant programs, sending them progress reports and tales of success, and otherwise cultivating them as champions. Your federal elected officials can assist you with this process too. Over time, these agency officials may refer funding opportunities your way, recommend your programs to other funding agencies, and mark the success of their own programs by success in your locality.

One way to cultivate agency officials is to convene multiple federal (and Commonwealth) officials together in a well-organized “Resource Roundtable” that is meant to problem-solve and create cooperative strategies for resources.

Step 8: Collaborate with Key Commonwealth Leaders and Program Managers: Likewise, Commonwealth agency officials are critically important to your funding success, not only when it comes to state-lead grants, but also for their very important endorsements for federal grant applications. Indeed, some federal agencies rank the endorsement of the state in which the project is located as a top factor in where to direct funds. Also very importantly, state officials can be critical in providing pledges of matching funds for your federal applications. All of the means of outreach and collaboration listed above with respect to federal officials should be used with Commonwealth officials.

strategies early. Clearly, the Preston endowment and the Deshon land sale proceeds can be applied strategically for the most important matches. The need for matching also confirms the need to develop relationships and support from key stakeholder organizations, particularly

Step 9: Write Good Grants: Obviously the Butler Township community needs to submit well-written grant applications in order to obtain funds. A primer on grant-writing is beyond the scope of this plan, but a few key

1 Lay, Francis. 1978. Management of Grounds or Site Operations Manual, Manual of Site Management, Environmental Design Press. p4.

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principles should be kept in mind. First, make sure that a person (or persons) are selected early to handle grant-writing. The person should be a good writer, a person that can follow instructions carefully, and a person who has the ability and backing to communicate across departments and jurisdictions to develop grant applications. The person should also be given the opportunity to receive grant-writing training, and given sufficient resources to write grants when the deadlines are approaching. This grant-writer can also be a contracted firm that specializes in grants. Second, an effective grant should always focus on developing a compelling narrative, a theme, for why your community and your project is unique, innovative, most needed, most able to bring big benefits, or otherwise distinguishable from the hundreds of other grants that will be submitted. You need to “brand” your project and its unique qualities, and make sure that branding flavors every page of your grant application, every stakeholder support letter, and every call to the agency about the project. Finally, you must follow directions and answer every questions correctly. Seems like an obvious point, but the vast majority of grant applications that we have seen skip questions or required submissions, violate rules for the grant application or, most often, don’t answer the question that was actually asked. These problems can be avoided with up-front preparation, using a skilled grant-writer, and paying meticulous heed to the directions.

Step 10: Advocate: Even with strong projects, solid relationships with funding agencies, stakeholder support, and well-written grants, you need to advocate to political officials for your applications for funds. Governors, Members of Congress, Senators, and Commonwealth elected officials truly matter when it comes to highly competitive funding contests. Do not wait until a grant is due to ask for their support and involvement in your project, but instead build an ongoing cooperative relationship with them. Your Commonwealth and U.S.

Step 11: Celebrate success: It has been said that “nothing succeeds like success”, and that is certainly true when it comes to obtaining funding. Success comes in two ways – when significant project milestones are accomplished, and when you obtain the next grant. That means that Butler Township should always be looking for opportunities to celebrate success, thank your agency and political supporters, hold groundbreaking and ribbon cuttings, cultivate media coverage, send newsletters, and spread the word in other ways. Progress on projects and success in obtaining grants can also lead to more success by sending signals to other agencies that Butler’s projects are worthy of further grants. Public agencies like to give grants to localities that are leveraging different sources of funding together, and that have used grants effectively and are seeking more to complete a project. A final thought about resources is that, as your success builds toward completion of your visions and plans, the community may be able to accelerate your ability to gain more resources. That is why a systematic, dedicated strategy to obtain resources, using steps such as the ones outlined above, is a worth investment of time and effort.

congressional elected officials (and their staffs!) should be briefed on your projects early and often, given opportunities to support your funding requests, and given credit for their advocacy. Visit with each of your state and federal elected representatives at least once a year, invite them to your community regularly, and keep in touch with newsletters, email reports, and calls as appropriate.

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Parks, Recreation & Historic Preservation – Funding for parks and recreation, although critical for communities, has taken severe cuts during the economic downturn. There is also one fund at the Commonwealth that can be used for historic preservation projects like the Preston Park initiative. Butler Township must have strong, well-conceived projects, and work closely with funding agencies, to be able to compete.

Potential Resources	Key Issues & Next Actions
<p>Land and Water Conservation Fund (LWCF) – Department of Interior funding administered by DCNR to provide 50% matching grants for general public outdoor park, recreation and conservation projects. Additionally, projects funded through this program must be identified in or further the specific goal of the Statewide Comprehensive Outdoor Recreation Plan. An eligible project such as a large scale recreation complex may include: swimming pools, tot lots, playfields and paved courts, as well as the installation of utilities, park roads, landscaping, comfort stations and other support facilities related to the outdoor use of the project site.</p>	<ul style="list-style-type: none"> ■ Contact Kathy Frankel in the DCNR Southwest Regional Office at (412) 880-0468 or KFrankel@pa.gov ■ Review PA's guidance on this program at http://www.dcnr.state.pa.us/cs/groups/public/documents/document/d_001243.pdf ■ Determine whether the Butler park initiatives are in the State Outdoor Recreation Plan and, if not, get them in that Plan ■ Required 50% cash match ■ Grant range in size, with up to \$200,000 or more per project possible ■ Project funds are reimbursed
<p>Keystone Community Recreation and Conservation Program – The Pennsylvania Department of Conservation and Natural Resources (DCNR) provides grant funds for public parks, recreation, and trails projects. This is funded by a combination of state resources and the federal Land and Water Conservation Fund program. One key source, the "Keystone Recreation, Park and Conservation Fund" was funded again this year by the state legislature.</p>	<ul style="list-style-type: none"> ■ Contact Kathy Frankel in the DCNR Southwest Regional Office at (412) 880-0468 or KFrankel@pa.gov ■ Grant should be opened at beginning of 2014, with applications due early spring 2014 ■ Planning grants are typically <\$50,000 ■ Construction grants are typically between \$150,000 and \$200,000 ■ Match requirement is 50%, except for communities with a population <5,000 and a project of <\$60,000, which can receive a lower match requirement to as low as 0% match.

*Preston Park/Butler Township Community Park/Saw Mill Run Park
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Butler Township, PA*

Funding Resources Roster

Parks, Recreation & Historic Preservation – Funding for parks and recreation, although critical for communities, has taken severe cuts during the economic downturn. There is also one fund at the Commonwealth that can be used for historic preservation projects like the Preston Park initiative. Butler Township must have strong, well-conceived projects, and work closely with funding agencies, to be able to compete.

Potential Resources	Key Issues & Next Actions
<p>Greenways, Trails & Recreation Program – The Pennsylvania Department of Community and Economic Development (DCED) provides grants for planning, acquisition, development, rehabilitation, improvements and repair of greenways, recreational trails, open space, public parks and beautification projects.</p>	<ul style="list-style-type: none"> ■ Grants up to \$250,000 ■ 50% match ■ Next round deadline expected in late summer 2014 ■ See www.newpa.com/sites/default/files/uploads/GreenwaysTrailsRecreation_Guidelines-2013.pdf ■ Contact DCED's Center for Business Financing, Site Development Division at 717.787.6245 or radcedcbf@state.pa.us for more info
<p>DCNR Recreational Trails Program - This program funds projects that help develop and maintain recreational trails, as well as, the creation of new trails and the purchase of equipment and related facilities for both motorized and non-motorized recreational trail use and provides for the purchase of trail related equipment. Additionally, projects funded through this program must be identified in or further the specific goal of the Statewide Comprehensive Outdoor Recreation Plan.</p>	<ul style="list-style-type: none"> ■ Contact Kathy Frankel in the DCNR Southwest Regional Office at (412) 880-0468 or KFrankel@pa.gov ■ Grant period will be opened at the beginning of the year with a close date set in early Spring ■ Must match at least 20% ■ Determine whether the Butler Township park initiatives are in the State Outdoor Recreation Plan and, if not, get them in that Plan
<p>DCNR Partnerships Program - This program funds projects that help build professional capacity and provide education to the public on the benefit and value of recreation, conservation and heritage in Pennsylvania, assisting to better develop and manage</p>	<ul style="list-style-type: none"> ■ Contact Kathy Frankel in the DCNR Southwest Regional Office at (412) 880-0468 or KFrankel@pa.gov,

recreation and park facilities, as well as, to promote the conservation of natural and heritage resources through plan implementation, education and training. This program would serve as a way to generate best practices for park managers and community groups.

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Funding Resources Roster

Parks, Recreation & Historic Preservation – Funding for parks and recreation, although critical for communities, has taken severe cuts during the economic downturn. There is also one fund at the Commonwealth that can be used for historic preservation projects like the Preston Park initiative. Butler Township must have strong, well-conceived projects, and work closely with funding agencies, to be able to compete.

Potential Resources	Key Issues & Next Actions
<p>DCNR Peer-to-Peer Program - This program funds projects that help municipalities improve their park, recreation and conservation services through a collaborative process. Projects are accomplished through contracts with experienced park, recreation and conservation professionals from nearby communities who will work closely with local leaders. Specifically, funds can be used to create a Recreation and Park Agency.</p>	<ul style="list-style-type: none"> ■ Contact Kathy Frankel in the DCNR Southwest Regional Office at (412) 880-0468 or KFrankel@pa.gov ■ Maximum award \$10,000 ■ Minimum match 10%
<p>Keystone Historic Preservation Grants – Grant program available to local governments for small construction and preservation projects for publicly accessible historic resources listed in or eligible for listing in the National Register of Historic Places. Can be for rehabilitation, restoration, and preservation of buildings, structures, sites, properties or objects.</p>	<ul style="list-style-type: none"> ■ Contact Karen Arnold, program manager at (717) 783-9927 or kaarnold@pa.gov ■ Deadline: March 3, 2014 ■ Minimum Award \$5,000 ■ Maximum Award \$50,000 ■ Funding requests require a 50/50 cash match

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Funding Resources Roster

Parks, Recreation & Historic Preservation – Funding for parks and recreation, although critical for communities, has taken severe cuts during the economic downturn. There is also one fund at the Commonwealth that can be used for historic preservation projects like the Preston Park initiative. Butler Township must have strong, well-conceived projects, and work closely with funding agencies, to be able to compete.

Potential Resources	Key Issues & Next Actions
<p>National Park Service GroundWork Trust – the Groundwork Trust model involves strong partnerships between government, business, foundations, community groups, and residents to build safer and stronger communities, support local economies and promote environmental sustainability. Groundwork USA is a network of independent, not-for-profit, environmental businesses called Groundwork Trusts linked together by the Groundwork USA national office. Locally organized and controlled, Groundwork Trusts provide cost effective project development services focused on improving their communities; environment, economy and quality of life. Services include community planning, project management, design and construction, fundraising, and support for maintenance.</p>	<ul style="list-style-type: none"> ■ Enter into discussions with local businesses and constituents to generate “buy in” for the creation of a community trust. Establishing a new Groundwork Trust is a multi-step competitive process. An interested community establishes a steering committee of diverse stakeholders and applies to the National Park Service Rivers, Trails, and Conservation Assistance program for consideration. If selected, they work with NPS to evaluate Groundwork for their community and to submit a full proposal for Groundwork USA Pilot Funding and Technical Assistance. If their proposal is selected they then work with NPS on in-depth feasibility study. Upon completion, if the final decision is to establish the new GW Trust, NPS provides seed funding and technical assistance. For more information, please contact Douglas Evans at NPS, douglas_evans@nps.gov.
<p>National Park Service Rivers, Trails and Conservation Assistance (RTCA) – Technical assistance for community-led natural resource conservation and outdoor recreation initiatives. RTCA staff provides guidance to communities so they can conserve waterways, preserve open space, and develop trails and greenways. This can opportunity can also be used as an entry point for gather information and resources for further project development.</p>	<ul style="list-style-type: none"> ■ Deadline August 1st 2014 ■ Contact the National Park Service RTCA office for an initial project discussion. ■ Dave Lange, Program Manager, david_a_lange@nps.gov, (215) 597-6477

*Preston Park/Butler Township Community Park/Saw Mill Run Park
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Funding Resources Roster

Parks, Recreation & Historic Preservation – Funding for parks and recreation, although critical for communities, has taken severe cuts during the economic downturn. There is also one fund at the Commonwealth that can be used for historic preservation projects like the Preston Park initiative. Butler Township must have strong, well-conceived projects, and work closely with funding agencies, to be able to compete.

Potential Resources	Key Issues & Next Actions
<p>Alcoa Foundation - \$442 million fund</p> <ul style="list-style-type: none"> ■ Based out of Pittsburgh ■ Focus on sustainability, environment and education. ■ They have particular interest in public education ventures in the Pittsburgh area that advance efforts in science, technology, engineering and math (STEM) education. ■ Maximum award is \$15,000. 	<ul style="list-style-type: none"> ■ Contact Pittsburgh Office Grants Administrator Carol Greco, carol.greco@alcoa.com ■ Because of the size of the award, as well as the frequency of giving, this project should be competitive for funding on a focused, discrete project. ■ Focus on a component that will need less than \$15,000 per year to maintain and that will also be “stand alone” in nature. One example of this could be yearly trail up keep, educational signage and maintenance, or something programmatic at one of the parks like yearly tree planting.
<p>Colcom Foundation - \$467 million fund</p> <ul style="list-style-type: none"> ■ Regional (Western PA) focus on conservation and environmental projects, and cultural assets ■ Colcom Foundation favors programs that aggressively address watershed remediation, natural resource preservation, clean air and improved water quality, and farmland and wildlife habitat conservation. 	<ul style="list-style-type: none"> ■ Contact Program Director for Environment Carol Zagrocki, (412) 765-2400 ■ Grant amounts vary greatly depending on scope and regional significance ■ Applications can be submitted only by invitation following the foundations review of a letter of interest. ■ A focus for these funds could be on one of the themed elements at Preston Park or other discrete projects like the Bird Boardwalk of the restoration of the Arboretum. Should approach Colcom about

	assistance on Dam spillway repairs.
<p>Heinz Endowment - \$1 billion trust</p> <ul style="list-style-type: none"> ■ The endowments is based in Pittsburgh ■ Focus is on using the region as a laboratory for the development of solutions to challenges that are national in scope ■ Multiple funding opportunities ■ Frame the parks in a broader, national model-type 	<ul style="list-style-type: none"> ■ Funding varies greatly, with average award ranging from \$15,000 to \$500,000 ■ Application and program specific details are set in late January ■ Evaluate Preston Park's potential as a one of a kind educational resource that teaches through conservation and scientific inquiry, such as Interpretation of Preston History through Glass, themed destination elements, or the landform Amphitheater at Saw Mill Run.

*Preston Park/Butler Township Community Park/Saw Mill Run Park
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Funding Resources Roster

Sustainability / Smart Growth – The Butler Park/ Butler Township Community Park/ Saw Mill Run Park Master Plans have a strong connection to the principals of smart growth and sustainable development. Butler Township can seek additional resources that support these specific areas.

Potential Resources	Key Issues & Next Actions
<p>Pennsylvania Growing Greener - Growing Greener, the largest single investment of state funds in Pennsylvania's history, is set to expire. Growing Greener directed nearly \$625 million over six years to the new Environmental Stewardship Fund. Growing Greener funds can be used for preserving open space; watershed planning; recreational trails and parks; stormwater management, and other uses. Eligible applicants include non-profit groups, counties, and municipalities. A local match is encouraged, but not required. A Growing Greener III program may replace the existing program, but there is no certainty of a replacement at this time.</p>	<ul style="list-style-type: none"> ■ Pennsylvania DEP Officials are optimistic that the State Legislature will fund this program, but there has yet to be an announcement. ■ Contact Cheryl Snyder, chesnyder@state.pa.us, (717)772-5640 ■ Sign up to be notified when/if funding is made available http://www.ahs2.dep.state.pa.us/Central-ListManager/Default.aspx?id=2 ■ Funding levels could be highly variable, depending on the legislature's decision ■ On average, in the past 6 years, projects ranged from \$10,000 to \$1 million ■ Average of 100 grants per year at an average of \$350,000
<p>National Endowment for the Humanities, America's Historical & Cultural Organizations, Planning grants and Implementation Grants – for historic site interpretation, exhibitions, cultural programming. The program offers both early stage planning and implementation. Specifically, NEH's "implementation" is for the production of more thorough and scholarly research, design development, production, and</p>	<ul style="list-style-type: none"> ■ While the site is certainly historic in nature, there will need to be a concerted effort made to align it with the advancement of the humanities. ■ Deadline is January 8th and again in August of 2014 ■ Average 9 awards per year ■ Scholarly consultation is essential ■ Award amounts vary

installation of a project for presentation to the public.	
<p>National Endowment for the Humanities, Challenge Grant – capacity building grant for humanities programs that support a non-profit effort to raise funding for building a humanities program, that can include facility rehab, expenses for collections, and fundraising.</p>	<ul style="list-style-type: none"> ■ While the site is certainly historic in nature, there will need to be a concerted effort made to align it with the advancement of the humanities. ■ Deadline will likely be in early May with a draft proposal submitted 4 to 6 weeks in advance for review ■ Grants range from \$30,000 to \$1 million, with any grant over \$500,000 being significantly difficult to obtain ■ Required match is 2:1 with competitive applications typically being 3:1. Match and expenditure may be spread over 6 years.

*Preston Park/Butler Township Community Park/Saw Mill Run Park
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Butler Township, PA*

Funding Resources Roster

Sustainability / Smart Growth – The Butler Township-Preston Park Master Plan has a strong connection to the principals of smart growth and sustainable development. Butler Township can seek additional resources that support these specific areas.

Potential Resources	Key Issues & Next Actions
<p>Wells Fargo / National Fish & Wildlife Foundation “Environmental Solutions for Communities” grants – will provide grants of up to \$250,000 to localities for, among other focus areas, community-based conservation projects that protect and restore local habitats and natural areas, enhance water quality, promote urban forestry, educate and train community leaders on sustainable practices, promote related job creation and training, and engage diverse partners and volunteers; and demonstration projects that showcase innovative, cost-effective and environmentally-friendly approaches to improve environmental conditions within urban communities by “greening” traditional infrastructure and public projects such as storm water management and flood control, public park enhancements, and renovations to public facilities.</p> <p>Must have a 1:1 match with the Wells Fargo grants.</p>	<ul style="list-style-type: none"> ■ Wells Fargo/NFWF target specific localities and regions in each round. The region of Pennsylvania in which Butler County is located is not in the targeted regions at this time, and thus we recommend that Butler consider this in future potential rounds.
<p>EPA Green Infrastructure Program (“GIP”) grants – EPA provides technical assistance to design community green infrastructure programs and projects. There is</p>	<ul style="list-style-type: none"> ■ There released in the first half of 2014. ■ Coordinate with EPA Region 3 officials working in green infrastructure in both the Water and Brown-

likely to be a solicitation for applications in the first half of 2013.

green infrastructure in both the water and brown fields offices, and coordinate with the Green Infrastructure Program leads in EPA HQ's Office of Water.

- Funding ranges from \$30,000 to \$75,000

Funding Resources Roster

*Preston Park/Butler Township Community Park/Saw Mill Run Park
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Sustainability / Smart Growth – The Butler Township-Preston Park Master Plan has a strong connection to the principals of smart growth and sustainable development. Butler Township can seek additional resources that support these specific areas.

Potential Resources	Key Issues & Next Actions
<p>Urban and Community Forestry Grants – This funding is used to encourage the planting of trees in Pennsylvania communities. Municipal challenge grants provide 50 percent of the cost of the purchase and delivery of trees. In Pennsylvania, grants for tree planting of up to \$15,000 per municipality can be given under the “TreeVitalize” program. See www.treevitalize.net/SubGrant.aspx</p> <p>The Pennsylvania Community Forest Council also provides “Municipal Challenge” grants to cover the cost of planting up to 50 trees, “Municipal Tree Restoration Program” grants in partnership with utilities to help ensure tree planting that does not interfere with overhead wires, and “Tree Improvement Grants” to support better care of existing trees. See www.pacommunityforests.com/grants/index.htm.</p>	<ul style="list-style-type: none"> ■ Contact the PA DCNR “Service Forester” for your county, at www.dcnr.state.pa.us/forestry/yourwoods/serviceforesters/index.htm. ■ Contact the Pennsylvania Community Forestry Council in Harrisburg at www.pacommunityforests.com/contactinformation/index.htm

Funding Resources Roster

Transportation Infrastructure – The Preston Park Plan includes walking and biking trails as well as internal roadways that could be funded with state and federal transportation infrastructure grants.

Potential Resources	Key Issues & Next Actions
<p>PA DOT “Transportation Alternatives” Funding – The MAP-21 legislation mandates that each State must use 1% of its funding allocation and may use up to 2% of its funding allocation on these “Transportation Alternatives” projects which include non-motorized trails, sidewalks, transit stations, and other walkability/sustainability projects. In PA, that means \$16-\$32 million a year, for two years, for these projects.</p> <p>This “Alternatives” fund replaces the Transportation Enhancements, Recreational Trails, and Safe Routes to Schools programs that have been traditionally funded by U.S. DOT through the states.</p>	<p>■ The key to obtaining State transportation funding is to have your projects listed in the “Transportation Improvement Plan” established by the Southwest Pennsylvania Commission, and the corresponding “State Transportation Improvement Plan” established by PA DOT. In general, the more outreach and collaboration to the SW PA Commission and PA DOT, the better. Consider enlisting State reps and senators for help. The key Southwest PA Commission members for Butler are County Commission Chairman William McCarrier, County Commissioner Dale Pinkerton, County Planning Director David Johnston, and Butler County Tourism and Convention Bureau Director Jack Cohen.</p>

*Preston Park/Butler Township Community Park/Saw Mill Run Park
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Funding Resources Roster

Sources of Local Match & Leverage – Almost every source of federal, state, and philanthropic grant funding requires a local cash match, and the Township could make itself more competitive for funding if it determines that it would use available sources of funding to leverage external grants. These could include the following sources:

Potential Resources	Key Issues & Next Actions
<p>Preston Endowment – Mrs. Preston left a \$2 million endowment to Butler Township, permitting interest on this fund to be used for park maintenance and improvements. This annual revenue could be used to help service bonds or to establish an annual park improvement budget.</p>	<ul style="list-style-type: none"> ■ Butler Township can identify a reasonable, expected rate of return and revenue from this fund, and use it in capital and maintenance budgetary planning.
<p>Proceeds from Deshon Woods Land Sale – Butler Township has determined that up to \$500,000 of the proceeds from the sale of Deshon Woods land to the Veterans Administration will be reserved for park capital planning. This is a very important source of match, and Butler Township should carefully consider how to use this significant fund to leverage additional Commonwealth, federal, and/or philanthropic funding. Use it to your greatest advantage, and not in isolation from other potential funding sources.</p>	<ul style="list-style-type: none"> ■ Identify priority, catalytic investments, and potential sources of larger grants that could be matched with this Deshon Woods revenue.

*Preston Park/Butler Township Community Park/Saw Mill Run Park
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Phasing and Costs

Due to the fact that each of the three park sites are functioning today, at various levels, as public park facilities, a traditional master development plan-level estimate of probable costs for new “ground-up” facilities doesn’t really apply. In addition to physical improvements, the master plan identify numerous staffing and operational recommendations and improvements at a Township-wide level.

The master plan’s recommendations are organized into three tiers which represent increasing levels of: visitor readiness; intensity of use, care, maintenance and management; and the extent that Preston Park especially, serves as a regional attraction (and beyond).

The three implementation tiers include:

Tier 1 (Continuation of Initial Upgrades) – Provide a Safe, Clean and Ready to Use Experience in all of the parks – This level of improvements is focused on targeted upgrades to support trails, nature enjoyment, minimal utilization of the existing buildings at Preston Park with some interpretation of the site and overall landscape management. The parks would be managed by Township professional staff relying heavily on guided volunteerism.

and community events. Strong regional partnerships with businesses; concessionaires; and vendors would be established to support implementation, operation and management.

The information in the following matrix should be viewed as a summary framework that itemizes major recommendations and elements in the master plan for policy, staffing and development, using a phased approach and to serve as reference for capital programming. As funding is available, needs change in the community, or opportunities present themselves, the sequence of development may change, especially for sub-components or steps of each recommendations.

More detailed costs are provided for Near-Term (Phase 1) physical park improvement projects to support early implementation and budgeting efforts, including local fundraising and grant applications. These estimate level-of-magnitude costs for Phase 1 projects were developed based on the following:

- The following Level-of-Magnitude Cost is prepared for use by the Butler Township in evaluating project options and pursuing implementation funding and the development of Capital Budgets for grant project/applications.

Tier 2 – Establish Preston Park as a Local Cultural, Educational and Natural Heritage Park with Program Linkages at Butler Community Park and Sawmill Run Park - Preston Park especially, would be improved with expanded indoor and outdoor facilities, services and amenities that convey the importance of the site through professional interpretation materials, programs, and management supported with strong support of volunteers.

Tier 3 – Expand Preston Park as Regional Cultural and Natural Heritage Park & Educational/Events Center and Tie into the Amphitheater Venue at Sawmill Run Park - Construct and expand facilities and landscape management to create a venue for broader local and regional activities/events and tied to greater revenue-generation potential on-site. Preston Park would include new facilities developed and used for educational seminars and programs; weddings; conferences; retreats; business

- The Level-of-Magnitude costs are based on the conceptual designs illustrated in this report and include likely costs to furnish and install items identified or likely items to be included based on other similar projects in the state and region. This estimate excludes any costs for any off-site or unknown underground utility systems, unknown hazardous materials or subgrade conditions beyond what has been identified at the time of the this report.
- All costs are stated in Year 2013-14 dollars and are not escalated to address inflation for future year construction. Once projected construction dates for each phase are determined, a 3% escalation factor should be compounded for each year between 2014 and the midpoint of construction.
- No land, rights-of-way, or permanent easement acquisition costs have been included these estimates.
- A 15% Construction Contingency is provided to address project modifications based on more detailed design and engineering and unforeseen conditions during construction.

Phasing and Costs

Map Legend



Date: October, 2014



Phase I (Near Term)

Key #	Description	Budget Amount (Design/Construction)
1.F	Comprehensive system-wide branding and signing system development	\$35K/\$70K (Preston park only)
1.I	Phase 1 circulation and parking improvements	\$150K*/\$300K
1.J	Restore and enhance the Oval Arboretum	Part of 1.I/\$125K
1.K	Dam rehabilitation	\$50K/\$500K
1.L	Document, maintain/moth-ball and raze buildings in Preston Park	\$50K/TBD
1.M	Undertake base vegetation management especially focused on the removal of dead and diseased trees and invasive plant species	\$10K/Volunteer

Notes:

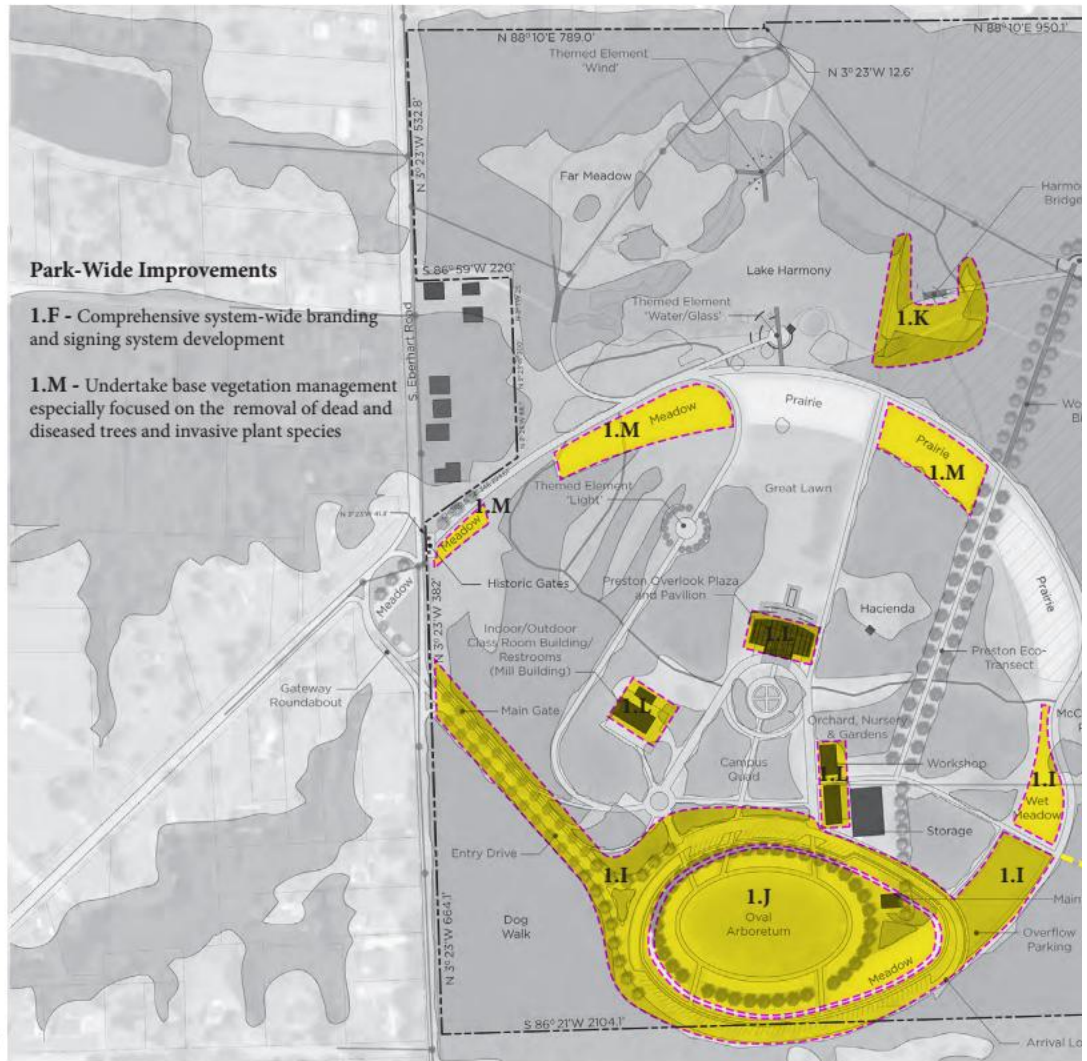
* Includes extensive site surveying to support this and surrounding projects and design of 1.J

Key numbers correspond to descriptions in the Project Phasing and Potential Costs Matrix starting on page 93. Key prefix numbers correspond to Tier levels and do not necessarily denote phasing level.

Park-Wide Improvements

1.F - Comprehensive system-wide branding and signing system development

1.M - Undertake base vegetation management especially focused on the removal of dead and diseased trees and invasive plant species



Phasing and Costs

Map Legend



Date: October , 2014



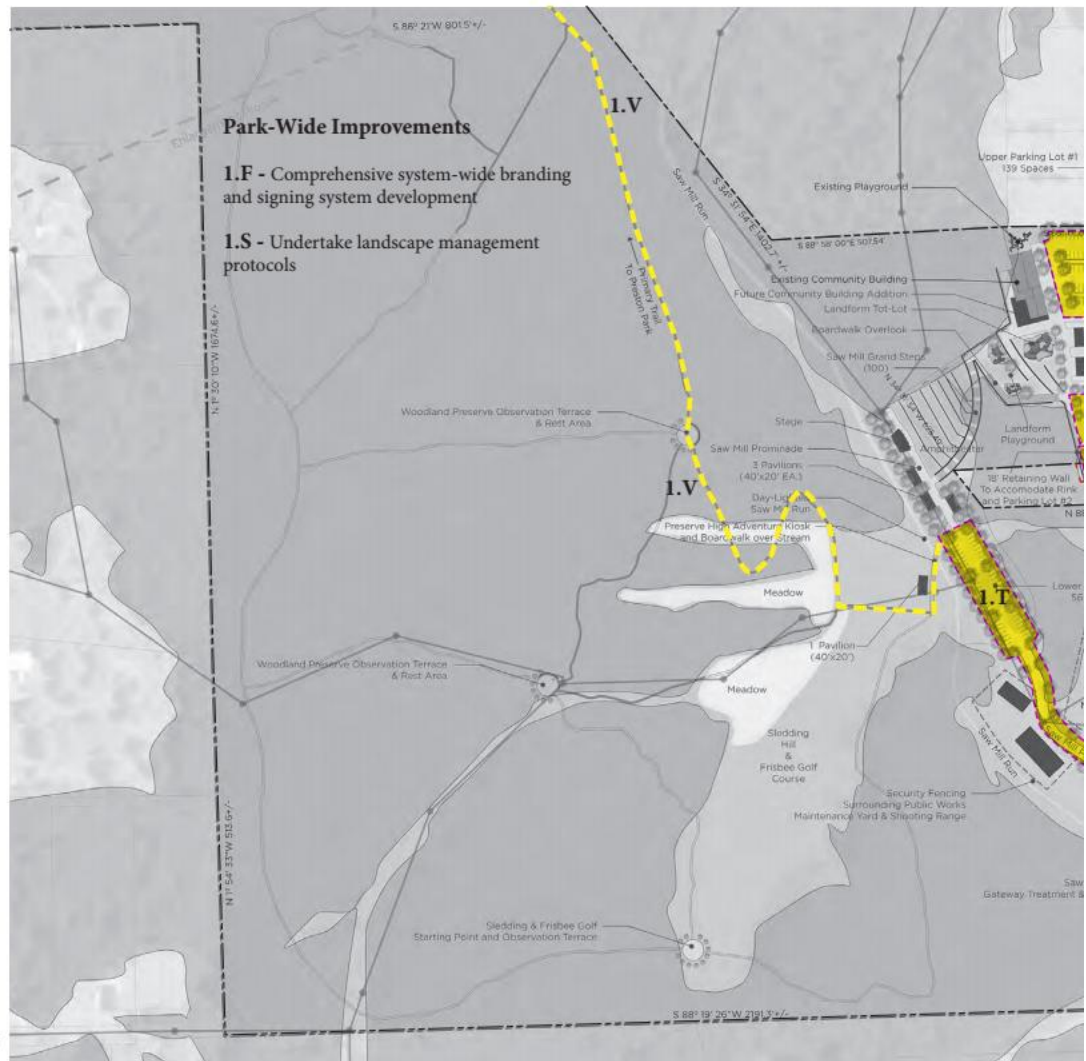
Phase I (Near Term)

Key #	Description	Budget Amount (Design/Construction)
1.F	Comprehensive system-wide branding and signing system development	Listed on Preston Budget/\$80K (Butler Community Park/Saw Mill Run Park)
1.O	Regulation size dek hockey rink	\$43K*/\$200K
1.P	Parking improvements	\$25K/\$150K
1.S	Landscape management protocols	\$5K/ Volunteer
1.T	New park access road, parking lot and daylighting of Saw Mill Run	\$150K*/\$300K
1.V	Create a formal trail connection to Preston Park	\$3K/\$18K

Notes:

* Includes extensive site surveying to support this and surrounding projects and design of I.P

Key numbers correspond to descriptions in the Project Phasing and Potential Costs Matrix starting on page 93. Key prefix numbers correspond to Tier levels and do not necessarily denote phasing level.



Butler Township Community Park/Saw Mill Ru

Phasing and Costs

Map Legend



Date: October, 2014



Future Phase (Mid Term)



Future Phase (Long Term)



Preston Park - Future

Phasing and Costs

Map Legend



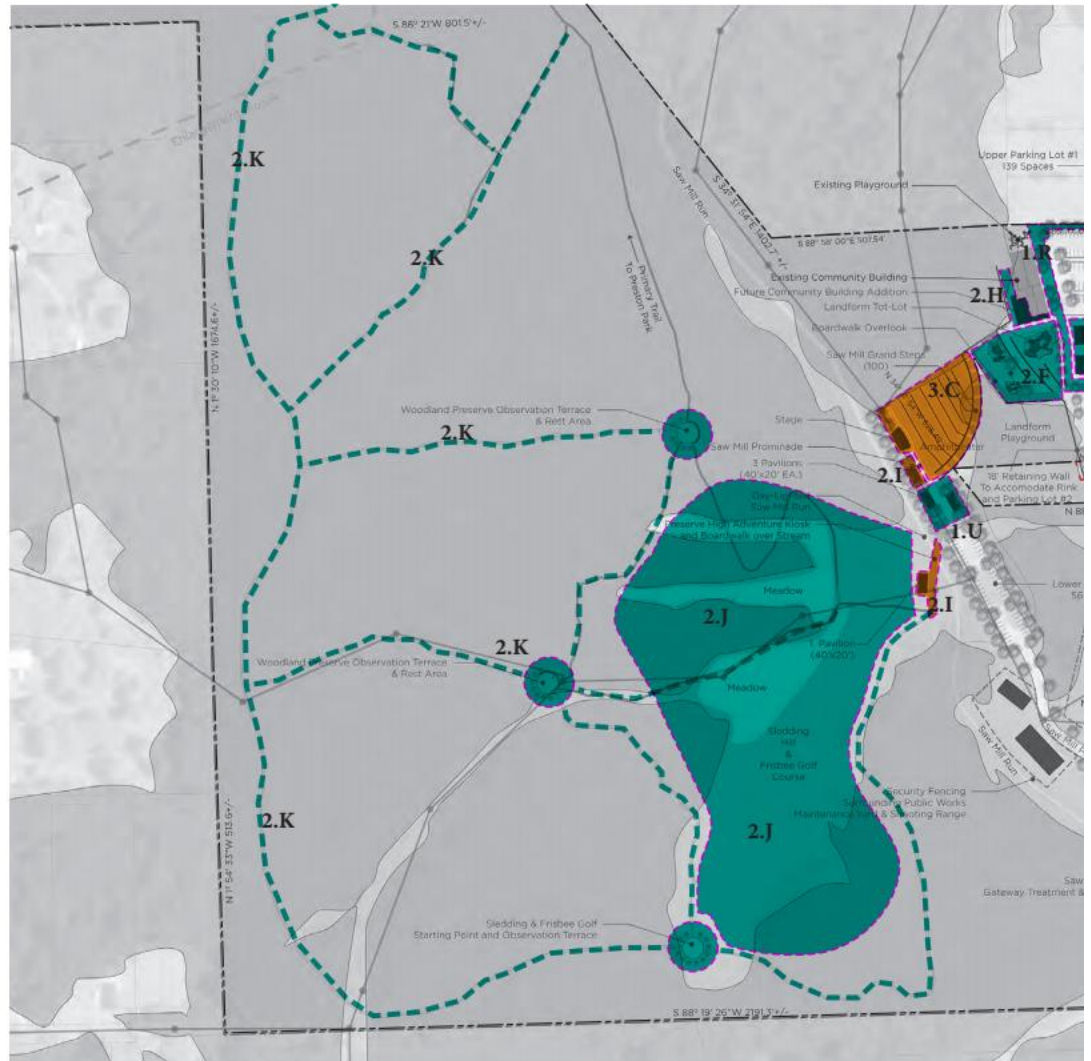
Date: October , 2014



Future Phase (Mid Term)



Future Phase (Long Term)



Butler Township Community Park/Saw Mill Run Park - Future

Phasing and Costs

PROJECT PHASING AND POTENTIAL COSTS - TIER #1 CONTINUATION OF INITIAL UPGRADES - PARKS AND RECREATION SYSTEM				
	Programming Activity	Priority	Leaders & Potential Costs	Potential Action Items/Notes
	Parks and Recreation System-Wide			
1.A	Establish a formal Butler Township Parks and Recreation Advisory Board	Near Term	Township; Volunteer Advisory Board Time	<ul style="list-style-type: none"> - Establish criteria for Parks and Recreation Advisory Board - Formalize P&R Board's Role - Recruit Board members
1.B	Hire a Parks and Recreation Department Director	Near Term	Dependent upon part-time (initially) vs. full-time	<ul style="list-style-type: none"> - Formalize specific position job description - Develop a staffing and budget - Recruit Director
1.C	Develop a comprehensive landscape management manual for all of the parks	Near Term	Township Staff, Advisory Board, Friends of Group(s); \$20K - \$30K (Manual development could be phased; cost of implementation TBD through development of Manual)	<ul style="list-style-type: none"> - Retain landscape architects to develop management manual which delineates responsibilities between Township staff and volunteers - Develop Standardized Maintenance Manual - Establish Best Management Practices - Workload/cost tracking system - Join PRPS and pursue RecTA manual - Institute aggressive invasive plant management - Consider impacts of the need for insect/disease infestations
1.D	Undertake a community education process focused on the visions for all of the parks	Near Term	Township Staff, Advisory Board, Friends of Group(s)	<ul style="list-style-type: none"> - Develop park system vision presentation - Seek grant providers - Attend local and regional events - Develop projects in terms of education and outreach
1.E	Develop an annual parks and recreation Capital Improvement Program (CIP)	Near Term	Township	- Integrate Near Term and high priority projects into Township's annual and long-term CIP
1.F	Comprehensive branding and signing system development	Near Term	Township Staff, Advisory Board, Friends of Group(s); \$35- \$45K for development of standards and to establish implementation costs.	<ul style="list-style-type: none"> - Evaluate models for township branding and interpretative signage by visiting other parks - Establish branding and signing standards - Hire an environmental graphic designer to develop signing standards and construct physical signage. - Begin to develop information for Preston Park, interpretative information facilities.
1.G	Hire a Recreation Programs Manager	Mid-Term	Dependent upon part-time (initially) vs. full-time	<ul style="list-style-type: none"> - Formalize position-specific job description - Develop a staffing and budget - Recruit
	Key: Near Term = Within 1-5 years Mid Term = Within 6-10 years Long Term = Within 10+ years			

Phasing and Costs

PROJECT PHASING AND POTENTIAL COSTS - TIER #1 CONTINUATION OF INITIAL UPGRADES - PRESTON PARK				
	Programming Activity	Priority	Leaders & Potential Costs	Potential Action Items/Notes
	Preston Park			
1.H	Establish Preston Park Foundation	Near Term	Township, Advisory Board, Minor Legal Expense	- Develop formal non-profit and financial donations to support
1.I	Phase 1 circulation and parking improvements	Near Term (Design) Mid Term (Construction)	Township; \$25K survey, \$125K construction drawings, \$300K construction (for all Phases),	- Undertake construct documents and adjacent context including - Explore potential to acquire (and parking capacity on the so - Prepare permitting/bidding d - Construct parking area improvements
1.J	Restore and enhance the Oval Arboretum	Near Term (Design) Mid Term (Construction)	Township, Friends of Preston Park; survey and design fees part of Phase 1 circulation improvements, \$125K - \$150K construction	- Prepare new circulation, grades as the major gateway landscape premiere venue for outdoor events - Prepare special planting plan; greatly enhance understory trees
1.K	Dam rehabilitation	Near Term	Township; \$50K construction drawings/CA; \$450-\$500K rehab.	- Prepare permitting/bidding documents - Coordinate with PADEP on requirements
1.L	Document, maintain/moth-ball and raze buildings in Preston Park	Near Term - Mid Term	Township, Friends of Preston Park, Butler County Historical Society; \$30K-\$50K for documentation, demolition TBD	- Perform Historic Structure Reports - Prepare Historic American Buildings Laboratory Building and Well House - Undertake 360 panoramic interior Well House interiors for future - Develop moth-balling and deconstruction
1.M	Undertake base vegetation management especially focused on the removal of dead and diseased trees and invasive plant species	Near Term	Township, Friends of Preston Park, Local Volunteers and Organizations; Most work to be performed by volunteers with technical oversight by consulting ecologists and landscape architect, budget for tree removals by Township staff or professional arborist to be developed based on complete inventory and prioritization/\$10K	- Perform formal inventory and appropriate re-planting - Systematically target areas for - Establish native plant nursery - Retain on-call arborist for large - Identify a Township staff to re - Expand meadow plantings periodically
1.N	Develop an Indoor/Outdoor Classroom and restroom facilities in the former Machine Shop	Mid Term	Township; \$45K Construction drawings/CA, \$400- \$450K rehabilitation	- Utilize information from HSI exterior siding and roofing, to and potential renovation costs - Specifically evaluate the integrity building is not open to the public - Prepare permitting/bidding documents - Undertake rehabilitation of building
Key: Near Term = Within 1-5 years Mid Term = Within 6-10 years				

Phasing and Costs

PROJECT PHASING AND POTENTIAL COSTS - TIER #1 CONTINUATION OF INITIAL UPGRADES - BUTLER TOWNSHIP COMMUNITY PARK/				
	Programming Activity	Priority	Leaders & Potential Costs	Potential Action Items/Notes
Butler Township Community Park				
1.O	Regulation size dek hockey rink	Near Term	Township; \$18K survey (entire site) \$25K construction drawings, \$200K construction	- Discuss the utilization (via ease below) - Determine if a new regulation is determined once a site survey is parking is determined
1.P	Parking improvements	Near Term	Township; survey cost included in above, \$25K construction drawings, \$150K construction	- Discuss the utilization (via ease parking; the ability to utilize this and the adjacent dek hockey rink)
1.Q	Pavilions (4 of 4)	Mid Term	Township; construction drawings \$5K, construction and installation \$80K	- Per the master plan recommendation
1.R	Upgrade landscape plantings	Mid Term	Township, Friends of Group; planting plans \$15K, plantings \$75K	- Focus on improving the aesthetic hockey and parking improvements
Saw Mill Run Park				
1.S	Landscape management protocols	Near Term	Township; planting/seeding plans \$5K, new management protocols should reduce current management costs	- Part of Tier 1 comprehensive
1.T	New park access road, parking lot and daylighting of Saw Mill Run	Near Term (Design) Near/Mid Term (Construction)	Township; \$25K survey, \$125K construction/permitting drawings, \$300K construction (for all Phases),	- Continue activity to clean-up serve as the future park access - Streamwork will require specification
1.U	Pavilions (2 of 4)	Mid Term	Township; construction drawings (part of drawing fee listed above under Butler Township Community Park, construction and installation \$40K	- Per the master plan recommendation
1.V	Create a formal trail connection to Preston Park	Near Term	Township, Friends of Group; \$3K construction drawings and staking, \$18K construction	- The exact location of the trail on road and parking lot and daylighting
Key: Near Term = Within 1-5 years Mid Term = Within 6-10 years Long Term = Within 10+ years				

Phasing and Costs

PROJECT PHASING AND POTENTIAL COSTS - TIER #2 ESTABLISH PRESTON PARK AS A LOCAL CULTURAL, EDUCATIONAL, AND NATURAL				
	Programming Activity	Priority	Leaders & Potential Costs	Potential Action Items/Notes
	Preston Park			
2.A	Renovate the Instrument Building as the Township's Parks and Recreation Department Headquarters	Mid Term	Township; \$35K Construction drawings/CA; \$350K - 400K rehabilitation	- Utilize information from HSF adaptive reuse of the structure; - Prepare permitting/bidding documents - Undertake rehabilitation of building
2.B	Phase 2 circulation and parking improvements	Mid Term - Long Term	Township; Construction drawings/documents completed under Phase 1, \$250K construction	- Construct Phase 2 Access road gateway plantings
2.C	Preston Eco-Transect and Bird Walk	Mid Term - Long Term	Township, Friends of Preston Park; \$8K Topography Survey, \$15K Design Development and Feasibility Study, \$35K Construction drawings	- Undertake construct documents including locating all major car - Document and evaluate existing plant species management guide - Undertake design development along Frank W. Preston Eco-Transect - Undertake a feasibility study as an elevated bird walk - Develop construction cost estimate - Prepare permitting/bidding documents
2.D	Design and construction of 1 or 2 major architectural/ landscape elements as "themed" destination attractions dispersed throughout the park as part of the interpretation strategy	Mid Term - Long Term	Township, Friends of Preston Park, Regional Arts Associations/Groups	- Develop design, material and installations - Pursue special funding pool for interpretation - Undertake artist competition
2.E	Upgrade primary walkways	Mid Term	Township, Friends of Preston Park; \$15K Construction specifications and bidding documents; Construction budget to be determined based on final surface treatments	- Prepare simple specifications following current ADA requirements - Determine which projects can be done versus outside contracting (such as paving)
Key: Near Term = Within 1-5 years Mid Term = Within 6-10 years Long Term = Within 10+ years				

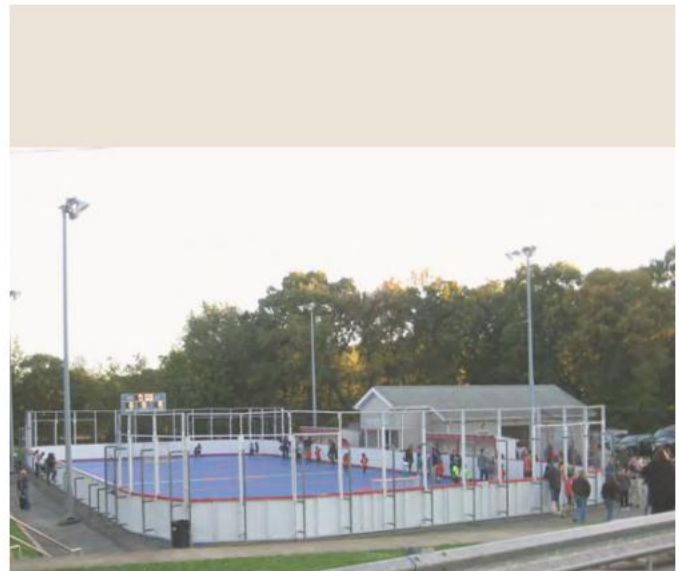
Phasing and Costs

PROJECT PHASING AND POTENTIAL COSTS - TIER #2 CONTINUATION OF INITIAL UPGRADES - BUTLER TOWNSHIP COMMUNITY PARK/				
	Programming Activity	Priority	Leaders & Potential Costs	Potential Action Items/Notes
Butler Township Community Park				
2.F	Destination Playground	Mid Term	Township, Friends of Group; Topography Survey (could be performed as part of Project 1.O), \$15K Design Development and Feasibility Study, \$35K Construction drawings/CA, \$250K Construction	- Undertake construct document including locating all major car - Undertake design development topographic features and vistas - Develop construction cost estimate - Prepare permitting/bidding documents
2.G	Spray pad (Optional component of Destination Playground)	Mid Term	Township, Friends of Group; Topography Survey (could be performed as part of Project 1.O), \$8K Design Development and Feasibility Study; \$35K Construction drawings/CA, \$250K - \$300K Construction	- Undertake construct document including locating all major car - Undertake design development which related to destination plan - Develop construction cost estimate - Prepare permitting/bidding documents
2.H	Expand community building	Mid Term	Township; \$10K Construction drawings/CA, \$100K rehabilitation	- Prepare permitting/bidding documents - Coordinate with design of adjacent use during special events, rental
Saw Mill Run Park				
2.I	Pavilions (2 of 4)	Long Term	Township; construction drawings (part of drawing fee listed above under Butler Township Community Park, construction and installation \$40K)	- Per the master plan recommendations
2.J	Frisbee golf course	Mid Term	Township; \$3K Construction drawings and staking; \$18K Construction	- Determine preferred course layout - Access dependent upon trail plan
2.K	Expanded trail network	Mid Term	Township, Friends of Group, \$3K construction drawings and staking (could be performed as part of project 1.V for efficiency, Construction cost TBD based on final trail network)	- Per master plan
Key: Near Term = Within 1-5 years Mid Term = Within 6-10 years Long Term = Within 10+ years				

Phasing and Costs

PROJECT PHASING AND POTENTIAL COSTS - TIER #3 EXPAND PRESTON PARK AS REGIONAL CULTURAL AND NATURAL HERITAGE				
	Programming Activity	Priority	Leaders & Potential Costs	Potential Action Items/Notes
	Preston Park			
3.A	Construct Preston Park Pavilion as a signature "green" multi-purpose space/events facility	Long Term	Township, Friends of Preston Park regional and corporate partners and sponsors; Potential building architectural design and construction range \$1.5M to \$2.0M	- Undertake a feasibility study for projected demand and revenue potential - Undertake architectural Design - Develop construction cost estimate
3.B	Development of themed native and cultural "gardens" with the Preston Campus and/or Arboretum zones	Long Term	Township, Friends of Preston Park; planting designs, specification and construction TBD based on location, scope and size	- Designed gardens to be determined the park and to support other events

PROJECT PHASING AND POTENTIAL COSTS - TIER #3 EXPAND SAW MILL RUN AS A DESTINATION AND TO TIE ITS PROGRAMMING WITH PRESTON PARK				
	Programming Activity	Priority	Leaders & Potential Costs	Potential Action Items/Notes
	Saw Mill Run Park			
3.C	Amphitheater and Grand Steps	Long Term	Township, Friends of Group; Topography Survey (could be performed as part of Project 1.O and/or 1.T), \$25K Design Development and Feasibility Study, \$100K Construction drawings/CA, \$750K Construction	- Undertake construct document including locating all major circulation - Undertake design development capitalizes on the site features and - Develop construction cost estimate - Prepare permitting/bidding documents
		Key: Near Term = Within 1-5 years Mid Term = Within 6-10 years Long Term = Within 10+ years		





Butler Township, PA

Preston Park

Butler Township Community Park

Saw Mill Run Park

Master Plans

APPENDIX

Appendix A: PNDI Report

*Preston Park/Butler Township Community Park/Saw Mill Run Park
Master Plans
Butler Township, PA*

PNDI Project Environmental Review Receipt

Project Search ID: 20121003375127

1. PROJECT INFORMATION

Project Name: **Butler/Preston 2**

Date of review: **10/3/2012 3:54:23 PM**

Project Category: **Development, New commercial/industrial development (store, gas station, factory)**

Project Area: **387.4** acres

County: **Butler** Township/Municipality: **Butler Twp**

Quadrangle Name: **BUTLER** ~ ZIP Code: **16001**

Decimal Degrees: **40.849657 N. -79.939184 W**

Degrees Minutes Seconds: **40° 50' 58.8" N, -79° 56' 21.1" W**



2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	No Known Impact	No Further Review Required
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	No Known Impact	No Further Review Required

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate no known impacts to threatened and endangered species and/or special concern species and resources within the project area. Therefore, based on the information you provided, no further coordination is required with the jurisdictional agencies. This response does not reflect potential agency concerns regarding impacts to other ecological resources, such as wetlands.

Appendix A: PNDI Report

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Project Search ID: 20121003375127

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type.

description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jurisdictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Department of Conservation and Natural Resources

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Fish and Boat Commission

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

U.S. Fish and Wildlife Service

RESPONSE: No impacts to federally listed or proposed species are anticipated. Therefore, no further consultation/coordination under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.* is required. Because no take of federally listed species is anticipated, none is authorized. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. For cases where a "Potential Impact" to threatened and endangered species has been identified before the application has been submitted to DEP, the application should not be submitted until the impact has been resolved. For cases where "Potential Impact" to special concern species and resources has been identified before the application has been submitted, the application should be submitted to DEP along with the PNDI receipt. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. DEP and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at <http://www.naturalheritage.state.pa.us>.

Appendix X: PNDI Report

*Preston Park/Butler Township Community Park/Saw Mill Run Park
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PNDI Project Environmental Review Receipt

Project Search ID: 20121003375127

5. ADDITIONAL INFORMATION

The PNDI environmental review website is a **preliminary** screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources

Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552, Harrisburg, PA.
17105-8552
Fax: (717) 772-0271

U.S. Fish and Wildlife Service

Endangered Species Section
315 South Allen Street, Suite 322, State College, PA.
16801-4851
NO Faxes Please.

PA Fish and Boat Commission

Division of Environmental Services
450 Robinson Lane, Bellefonte, PA. 16823-7437
NO Faxes Please

PA Game Commission

Bureau of Wildlife Habitat Management
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue, Harrisburg, PA. 17110-9797
Fax: (717) 787-6957

7. PROJECT CONTACT INFORMATION

Name: _____
Company/Business Name: _____
Address: _____
City, State, Zip: _____
Phone: (____) _____ Fax: (____) _____
Email: _____

8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

applicant/project proponent signature

date

Appendix B: Jane E. Preston's Will

*Preston Park/Butler Township Community Park/Saw Mill Run Park
Master Plans
Butler Township, PA*

Memorandum

(to the Last Will and Testament of Jane E. Preston)

Re: Terms and Conditions of Realty Devises

RE: TERMS AND CONDITIONS OF REALTY DEVISE
to the Citizens of Butler Township

I, JANE E. PRESTON of 415 South Eberhart Road, Butler, Pennsylvania 16001, do hereby make the following Memorandum to my Last Will and Testament dated August 3, 2005, stating the terms and conditions of the realty devise to the Citizens of Butler Township. The testamentary devise of my real property, designated as 415 South Eberhart Road, Butler Township and known as Preston Laboratories (hereinafter referred to as Premises), shall be subject to the following terms and conditions:

A. The Premises shall be used only for municipal, active recreational and passive recreational purposes. It is my intent through this devise that said Premises be kept intact, that no part of it be sold; that its use and development be consistent, if possible, with the adjacent Saw Mill Run Park. As a Testamentary Trust Fund will be established through my Will for the continued support of the Premises, I direct that all persons be permitted on the Premises without charge or admission.

B. Butler Township shall honor any written lease I have entered into with my friend, Russell Yockey. In the event Russell Yockey ceases the use of the leased premises for a continuous period of six (6) months or shall die or shall be physically disabled to such a degree as to render him incapable of operating his business, then the lease shall be declared null and void. The lease shall be non-assignable and Russell Yockey shall not have the right to sublet or assign the lease to any heir, successor, administrator or assign;

C. I direct that two (2) areas (hereinafter referred to as Conservation Area "A" and Conservation Area "B") shall be maintained in the condition they are in at the time of my death. I further direct that NO development of the conservation areas be permitted and that Butler Township shall maintain both conservation areas, including the burning of the Prairie, as directed by the Advisory

*Preston Park/Butler Township Community Park/Saw Mill Run Park
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Butler Township, PA*

Board, as hereinafter established. The two (2) Conservation Areas are hereby defined by a map, which is attached hereto, marked as MAP "A" and made a part hereof;

D. The remainder of the property shall

of the property shall be known as a Recreational Area. Within the Recreational Area, Butler Township, on the advise of the Board of Advisors, shall be authorized to enlarge, replace and repair any existing structure and/or build any new structure.

E. No motorized vehicles shall be permitted on the Premises beyond areas designated for vehicular traffic and parking, except emergency and maintenance vehicles, and temporary concession vehicles or trailers used in conjunction with events sanctioned by Butler Township.

F. I hereby direct that a "Board of Advisors" be established as soon as practicable after by death, consisting of five (5) people including: the Executor of my estate; a Butler Township Commissioner; a representative from the Butler County Community College, who shall be appointed from time to time by the president of the college; and two (2) residents of Butler Township who reside within Ward Four (4) known as the Meridian area. The township residents shall serve for a term of five (5) years or until a successor is chosen, whichever occurs first. The initial township resident members and all successors shall be chosen by the remaining members of the Board of Advisors after each candidate submits a petition containing not less than fifty (50) signatures of registered electors residing within the Meridian area, as previously defined. If the Board of Advisors fail to agree on the selection of a member, then the member shall be randomly chosen, by lottery, among those finalists selected by the remaining members of the Board of Advisors. In the event petitions are filed by fewer people than there are openings, the other members of the Board of Advisors shall appoint persons residing within the previously described area to fill the openings. The members of the Board of Advisors shall elect their own chairman and secretary and select all other necessary officers, to serve for a period of one year.

On the death or resignation of my Executor, I direct that his vacancy be filled by a resident of Butler Township residing anywhere within the limits of Butler Township. This open position shall be advertised to all residents of Butler Township through the Butler Eagle, or similar publication and after submitting a petition containing not less than fifty (50) signatures, the successor to my Executor shall be selected by the four remaining advisors. If no agreement is reached, then the successor shall be chosen by lottery among the finalists selected by the Board. The term of this person shall be limited to five (5) years or until a successor is chosen, whichever occurs first.

*Preston Park/Butler Township Community Park/Saw Mill Run Park
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The Board of Advisors shall have final authority over the maintenance and use of Conservation Area A and Conservation Area B, and shall advise the Board of Commissioners of Butler

Township in the maintenance, use and development of the remainder of the Recreational Area.

G. All terms and conditions set forth herein are hereby deemed to be covenants running with the land and shall be binding upon the Citizens of Butler Township, its Commissioners and its officers.

H. Provided the Citizens of Butler Township accept this devise of land together with the conditions thereon, I hereby give to my Executor, AS TRUSTEE, that portion of my estate designated in my Will as the Preston Property Support Fund, for the following uses:

1. The Trustee, at his sole discretion, is authorized to accumulate the income or to pay or apply so much of said income for one or more of the following purposes. No portion of the principal may be distributed at any time. Any accumulated income shall be added to the principal at least annually.

2. All funds distributed by the Trustee are to be used exclusively for the maintenance and upkeep of Conservation Area A, Conservation Area B and the maintenance, upkeep and development of the Recreational Area, exclusive of those portions used for municipal purposes, including all structures thereon, provided the Trustee, after consultation with the Board of Advisors, deems it advisable to maintain said structures. Funds may be distributed for the removal of any structure.

3. In the event that Butler Township, its officers or administration shall use any current structure, enlarged structure, or any future structure for municipal purposes including, but not limited to, its offices, storage facilities, garage or the like, where such structure benefits the municipal administration of Butler Township, the Trustee is instructed NOT to distribute funds for the maintenance, upkeep or development of said structures.

4. Funds may be distributed for the development of the Recreational Area such as, but not limited to, fences, ball fields, tennis courts, walking trails, running

*Preston Park/Butler Township Community Park/Saw Mill Run Park
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trails, exercise areas, parking lots, picnic shelters, signs, lighting, prairies, the removal of any dangerous condition on the premises, and any building used

primarily for support and maintenance of the Conservation and/or Recreational areas.

5. All funds distributed will be at the sole discretion of my Executor/Trustee. In the event that my Executor/Trustee and Butler Township are unable to agree as to the distribution of any income, the decision of the Trustee will prevail. In the event that my Successor Trustee and Butler Township are unable to agree as to the distribution of any income, the problem is to be submitted to a Board of Arbitrators consisting of one Branch Manager or the like of: Citizens Bank, First Western Bank, and Pittsburgh Home Savings, or their successors. The Board of Arbitrators shall consist of three (3) individuals as named above and if any of these financial institutions shall no longer be in existence, another financial institution of similar size and having an office within Butler County may be substituted with the consent of all parties. As it is my desire to avoid costly litigation within the judicial system, I direct that the decision of the Board of Arbitration prevail and be binding upon all parties.

6. The Trustee is directed to carefully invest and preserve the trust funds; make such rules and bylaws for the proper function of the Board of Advisors as established herein, not inconsistent with the terms annexed to any conveyance, bequest or devise in any deed or last will and testament of any decedent; appoint and employ as many agents and employees as, in his judgment, shall be necessary for the proper discharge of the said trust or trusts; and, in the name and in accordance with the conditions of said trusts, do any and all things requisite for the proper administration and management of the property under his control.

7. On the death or resignation of my Executor as Trustee, I direct that the member of the Board of Advisors appointed by the President of Butler County Community College along with his or her successors, be the Successor Trustee of the Trust that is established herein, to administer the trust fund consistent with the terms of the Trust.

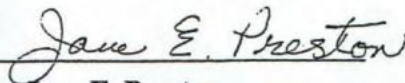
I. Acceptance of this devise shall be determined by a simple majority of the Butler Township Commissioners.


J. In the event that the devise to the Citizens of Butler Township shall initially fail, without regard to reason, then I devise said property, known as Preston Laboratories, to Western Pennsylvania Conservancy, Inc. subject to the same terms and conditions established herein.

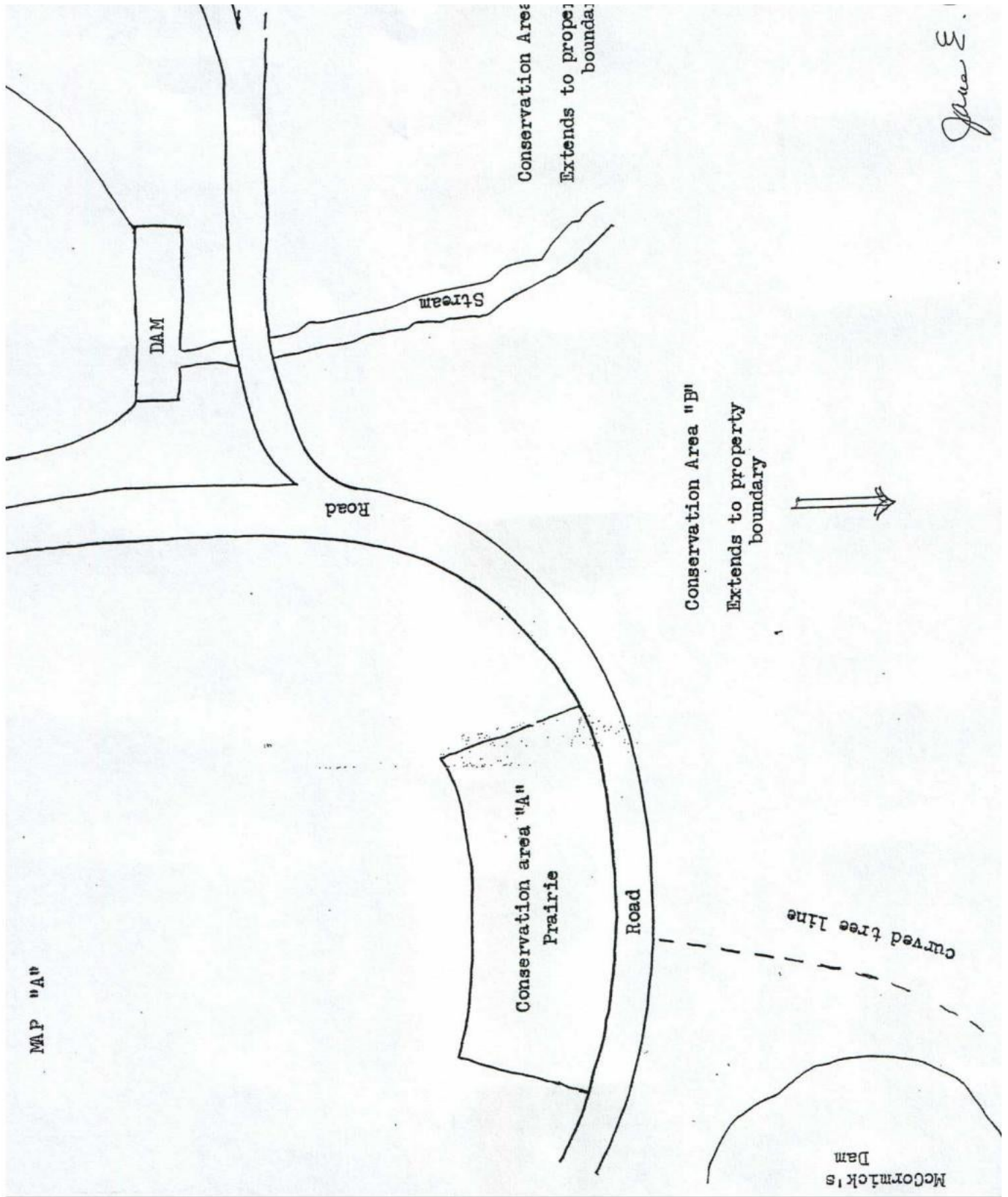
K. In the event that the devise to the Citizens of Butler Township shall fail, without regard to reason, then that portion of my estate designated as the Preston Property Support Fund shall be added to the Frank and Jane E. Preston Memorial Trust established by me through the Pittsburgh Foundation.

L. If after the devise of the Premises to the Citizens of Butler Township has occurred and the trust fund has been established, the Successor Trustee and the Board of Advisors together determine that it is no longer feasible to administer the Trust, I then direct that the Trust be terminated and that the corpus, interest and any other accumulated funds, be added to the Frank and Jane E. Preston Memorial Trust established by me and administered by the Pittsburgh foundation.

In Witness Whereof, I have hereunto set my hand and seal to this MEMORANDUM this 15 th day of December, 1994.


Jane E. Preston

 "B" city



Preston Park Existing Building Visual Condition Assessment and Code Review

Preston Park has eight buildings considered as part of the “campus”. This does not include other important structures or elements, such as bridges or dams on the site.

1. Preston Laboratory
2. The Well House
3. Machine Shop
4. Garage and Storage Building
5. Instrument Building
6. Carnegie Building
7. Maintenance Building
8. Hacienda

A cursory walk-thru of the buildings (except the Carnegie Building) revealed some maintenance and repair issues that could be expected due to their age, but there were no notable visual conditions that indicating any major issues. Past problems that have been previously identified and repaired, such as water infiltration, should be re-investigated to make sure they have been controlled. Further in-depth investigation of each building should be done on an individual basis to identify any other outstanding issues.

As an example, the machine shop has areas of rust-through in the metal exterior siding panels due to their proximity to grade. Care should be taken to remove any debris that has accumulated against the bottom of the building, and make sure that ground water is properly directed away. The Preston Laboratory building has visibly clogged roof drains which should be cleared.

As a general protocol, a periodic building maintenance program should be undertaken to prevent any further damage to the structures.

Building Reuse per PA’s UCC (Building Code)

In 2004, Pennsylvania adopted a new statewide building code called the Uniform Construction Code (UCC). This superseded all previous versions of the state’s Fire and Panic Regulations. The code is based on the International Code Council’s (ICC) various International Codes. The state is currently operating under the 2009 edition with Chapter 11 and Appendix E (Accessibility) from the 2012 IBC (International Building Code) for any project after January 1, 2013.

Butler Township has opted in to the UCC and is responsible for building code review and approval. Any issues of accessibility, including any required variances, would remain the responsibility of the PA Department of Labor and Industry.

Research into remaining drawings of the existing buildings stored in the Preston Laboratory building shows that at least some of the structures constructed on the site were submitted and approved by the PA Department of Labor and Industry when they were constructed years ago. They would have been reviewed under previous versions of the State’s Fire and Panic Regulations in effect at that time. This is potentially helpful in establishing the original use and approvals of the buildings so that they would not be designated as “Uncertified” and possibly subject to more stringent requirements for code review. Theoretically, the buildings could still be used today, without modifications, as originally designed and occupied but not as a “repurposed” part of the new Preston Park concept without undergoing the required occupancy change.

As part of their reuse, any change of occupancy, alterations, or additions to the existing buildings would fall under the 2009 International Existing Building Code (IEBC) which specifically addresses the change of use.

At this point of the study, most potential uses for these structures, whether some form of multi-use space, museum display, or place for conference and events, would fall under the new IBC Occupancy Group A-3 (Assembly). This would not include facilities primarily intended for food consumption which would be considered Group A-2 (Restaurant). A catering kitchen would not be considered as a restaurant and should fall under Group A-3.

Any change of occupancy to the single story buildings would most likely be easily handled but the main concerns are with multi-storied buildings such as Preston Laboratory, the Instrument Building, and the Machine Shop. In the case of the Preston Park buildings, accessibility and fire protection issues may dictate the future use of these facilities.

Change of Occupancy: Accessibility

The main issue with any building undergoing a complete change of occupancy is that it shall have the following features:

1. At least one accessible building entrance.
2. At least one accessible route from an accessible building entrance to primary function areas.
3. Signage complying with the IBC.
4. Accessible parking, where parking is provided.
5. At least one accessible passenger loading zone, where loading zones are required.
6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.

Accessibility from parking areas to the buildings will be an important consideration as will the accessibility within the buildings themselves. The upper floors of the current buildings are not large enough to require the installation of an elevator or lift automatically, but may be required depending on the desired activities that will occur there.

The code also requires that there be at least one accessible route from an accessible building entrance to a primary function area. The accessible route includes toilet facilities that serve that primary function. Existing toilets not able to be altered to be accessible may need to be supplemented with separate accessible family facilities on the same floor or new facilities as required.

Change of Occupancy: Structural

Buildings or portions thereof subject to a change of occupancy must have structural floor loads checked to make sure that the building is capable of supporting the new intended use. Most likely the floor structures will be sufficient due to their designed industrial type use. Snow, wind, and seismic loads must also be checked if the change warrants their review.

Change of Occupancy to A-3 Assembly: Fire Protection

Automatic sprinkler systems are required in Group 'A' occupancies where required by the IBC for new construction. Group A-3 only requires sprinkler systems when the fire area exceeds 12,000 sq. ft., the occupant load is 300 or more, or the fire area is located on a floor other than the level of exit discharge serving such occupancies. This means that a second floor assembly area in the Instrument Building could require a sprinkler system.

Manual fire alarm systems (Pull Stations) are required in Group 'A' occupancies where the occupant load is 300 or more. An exception would be when the building is equipped with an automatic sprinkler system having occupant notification appliances.

Change of Occupancy Code Scenarios

Occupancy Change Scenario #1: Assuming that all of these buildings were part of the research facility and therefore a common occupancy group. This might be possible depending on the opinion of the code review agency.

IBC Occupancy Group B (Business) includes Laboratories: Testing and Research, which could account for their existing use. A change of occupancy would therefore be from Group B to Group A-3 (Assembly).

Occupancy Change Scenario #2 The change of occupancy will be determined on a case by case basis for each building. They would be as follows:

Preston Laboratory – Partial change for the second floor caretakers quarters from R-3 (Residential) to A-3 (Assembly). Remainder (Research Laboratory/Office) the same as Scenario #1. The second floor is not required to be accessible unless containing an area of primary function and its use could be limited without accessibility. The existing restroom could remain as a functioning facility; however a new ADA compliant uni-sex restroom may be required.

7. The Well House – Single story building with basement. First floor originally used for winding of motors of test machines. Change from F-2 (Factory, Low Hazard) to A-3 (Assembly) occupancy and therefore must meet requirements of the IBC. Basement use could be limited without accessibility. Main floor level is elevated above grade and would require exterior ramp or platform lift for accessible entrance. A minimum of one ADA compliant uni-sex restroom may be required.

8. Machine Shop – Multi-story building originally used for the fabrication of test machines. Change from F-2 (Factory, Low Hazard) to A-3 (Assembly) occupancy and therefore must meet requirements of the IBC. Partial second floor use could be limited without accessibility. Based on the possible occupant load of the building, separate male and female ADA compliant restroom facilities (possibly with multiple toilets) may need to be constructed.

9. Garage and Storage Building – Single story building could remain as current storage/garage or undergo a change of use.

10. Instrument Building – Multi-story building could be originally considered a Research Laboratory therefore a change from Group B (Business) to A-3 (Assembly) occupancy. Same as Scenario #1. The second floor is not required to be accessible unless containing an area of primary function (as defined by the UCC based on the proposed function(s) of the building). This may require the installation of an elevator or platform lift in order to fully use the second floor as an assembly space. The second floor would most likely also be required to have an automatic sprinkler system. Based on the possible occupant load of the building, separate male and female ADA compliant restroom facilities (possibly with multiple toilets) may need to be constructed, but only on the accessible (ground) floor.

11. Carnegie Building – Single story building could remain as current storage occupancy or undergo a change or use if the non-contributing resource were to remain.

12. Maintenance Building – Single story building could remain as current occupancy or undergo a change of use.

13. Hacienda – Small single story building (approx. 625 sq. ft.) could most likely be converted to other uses without much difficulty.

Any proposed use of the existing buildings should be specifically reviewed for compliance under the current UCC for all requirements relating to construction and accessibility. The UCC requires all proposed construction to be submitted and approved by the designated authority having jurisdiction in that municipality.

What are Invasive Plants?

The saying “a place for everything, and everything in its place” is particularly relevant to invasive plants. These are plants that, in their native habitat, live in harmony with the plants and animals around them. Outside of their native habitat, however, they are able to increase rapidly without any natural controls such as herbivores or diseases. These plants then threaten the native species of their adopted home, as they can out-compete them for light, space and nutrients.

Exotic plants are usually introduced deliberately as either ornamental garden species or crops. Only about 1% of species that are introduced to an area become invasive, but the impact of any one of these invaders can be huge. This can be both in terms of native species driven to extinction and the millions of dollars spent on control attempts. There is often a time lag between when a species is recognized as being a problem for the local environment and when it stops being commercially available. This means that continued education is necessary, outlining why invasive plants are everyone’s problem and which species are invasive. Once established, invasive plants are difficult to eradicate, and restoration of native ecosystems needs vigilant, long-term maintenance. Early detection and a rapid response is the best and most cost-effective approach to controlling the spread of invasive species. This means that keeping watch for species that you haven’t previously seen and removing them is at least as important as working to control the species that are currently problems on your site. As you get to know the species listed in this guide, notice where else you see them, and avoid planting them.

All of the plants identified on this list should be systematically and continual eradicated from the Township’s park sites. As very mature plants die, especially in Preston Park, the opportunity for these invasive species to take over large portions of the landscape is a real threat. There are areas where this dynamic is already occurring. All of the photographs of the invasive plant species listed here were taken at Preston Park, Butler Township Community Park, or Saw Mill Run Park.

For definitions of relevant terms and other useful information, visit Weeds Gone Wild at: www.nps.gov/plants/alien/bkgd.htm

Additional Fact Sheets are available at: <http://www.dcnr.state.pa.us/forestry/plants/invasiveplants/>

The source for much of this content comes from Invasive Plants of Pittsburgh, A joint project of the Pittsburgh Parks Conservancy, the Nine Mile Run Watershed Association and the Frick Environmental Center. Additional reference information came from Invasive species fact sheets prepared by: Ann F. Rhoads and Timothy A. Block Morris Arboretum of the University of Pennsylvania.



Japanese Knotweed - *Polygonum cuspidatum*

Japanese Knotweed - *Polygonum cuspidatum*

Description and Habitat: An herbaceous perennial that can grow to over 10 ft. tall, with large alternating leaves and an extensive rhizome system. Young shoots look like bamboo or asparagus, and later in the year it produces sprays of attractive greenish-white flowers followed by white, papery seeds. Japanese knotweed can grow in a wide variety of habitats, although it grows mostly in moist areas with large amounts of sunlight. Japanese knotweed begins to send up shoots in April and flowers in August and September. Seeds appear two weeks after it flowers.

Appendix D: Invasive Species Hit List

Control: Control requires perseverance. Do not try to remove the rhizomes, but instead try to reduce vigor by cutting to the ground repeatedly. This will also limit seed production. Remove cut material from the site as these can root and sprout.



Canada Thistle - *Cirsium arvense*

Canada Thistle - *Cirsium arvense*

Description and Habitat: This thistle is from Eurasia, and invades all but waterlogged soils. It is herbaceous perennial with erect stems (1 to 4 ft. tall), narrow prickly leaves and an extensive creeping rootstock. It tends to grow in clusters. It produces many seeds, which can remain viable for over 20 years, and also spreads through root fragments and lateral roots. It is listed as a noxious weed throughout the USA.

Control: To control, remove as much of the rootstock as possible, preferably when the soil is moist. Watch for re-sprouting the next year.

Native look-alikes: There are many native species of thistle, some of which are rare, so identify carefully. The main distinguishing character of Canada thistle from native thistles is its small involucre: the swollen green structure below the purple petals (<2.5cm high). There is another invasive thistle (bull thistle) which is the only thistle whose stems have spiny wings.



Crown Vetch - *Coronilla varia*

Crown Vetch - *Coronilla varia*

Description and Habitat: Crown vetch is a perennial herb of the pea family, which has spreading stems that can measure up to 6 ft. long. It has dark green compound leaves with many oblong leaflets. Flowers occur in clusters on extended stalks. The individual flowers, which appear in June/July, are pea-like and can vary in color from pinkish-white to deep pink. Crown vetch was originally promoted as an erosion control plant, but now invades open areas and can create dense single-species stands. It can also change the soil chemistry of a site due to its ability to fix nitrogen. Crown vetch can grow in all but waterlogged soils, and is tolerant of cold, but not of shade. It is mostly found in open, sunny areas.

Control: To control crown vetch, all of the pieces of stem, root and rhizome must be carefully removed to avoid re-sprouting. Pull up plants by the roots before they set seed, from mid-June onwards.

Appendix D: Invasive Species Hit List



Mugwort - *Artemisia vulgaris*

Mugwort - *Artemisia vulgaris*

Description and Habitat: Mugwort is a perennial herb with persistent rhizomes. Leaves are alternate, dark green on top and covered with woolly hairs on the underside, and have a distinctive aroma similar to chrysanthemum. Leaf shape can vary from slightly lobed at the base of the plant, to deeply lobed at the top. Stems may reach 5 ft. in height. Mugwort is most commonly found in open, moist areas but can tolerate a variety of habitats. It tends to grow in dense clumps and is suspected to produce chemicals that suppress the growth of other species.

Control: Mugwort can be hand pulled at any time of year, taking care to remove as much of the rhizome as possible. Rhizomes may re-sprout in the following year, but repeated removal will control it.



Purple Loosestrife - *Lythrum salicaria*

Purple Loosestrife - *Lythrum salicaria*

Description and Habitat: Purple loosestrife thrives in natural and disturbed wetlands, and any other moist soils. It can rapidly replace native vegetation with a dense single-species stand. It is an erect perennial herb which grows 3 -7 ft. high, and produces showy magenta-colored flower spikes throughout summer. It has opposite leaves with smooth leaf edges and four-sided stems, similar to mint. It is listed as a noxious weed in Pennsylvania.

Control: To control purple loosestrife, hand pull small stands in late spring, being careful to remove all plant material. Plants may re-sprout from roots, so check the site the following year for regrowth. Large stands need to be controlled using herbicide: contact your Field Coordinator if this is the case on your site.



Bush Honeysuckle - *Lonicera morrowii*, *L. tatarica*, *L. maackii*

Bush Honeysuckle - *Lonicera morrowii*, *L. tatarica*, *L. maackii*

Description Habitat: There are three species of invasive bush honeysuckle around Pittsburgh. They look similar, but have slightly different flowering times. Plants are upright, generally deciduous shrubs with multiple hollow stems. Leaves are opposite and have smooth edges with tiny hairs. Flowers are small and fragrant (similar to Japanese honeysuckle flowers) and grow in pairs along the stem at leaf junctions. Fruits are red to orange. These exotic bush honeysuckles most often occur in edge habitat (road or trail sides etc.), open upland habitats and disturbed woodlands.

Appendix D: Invasive Species Hit List

Control: To control, pull out by the roots. This is much easier with the use of the Honeysuckle Popper, but can also be done with a shovel. If this is not possible, cut back when flowering to prevent seeding.

Native look-alikes: Native bush honeysuckles are rare and have solid stems, and blue or black fruit.



Common Buckthorn - *Rhamnus cathartica*

Common Buckthorn - *Rhamnus cathartica*

Description and Habitat: Initially used as a hedgerow species, common buckthorn forms dense shade and has a long growing season. Leaves are simple, mostly opposite, and are oval with small teeth, and pointed at the tips. The veins curve toward leaf tips, similar to dogwoods. The bark has prominent light colored lenticels running parallel to twigs (similar to native cherries). Terminal buds are arranged in pairs that resemble a buck's hoof with a thorn frequently protruding between the two buds, hence "buckthorn." Large clusters of round black fruits ripen late in summer.

Control: Pull seedlings when young, preferably before they start to produce fruit. Larger plants should be dug out or pulled with a weed wrench or cut down.



Japanese Barberry - *Berberis thunbergii*

Japanese Barberry - *Berberis thunbergii*

Description and Habitat: Japanese barberry is a dense, deciduous, spiny shrub that grows 2 to 8 ft. high. The leaves are small, oval to spatula-shaped, and can vary in color from bluish-green through to dark reddish-purple. Bright red berries mature on the plants in late summer and persist through the winter. Scratching the wood reveals the bright yellow inner bark. Japanese barberry forms dense stands in a wide variety of habitats. Due to the spines deer do not eat it, which increases browsing pressure on native plants. Japanese barberry spreads by seed, and vegetatively when root fragments are left in the ground or when branches touching the ground root to form new plants.

Control: Plants have a shallow root system which makes them easy to pull them out, but it is important to try and remove the whole root system.

Appendix D: Invasive Species Hit List



Multiflora Rose - *Rosa multiflora*

Multiflora Rose - *Rosa multiflora*

Description and Habitat: Multiflora rose grows aggressively in a wide range of soil, moisture and light conditions. Plants are thorny, perennial shrubs with arching stems and masses of white to pink flowers. Leaves have 5 - 11 sharply toothed leaflets and fringed stipules. The rosehips are highly sought-after by birds, which are mostly responsible for the plant's spread.

Control: Plants should be cut to the ground or pulled out with a honeysuckle popper, and seedlings hand pulled at any time of year.

Native look-alikes: There are native roses, but only multiflora rose has the combination of upright arching stems and fringed stipules (a leaf-like appendage at the base of the leaf stalk).



Privet - *Ligustrum vulgare*

Privet - *Ligustrum vulgare*

Description and Habitat: Common privet, native to Europe, is a stout, many branched, deciduous shrub that can grow up to 15 ft. in height. The leaves are opposite, with short leaf stalks and smooth edges, and have a glossy dark green appearance. The white flowers are produced in clusters from May through June. Privet invades river bottoms, open woods, fencerows and roadsides. It is often used as a hedgerow species because it can form dense, impenetrable thickets due to its ability to send up new shoots from its roots.

Control: Small plants can be dug out, taking care to remove as much root material as possible. Larger plants should be cut to the ground in summer to prevent them from going to seed or, if possible, pulled out with a weed-wrench.



Oriental Bittersweet - *Celastrus orbiculatus* (at the left of the Barberry)

Oriental Bittersweet - *Celastrus orbiculatus*

Description and Habitat: Oriental bittersweet is a deciduous woody vine with finely toothed oval leaves and abundant bright yellow and red fruits which persist through the winter. The roots are bright orange to red. In fall the yellow-gold foliage is distinctive. Its younger stems are covered in lenticels, which look like white dots. It spreads both through seeds (which are distributed by birds), and vegetatively through root suckers. It prefers open, disturbed edges, but can grow enthusiastically in almost any habitat. This highly invasive species entwines its stems about other plants and structures, climbing as high as sixty feet.

Appendix D: Invasive Species Hit List

Control: To control oriental bittersweet, cut the vines to the ground and as high as you can reach into the trees or shrubs in spring before the plants set fruit. The roots are often shallow and can be easily pulled.

Native look-alikes: There is a native bittersweet which can be distinguished by the location of the flowers and fruits: *C. orbiculatus* flowers at the leaf axils along the stem, while the native (*C. scandens*) flowers at the tips of the stems.



Porcelainberry - *Ampelopsis brevipedunculata*

Porcelainberry - *Ampelopsis brevipedunculata*

Description and Habitat: Porcelainberry is a deciduous, woody, perennial vine with colorful white, purple and blue fruits. Leaves may vary from slightly lobed to deeply dissected and are arranged alternately along the stem. Porcelainberry grows best in full sunlight to partial shade in moist, but not permanently wet, soil. Seeds germinate readily on disturbed sites.

Control: To control this species, cut the vines to the ground and as high as you can reach into the trees or shrubs in spring. Follow the vine to the largest root possible, cut and flag with orange tape for future herbicide treatment by your Field Coordinator.

Native look-alikes: Porcelainberry is commonly confused with native grape. These can be distinguished by the bark: native grape has flaky bark which peels off in strips when young, while Porcelainberry has smooth bark with distinct pale spots when young (lenticels), which becomes checkered as the plant gets older.



Autumn olive - *Elaeagnus umbellata* Thunberg and Russian olive - *Elaeagnus angustifolia*

Autumn olive - *Elaeagnus umbellata* Thunberg and Russian olive - *Elaeagnus angustifolia*

Description and Habitat: Autumn olive and Russian olive are deciduous, somewhat thorny shrubs or small trees, with smooth gray bark. Their most distinctive characteristic is the silvery scales that cover the young stems, leaves, flowers, and fruit. The two species are very similar in appearance; both are invasive, however autumn olive is more common in Pennsylvania. These plants are large, twiggy, multi-stemmed shrubs that may grow to a height of 20 feet. They occasionally occur in a single-stemmed, more tree-like form. Autumn olive was introduced to the United States from East Asia in the 1830s. It was extensively planted in Pennsylvania and other states for re-vegetation of severely disturbed areas such as strip mines. The Pennsylvania Game Commission has also planted it for wildlife food and cover. Russian olive, native to Eurasia, was planted as an ornamental and for wildlife value. Both species have naturalized extensively in Pennsylvania, and in states from Maine south to Virginia, and west to Wisconsin. Russian olive is also a problem further west. Both autumn olive and Russian olive are very troublesome invasive species; their nitrogen-fixing root nodules allow them to thrive in poor soils. Typical habitats are disturbed areas, roadsides, pastures, and successional fields in a wide range of soils. They are drought tolerant and often invade grasslands and sparse woodlands. Neither species does well in densely

Appendix D: Invasive Species Hit List

forested areas, but Russian olive can be found in moist soils, and does particularly well in sandy floodplains. Both species create heavy shade that suppresses shorter plants requiring direct sunlight.

Control: Seedlings and sprouts can be pulled by hand when the soil is moist enough to insure removal of the root system. A weed wrench should be used on larger plants, since cutting alone results in thicker, denser growth upon re-sprouting. Burning during the dormant season also results in vigorous production of new shoots. Glyphosate can be used to control larger plants. Foliar application has proven effective in controlling these species. Since glyphosate is nonselective and will affect all green vegetation, care should be taken to avoid impacting native plants. At sites where this is a concern, application of the herbicide to the freshly cut stumps of the invasive shrubs should achieve the desired results. This method minimizes damage to other plants. No biological control options are currently known.



Chinese and Japanese Wisteria - *Wisteria sinensis* and *Wisteria floribunda*

Chinese and Japanese Wisteria - *Wisteria sinensis* and *Wisteria floribunda*

Description and Habitat: Wisteria are long-lived, deciduous, woody climbing vines that may reach a height of 60 to 70 feet or more. Chinese wisteria vines are brown-gray in color with fine white hairs, while the Japanese wisteria vines are smooth and brown. Both can attain a diameter of 15 inches or more. The compound leaves alternate along the stem and have many leaflets (Japanese: up to 19, Chinese: up to 13). The flowers are

showy, violet blue in color and occur in long drooping clusters. Wisteria prefers full sun, but established vines can grow and reproduce in partial shade. It is tolerant of a variety of soil types and moisture levels, but prefers loamy, well-drained soils. Infestations are commonly found along forest edges, roadsides and rights-of-way. Most infestations of exotic wisterias appear to be the result of persistent vegetative spread of old plantings, although seed propagation is also possible. Four to six seeds are contained within each fuzzy, flat five-inch-long fruit. Because of the twining nature of these vines, they can out compete trees and other vegetation for canopy space. A dense, nearly impenetrable thicket can result, inhibiting normal forest succession.

Control: For small infestations, hand pull, getting the roots too. Bag and dispose of all plant parts. Any portion of the root remaining in the ground may re-sprout. For vines in trees, cut the stem, pull out the rooted portion, and leave the vine in the tree. Do not attempt to pull it out as it could cause damage to the tree or fall. For vines climbing up trees or buildings, cut the stem and apply a concentrated systemic herbicide like triclopyr or glyphosate to the cut surface of the rooted portion of the vine. For large infestations such as what is occurring at Preston Park, a foliar herbicide may be the best option, rather than manual or mechanical removal which could disturb too much soil. The ideal time to spray is when the plant has gone dormant in October or November.

Native look-alikes: American wisteria has smaller flower clusters and smooth seed pods. The stems are brown to reddish-brown and smooth. The vines twine clockwise around a tree, whereas the exotics twine counterclockwise.

Appendix D: Invasive Species Hit List

Additional References

Burrell, C., J. Marinelli and B. Harper-Lore 2006 **Native Alternatives to Invasive Plants**. Sterling Publishing Company, Inc. *A brief overview of sections of this book is also available at the Brooklyn Botanic Garden website:* www.bbg.org/gar2/topics/plants/handbooks/nativealternatives/nativealternatives_weblis.html

Czarapata, E. J. 2005 **Invasive Plants of the Upper Midwest**. The University of Wisconsin Press, Madison Wisconsin. Includes detailed information on control methods.

Invasive Exotic Plant Management Tutorial for Natural Lands Managers has an extensive list (including fact sheets and management suggestions) of invasive plants present in Pennsylvania: www.dcnr.state.pa.us/forestry/invasivetutorial/index.htm

Kricher, J.C. and G. Morrison 1988 **A field guide to the ecology of eastern forests**. (Peterson Field Guide) Houghton Mifflin, New York. A handy reference to forest ecology.

Newcomb, L 1977 **Newcombs's Wildflower Guide**. Little, Brown and Co., New York. A very good key for flowering plant identification.

Rhoads, A.F. and T.A. Block 2000 **The Plants of Pennsylvania: An Illustrated Manual**. University of Pennsylvania Press. The best book on Pennsylvania plants.

Swearingen, J., K. Reshetiloff, B. Slattery, and S. Zwicker. 2002 **Plant Invaders of Mid-Atlantic Natural Areas**. National Park Service and U.S. Fish & Wildlife Service, Washington. Website: <http://www.ma-eppc.org/>

Weeds Gone Wild: Alien Plant Invaders of Natural Areas is a project of the Plant Conservation Alliance's Alien Plant Working Group. Useful factsheets and definitions of terms: www.nps.gov/plants/alien

Appendix D: Invasive Species Hit List

Glossary

Allelopathy: The secretion of chemicals from the roots of one plant that inhibits the growth of other plants nearby. This is a feature of both native and exotic species, but native allelopathic plants have a suite of other species that are adapted to grow with their chemicals.

Alternate: Leaves or branches that are staggered, not placed directly across from each other on the stem.

Annual: A herbaceous plant which dies at the end of each growing season.

Axil: Junction of a leaf or branch and the stem.

Basal: At or near the base of the plant.

Biennial: A herbaceous plant with a two year life cycle, usually only flowering in the second year.

Bract: A modified leaf arising below a flower or inflorescence.

Compound (leaf): When the blade of a leaf is divided into two or more separate leaflets, each with its own stalk, the leaf is said to be compound. The leaflets themselves are not leaves and this is shown by the absence of buds in their axils.

Deciduous: Plants that shed all their leaves each year, usually in the fall.

Entire (leaf): Leaf edge is smooth, with no lobes or teeth (see diagram).

Evergreen: Plants that keep their leaves over winter.

Herbaceous: Any of various types of non-woody plants with green stems. Herbaceous plants (herbs) die down to ground level in the winter and re-sprout in the spring.

Inflorescence: A grouping or cluster of flowers.

Invasive Plant: A plant that can grow and reproduce quickly, to the extent that it displaces other species that

Leaf: The photosynthetic organ of a plant which grows from a leaf bud at an axil in the stem.

Leaflet: A division of a compound leaf.

Lenticel: A small circular or elongated gas-exchange opening in the surface of the bark of woody stems.

Lobed (leaf): Leaf is deeply indented, with rounded or pointed tips.

Node: The region of the stem to which the leaf or leaves are attached.

Noxious Weed: A plant determined by Pennsylvania law to be injurious to public health, crops, livestock, agricultural land or other property.

Opposite: Leaves and branches that are placed in pairs directly opposite each other on the stem.

Perennial: A herbaceous plant living for more than two years.

Rhizome: An underground stem that can produce new shoots.

Rosette: A circular cluster of leaves radiating from the stem at ground level.

Serrated (leaf): Leaf edge has sharp teeth pointing to the leaf tip.

Simple (leaf): A leaf with no divisions, as opposed to a compound leaf.

Stipule: Small, leaf-like growths at the base of a leafstalk.

Vegetative reproduction: Any reproduction of a plant which does not directly result from seed germination, such as cloning or sprouting from stumps, rhizomes or twigs.

grew in the area. These plants are usually from somewhere else.

Appendix E: Meeting Minutes

*Preston Park/Butler Township Community Park/Saw Mill Run Park
Master Plans
Butler Township, PA*

MINUTES OF MEETING



**STROMBERG™
GARRIGAN
& ASSOCIATES, INC.**

Landscape Architects & Planners
102 E. Main St., Suite 300, Somerset, PA 15501
Ph: 814.443.1073 Fax: 814.444.0484

PROJECT: Butler Township, Preston-Butler Township Parks Master Plan

DATE: November 14, 2012

ATTENDING: Sean Garrigan, Timothy Stromberg, Ann Toole, Ed Kirkwood

Note: See attached sign-in sheet for list of other attendees

SUBJECT: September 24, 2012 Steering Committee Meeting

- Performed introductions and discussed project approach and schedule
- Discussed the history of the Preston Family and how the site was acquired by the Township
 - Township acquired the property in July 2010
 - History of Dr. Preston in the glass industry and the formation of Preston Laboratories
 - Involvement with Corning Glass on production processes
 - Mrs. Preston passed away in 2008
 - Will includes very specific requirements on protection of portions of the property as well as what can and cannot be done on the premises – especially prairie area.
 - Dr. Preston was driving force behind the creation of Moraine State park and Jennings Environmental Education Center
- Monday work crews play an important role, typically 6-10 people
- Created dog-walking trail area
- There are numerous girl and boy scout projects – benches and planting projects
- Non-violent incarcerated provide site clean-up work
- United Way Week of Caring plays an important role in maintenance projects
- Lilac-Ladies
- Invasive are an issue in some locations
- Keystone trees are located on site
- Discussed the unique aspects of habitats including the prairies and the management processes including seasonal burning to maintain diversity and manage invasive
- A nomination application was prepared to PHMC for historic landmark designation for the site. Ed Kirkwood and others are travelling to Harrisburg for review meeting by PHMC committee
- Ken Ernest is the DCNR contact to reach out to about the project as well as Kathy Frankel
- There is a perception by some in the community that this site and project is only a Meridian area project and not a Township-wide and regional project. It is important, from the Township's

- perspective that it is viewed as a regional effort and asset.
- There is a bit of mystery about the site from the public perspective since Dr. Preston never let the public into the complex due to the nature of his research

Appendix E: Meeting Minutes

*Preston Park/Butler Township Community Park/Saw Mill Run Park
Master Plans
Butler Township, PA*

- The Carnegie Museum still owns a strip of land adjacent to the site. They sold their storage building with the property to the Township.
- Utility service general provide via Eberhart Road
- Sewer line runs through site – BASA assisted in providing information about availability of connections to future facilities; BASA performing flow line upgrades
- There is a small parcel across from entrance on Eberhart Road that is also part of the site and could be used for parking
- Events such as wedding could be held on site – parking and support facilities such as restrooms are an issue
- Desire for sustainability and green approaches to facilities and management
- Harmony Short Line (inter-urban trolley) Route 115 ran through the site
- Butler Township Park (Saw Mill Run Park) was built as a recreation area accessible via trolley for employees from the former Pullman Car plant
- Township acquired property from a church group
- Cross Country skiing is a potential
- Discussion about the role dog-park/waking plays in the parks
- Trail map is being updated
- There are Preston photographs that should be reviewed
- Day of sketching was held on the Preston site
- Existing building are a major concern
 - Ability to reuse for new purposes
 - Museum?
 - Possible pavilions
 - Education, environmental and art groups
 - Cost of heating is a concern as well as long term maintenance
- An extensive discussion was held about key person interviews and outreach contacts. Ann Toole was assembling a list of people and entities to contact

Next Steps & Post Meeting Action Item List

- Brief steering committee meeting and first public workshop will be held on November 14th at the Township Building
- Any will initiate key person interview process
- Site tours of the Preston Park site will be held on several occasions prior to November 14th public meeting
- Site assessment effort will commence along with preliminary review of structures

Appendix E: Meeting Minutes

*Preston Park/Butler Township Community Park/Saw Mill Run Park
Master Plans
Butler Township, PA*

Butler Township: Preston - Butler Parks Master Plans
Advisory Committee Meeting - September 24, 2012
SIGN IN SHEET

[illegible]

PAT COL	ED C	JIN C	DAN D	ED I	FRED	DERMY	JOE T	JACK C	DAVE	ED K	TIMOTHY	PETE A	DAVE H	ED SHI	ADAM B
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September 24, 2012
Meeting Minutes – Preston-Butler Parks Master Plan
3

Appendix E: Meeting Minutes

*Preston Park/Butler Township Community Park/Saw Mill Run Park
Master Plans
Butler Township, PA*

MINUTES OF MEETING

- no alcohol
- The art center has fiscal constraints by on visitation/utilization
- Regional trail connection opportunities such as Butler to Freeport
- For this the park to be sustainable long-term it will need to have a source of income
- The site needs a 501c3, community chest, fund, or foundation
- Jane Preston left money for the Moraine Park Fund in her will but not for Preston Park.

January 17, 2013
Meeting Minutes
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Appendix E: Meeting Minutes

*Preston Park/Butler Township Community Park/Saw Mill Run Park
Master Plans
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- Concerns with creating a static museum. “How many times do you go back to a museum?” It will be a major asset to maintain and operate and may have limited overall appeal or impact on the long-term viability of the site.
- The buildings are a major concern. Discussion ranged from keeping all of the buildings to removing all or most of them. The house/lab building is the most problematic for reuse. “What is the value of the building in the story of the site?”
- Are there other ways to interpret the history and relevance of the site without the buildings? What artifacts are most important to the story?
- There was public interest in whether or not the fence currently surrounding the Preston site would either be preserved or removed.
- A Question was asked regarding Conservation Area B and exactly what the design limitations are for that area.
- Cindy from Preston Park mentioned a past volunteer day for children, a bit of an environmental education opportunity, the children (40-70) built bird houses with material and kits donated by the local Home Depot. Issue with no properly functioning restrooms and support service facilities.
- Need classroom/work room space – both indoors and outdoors
- Parking is an issue
- Lengthy discussion about the regional need for an events space. Could such a facility work here? Can you hold weddings and major events on a site with a restriction on alcohol?

Next Steps & Post Meeting Action Item List

1. The next meeting will be an interim steering committee meeting to advance master plan concepts. A public meeting date will be set after the next steering committee meeting.

Appendix E: Meeting Minutes

*Preston Park/Butler Township Community Park/Saw Mill Run Park
Master Plans
Butler Township, PA*

[illegible]

Financing

- Put in a facility that will generate revenue.
- Support emerged for a decent hall facility aimed at making money. The committee referenced other halls in the Butler area that generate \$1,000 per use for two thirds of the year. The committee liked the fireplace in their hall and think it's unique. Investment in the park needs to be tied to the use.
- Question is exactly where to start somewhere - could be parking and restrooms.
- There was a discussion about Mrs. Preston living \$2M towards the park in her will. This needs to be clarified?

April 4, 2013
Meeting Minutes
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Appendix E: Meeting Minutes

*Preston Park/Butler Township Community Park/Saw Mill Run Park
Master Plans
Butler Township, PA*

Park Design Reactions

The committee focused in on facility ideas that would generate money. They seemed to want to hear about options and how they could go about undertaking them. Several members actually expressed the fact that they were quiet because it was a lot to take in and it was all good. There really was no objection to removing buildings.

Butler Township Park

- **The Upper Park** area needs to be enlarged to show more specific detail.
- Keep the existing dek hockey and add the larger one where we proposed it.
- Add at least one row of parking along the ACME gas property line south of the larger dek hockey rink
- Maintain existing play equipment next to the building.
- Show an addition on the slope side of the existing building for future expansion; possibly with a deck that would capitalize on the views down into the valley.
- Additional pavilions here – if they'd fit somewhere.
- **Lower Park:**
- The amphitheater as shown is too large. It would require a lot more parking than what is shown or possible.
- There should be a few more pavilions.
- Restrooms maybe with one of the pavilions
- Extreme Fitness Loop needs to be more clearly shown in relations to the other trails.
- Could we show a future trail connection continuing down Saw Mill Run?
- For both the upper and lower parks we need to propose some strong branding and unifying elements like gateway signing, fencing, benches, etc.

Preston

- Check on the name of the lake to see if Preston named it.
- There weren't many comments about this plan. Comments were favorable and the committee had a lot to absorb.
- The Overlook Plaza and Pavilion area needs more detailed to show what the site could support in terms of building size and parking.
- Would be willing to obtain the Carnegie property to keep the existing most desirable

parking layout.

- There was some discussion about the Preston Eco-Transect. There were questions and the committee had trouble understanding how this related to the existing site.
- Need to develop partnerships for potential for a great rental facility.

A few key quotes from the meeting:

"This is what is required if we want to do this plan. It depends on how well we present it and how well we sell it. We need to determine what we really want to do and what type of community we want to be."

April 4, 2013
Meeting Minutes
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Appendix E: Meeting Minutes

Preston Park/Butler Township Community Park/Saw Mill Run Park
Master Plans
Butler Township, PA

"The plan needs to be honest and blunt. We can make this happen but we need to know what to do and what we want. This is a once in a lifetime opportunity."

"How can we engage the public? What is the strategy for this? We want your expertise on this, consulting team."

"We're the only community that is growing. Have the lowest unemployment. Property values never went down. Our town has done very well because of all that is going on here."

"We have been designated a Banner Community and we need to live up to that standard."

Post-Meeting Discussion

There was a discussion about a community questionnaire posted on their website. We do the survey based on the following suggestions. Ann will follow-up after the May 8th meeting prior to the public meeting.

- Determine public awareness about the two parks
- Determine public awareness about the master plan process
- Ask them if they think that parks help make Butler Township a great community in which to live.
- Ask them what they'd like to be able to do in the parks
- Ask them for preferences on how they want each park to be developed
- Ask them about their priorities
- Ask them how important they think that improving the parks is
- Ask them if they are willing to support the projects financially
- Ask them if they are willing to support Butler Township working with other public and private sector partners.
- Their willingness to volunteer and ask for their contact info.
- What else?

We will provide the Dave H. with some facebook blast to send out the two weeks before the May 29th

[illegible]

Minute	Original
1. Dave Garrigan	
2. Ann Toole	
3. Joe Garrison	
4. Joe Garrison	
5. Ed Shields	
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April 4, 2013
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Appendix E: Meeting Minutes

Preston Park/Butler Township Community Park/Saw Mill Run Park
Master Plans
Butler Township, PA

MINUTES OF MEETING



STROMBERG™
GARRIGAN
& ASSOCIATES, INC.

Landscape Architects & Planners
102 E. Main St., Suite 300, Somerset, PA 15501
Ph: 814.443.1073 Fax: 814.444.0484

PROJECT: Preston – Butler Park Master Plan
SGA PROJECT #: 12006
DATE: May 5 2013

ATTENDING: Sean Garrigan, Ann Toole and Committee Members

SUBJECT: Public Meeting/Workshop Prep

❖ General Comments from Meeting

This meeting was focused on reviewing all of the draft material to be presented at the June public meeting.

Park Names:

- There was a lengthy discussion about park names. The conclusion was "Three Parks as part of One System" (which also includes the fourth park, Dan Lohner Park which is a .3 acre play lot).
 - Preston Park
 - Butler Township Community Park (Upper Park)
 - Sawmill Run Park (Lower Park)
- Overall recommendation to undertake a park system branding effort as well as specifically a branding and naming effort for Preston Park. The name of Preston Park should be copyrighted as part of the branding of a logo, etc.
- The key recommendation here is to propose the creation of a "park system."

Organizational Structure

- Preston Park already has a board as a result of the Will. The recommendation that was discussed should be to setup a 501© 3 Foundation with its own Advisory Board focused more on development and management and less about the legal review. The board should be composed of a diverse group of representatives from the community and special interest groups. There should be a recommended list of categories to be covered on the board as guidance for selecting individuals. There should be term limits and formal description of the role of the board.

Park Design and Proposed Uses

- Amphitheater is a good use. There is only real one and it is in Moraine State Park. There is a small one in Cranberry and Zelienople just constructed a small one. The use could represent a way to link Preston and Sawmill Run Park together with joint events, etc. There was a discussion of size and seating for 300 was probably ideal, maybe as large as 400 if parking could be accommodated. We should consider recommending a traffic study be performed for both Preston and Sawmill Run Park if large events will be held on-site.

May 8, 2013
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Appendix E: Meeting Minutes

*Preston Park/Butler Township Community Park/Saw Mill Run Park
Master Plans
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-
- Preferred Alt C for Butler Park. It was determined to show it with a doubled-loaded parking along the gas company property. It was felt we should recommend the most preferred and then they would approach the gas company about agreement. He also said we should at least mention in the plan text trying to add additional parking on some of the public works yard, especially if it would be needed for large events at an amphitheater. He thought we maybe get 75 or 100 spaces in area near the salt shed.

Vision Statements

- Very lengthy conversation. Need to revise based on word specific comments.

Three Tier Approach

- They would like to rename Base Upgrades to Initial Upgrades and emphasize that they are undertaking some of these activities now.
- Top Ten Recommendations: Generally agreed with all. Wanted to add demolition of former pump house by the large pond. They are trying to demo that ASAP. We need to evaluate this recommendation.

Public Meeting Format

5:00 to 7:00 Open House with Boards

Set up in the Lobby Space.

General visions and goals in the center

Place all of the Butler/Saw Mill Boards on one side of the room and Preston Park on the other so it is clear what is being recommended for each area instead of it all blending together.

7:00 to 7:20 PowerPoint Presentation

Ann I think this is where we can explain more of the organizational O&M recommendations and the top ten list.

7:20 to 7:40 Q/A

End at 8:00 PM

Appendix E: Meeting Minutes

*Preston Park/Butler Township Community Park/Saw Mill Run Park
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Butler Township: Preston - Butler Township Community Park/ Saw Mill Run Park Master Plans DRAFT PLAN REVIEW SCORE CARD					
<p>Are the Draft Butler Draft Master Plans on target?</p> <p>Target = Your desires for the parks and what you think are the highest priorities improvements needed in each of the parks.</p> <p>Please circle your opinion for the plan and each of its components. Please add your comments.</p>					
Overall Park Visions	Completely on Target 3	On Target 5	Somewhat on Target 5	Not on Target 2	Completely off Target 0
<p>Comments:</p> <ul style="list-style-type: none"> I am very impressed and completely on board with all of the pictures and ideas you have with both parks. The skywalk, amphitheater, landform playground, etc. I wish that there was not 3 phases- just 1 and we can do it all. Sure Would be helpful to draw support from other Twps. If boundaries & politics can be set aside. I like the idea of having space available both indoors & outdoors-for community programs. I like the idea of uniting all three parks into a park system. I do believe that each park area should maintains its name and unique identity, however establish a name and area for all the entire system Ex. Preston Environmental center (sorry Jennings) Do not change the overall structure of bldgs. Repair where possible and clean the water ways When did everything become revenue generating? <p><u>Other Comments</u></p> <ul style="list-style-type: none"> It sounds good to me. I like seeing an overall plan. I do a lot of biking and running which the park is too small for but we already have other area parks that fit that are good to run in. 					
Preston Park	Completely on	On	Somewhat	Not on	Completely off

Improvements	Target 2	Target 7	on Target 4	Target 0	Target 2
Comments: <ul style="list-style-type: none"> Everything that was planned is very nice. I like that most of the plans focus on nature but also gives many focus areas using glass, which not only places a great deal of respect to Preston's life, but also the recognition of this park as a nationally recognized historic place. Exactly on point Opinion- Tier 2 improvements closest to being on target Keep general look as a natural habitat. Keeping Dr. Preston and his significant contributions visible is important to me. House a little sad to hear that it should be leveled. Understand the problem of upkeep & the limited draw as a museum place. Not sure I like the idea of the parking around the arboretum, but also not sure what other options are there. I like the idea of having restrooms on the property and classroom space as well. I like the idea of venue for space rental for gatherings, weddings, etc. I had not thought about the main bldg. raised or not. I think the house should be preserved in some way if not all, some part. What is to happen to Jane's house? A more natural walking path down the overlook might blend better cement pathway or blacktop may detract. Wood bark might look better. Path jumps out in rendering. 					

Appendix E: Meeting Minutes

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<ul style="list-style-type: none"> Need to preserve Preston vision as many original bldgs. & landscape as possible and still satisfy over burdensome state & fed regulations. Handy cap/sanitation/safety etc. Need to hear more. The vision of Doc and Jane was to preserve the land not too have it be used for weddings, & etc. It was never meant to be developed. Tearing down the house is a travesty. The park was not donated to be a money maker. What were their wishes? Are we honoring them? What about people walking dogs, will that continue or eventually will that be eliminated. <p><u>Other Comments</u></p> <ul style="list-style-type: none"> Adding bathrooms are always good but porta potties might be cheaper and easier to maintain. Don't think the mill building seems good. Park needs to operate with using only a small amount of money. 					
Butler Twp. Community/Saw Mill Run Park Improvements	Completely on Target 3	On Target 4	Somewhat on Target 5	Not on Target	Completely off Target
Comments: <ul style="list-style-type: none"> I really like the plans to make the Dek Hockey Rink larger and adding all of the other elements –especially the amphitheater and use of the hillsides. All of this planning is excellent and I'm excited for the township to move forward with them. Like the idea of the amphitheater and cleaning up the lower area for parking, pavilions, etc. I like the idea of an amphitheater and the playground with natural designs. More play area & less grass and better parking is good Need to hear more. Where is the \$ coming from? The more added the more liability insurance needed. Especially a raised walkway. <p><u>Other Comments</u></p> <ul style="list-style-type: none"> I don't know enough about this Saw Mill Park to have an opinion. Not familiar with Butler Twp. Park- cannot comment 					

- Too much in one small area. How will the traffic be handled? (for all 3 parks)
- Township money. Don't want to have to raise taxes to pay to heat a building. Try to mow as little grass as possible. But trails are nice. I like an online survey of what to do with the park.

Administration and Management Recommendations	Completely on Target 1	On Target 6	Somewhat on Target 2	Not on Target 1	Completely off Target 0
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Comments:

- Having a park manager is a great idea.
- Tier 2
- Funding for all recommendations is the issue
- There does need to be someone managing the space. There should be a group to help oversee, etc.
- Not sure if having a great deal of management in place is necessary at this time. The current township staff should be sufficient to manage.

Other Comments

- I am concerned about this area. More detailed descriptions for these aspects.
- More taxpayers \$\$
- Preston funding of program. Is there a conflict with the terms of the Will to the twp.? Can there be fees?

Appendix E: Meeting Minutes

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Environmental/Natural Resources Enhancement/Protection	Completely on Target 2	On Target 8	Somewhat on Target 3	Not on Target 0	Completely off Target 0
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Comments:

- I think the focus makes very good sense.
- On Target
- Subtle is good
- Parking placement at Preston should not over overwhelm natural look
- Not sure what you mean from wildlife management at Preston. This is the last natural area nearby. I agree with taking out invasive plants and dead trees but I'm not sure how you plan on managing wildlife. I don't see a need to do that.

Other Comments

- Deer movement. People in the neighborhood feed the deer.

Access, Circulation and Parking Improvements	Completely on Target 3	On Target 2	Somewhat on Target 7	Not on Target 1	Completely off Target 0
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Comments:

- I really like the areas that you chose for parking on both parks. Both need more parking and the locations look like they would work best.
- Parking Placement at Preston should not overwhelm natural look.
- Realizing that parking, access, etc. needs to be improved. I'm not sure I like the Preston recommendations but do like the proposal on the Twp. & Sawmill side.
- Preston-projected parking near Arboretum - 1st very far from main aspect- 2nd Using a lot of flat land. - 3rd Places autos inside the park proper

Other Comments

- Too congested getting in & out of parks not enough entrances/exits.

<ul style="list-style-type: none"> I was not keen when I heard the proposal to make more road and go around the Arboretum. Still not sure I think it is necessary. 					
Other (Please be as Specific as Possible)	Completely on Target 0	On Target 2	Somewhat on Target 0	Not on Target 0	Completely off Target 0
Comments: <ul style="list-style-type: none"> I like keeping as much of the green space, trees as possible. I like the idea of the limited mowing in several areas. Other Comments <ul style="list-style-type: none"> Please no mineral rights leasing What about traffic? Any studies done? What are you going to do about deer population? A more natural walking path down the overlook might blend better. Cement pathways or blacktop may detract. Wood bark might look better. Path jumps out in rendering. Preston- I know several women who won't visit the park because of perception of it being to "dangerous." Seclusion & a lack of security. I have no idea how to overcome this. Too costly taxpayers will be paying (federal & state grants) besides local taxes. 					

Preston Park/Butler Township Community Park/Saw Mill Run Park Appendix F: Applicable Laws and Regulations Master Plans Butler Township, PA

As public parks, Preston Park and Butler Township Community Park/Saw Mill Run Park must comply with numerous laws and regulations. Some of the laws and regulations applicable in consideration of park development are noted below but the list is not intended to be all-inclusive.

- Public playgrounds should meet the guidelines of the Consumer Product Safety Commission (CPSC) Guidelines for Public Playground Safety. These guidelines establish the "standard of care" for public playground design, layout, and maintenance. An upgrade schedule should be developed based on the results of a playground safety audit. When replacement or upgrades are undertaken work must comply with the guidelines of the CPSC Guidelines for Public Playground Safety and the ADA.
- The safety surfacing in playgrounds shall meet the requirements of the American Society for Testing and Materials F1487-05. Playground safety surfacing material and depth must comply with this standard.
- Public areas of the park including parking areas, trails, picnic pavilions, picnic tables, restrooms, playgrounds, overlooks, and other areas must be accessible to physically challenged
- Federal and State agencies regulate the protection of endangered species. An environmental review of the Pennsylvania Natural Diversity Inventory (PNDI) listing is required to verify if there are animal or plant species of special concern. This review is initiated through wetland and stream encroachment permits, NPDES permits, and sewage planning module permits.
- Pennsylvania Department of Environmental Protection Sewage Planning Module permits are typically required for the expansion and/or development of sewage facilities. A sewage planning module may be required as new restroom facilities are developed in the park.
- Laws of the Commonwealth protect significant historic areas and structures. If historic areas and structures are affected by park modifications or development or if improvements reveal areas of historic significance a review by the Pennsylvania Historical and Museum Commission will be required.
- Development of park improvements may require the approval of the local municipality and the review of the County Planning agency. The need for land development plan approval will be based on the description of the improvement project and the municipality's interpretation of their Subdivided Land Development Ordinance.

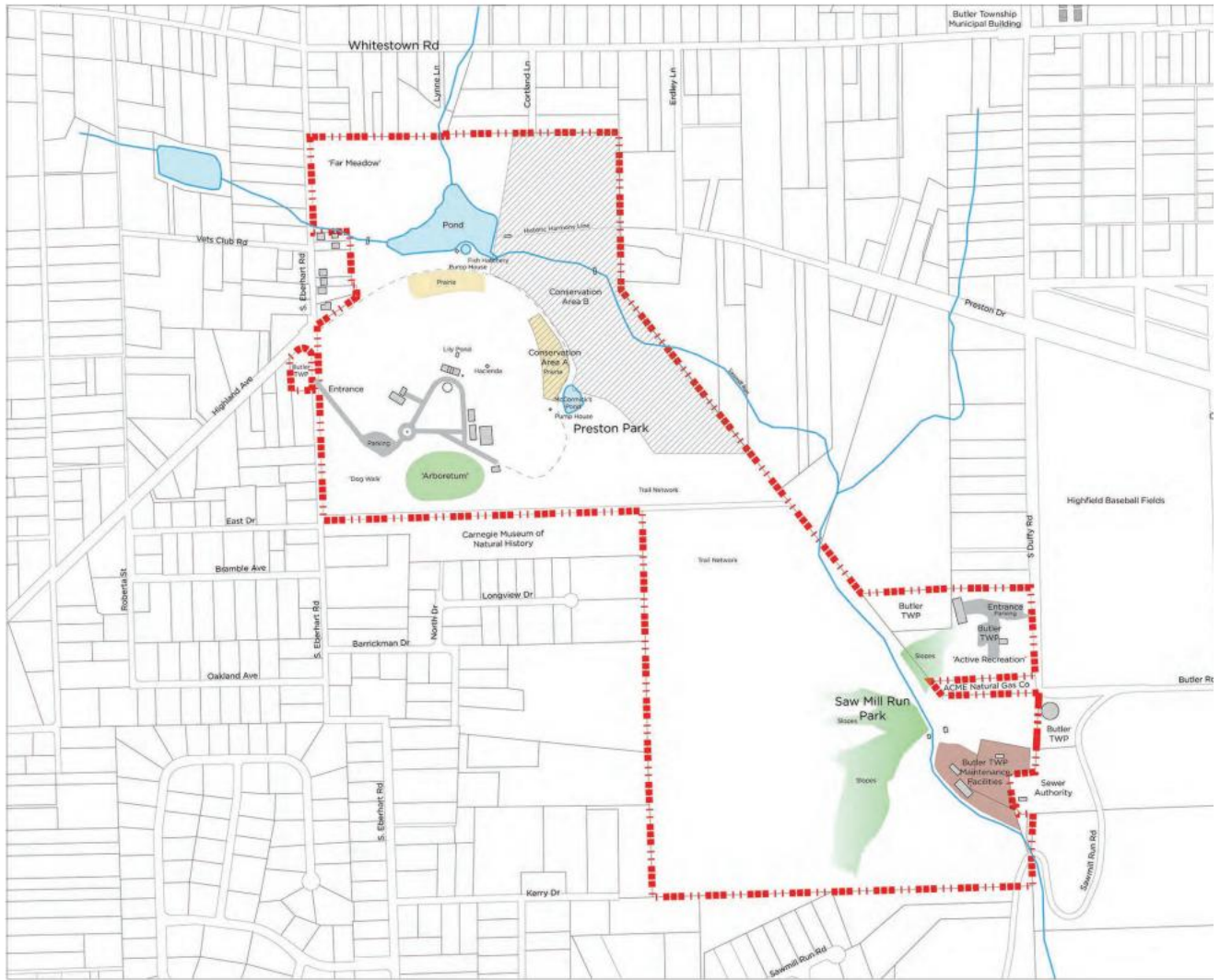
and visually impaired visitors to comply with the requirements of the Americans with Disabilities Act.

- Protection of wetland areas and streams are regulated under Section 401 of the Federal Clean Water Act. The Pennsylvania Department of Environmental Protection (PADEP) (Chapter 105) via General Permits regulates minor disturbance of wetlands and streams. Improvements in the area of the wetlands or encroachment of the wetlands will require a permit from DEP.
- NPDES Permit Application for Stormwater Discharges Associated with Construction Activities. These activities include, but are not limited to construction activities that require an NPDES Permit and which may affect existing water quality standards or threatened or endangered species and habitat, or construction activities that have the potential for toxic discharge. An approved Erosion and Sedimentation Control Plan is required for the disturbance of soil in areas of 0.5 acres or more.

Subdivision and Land Development Ordinance.

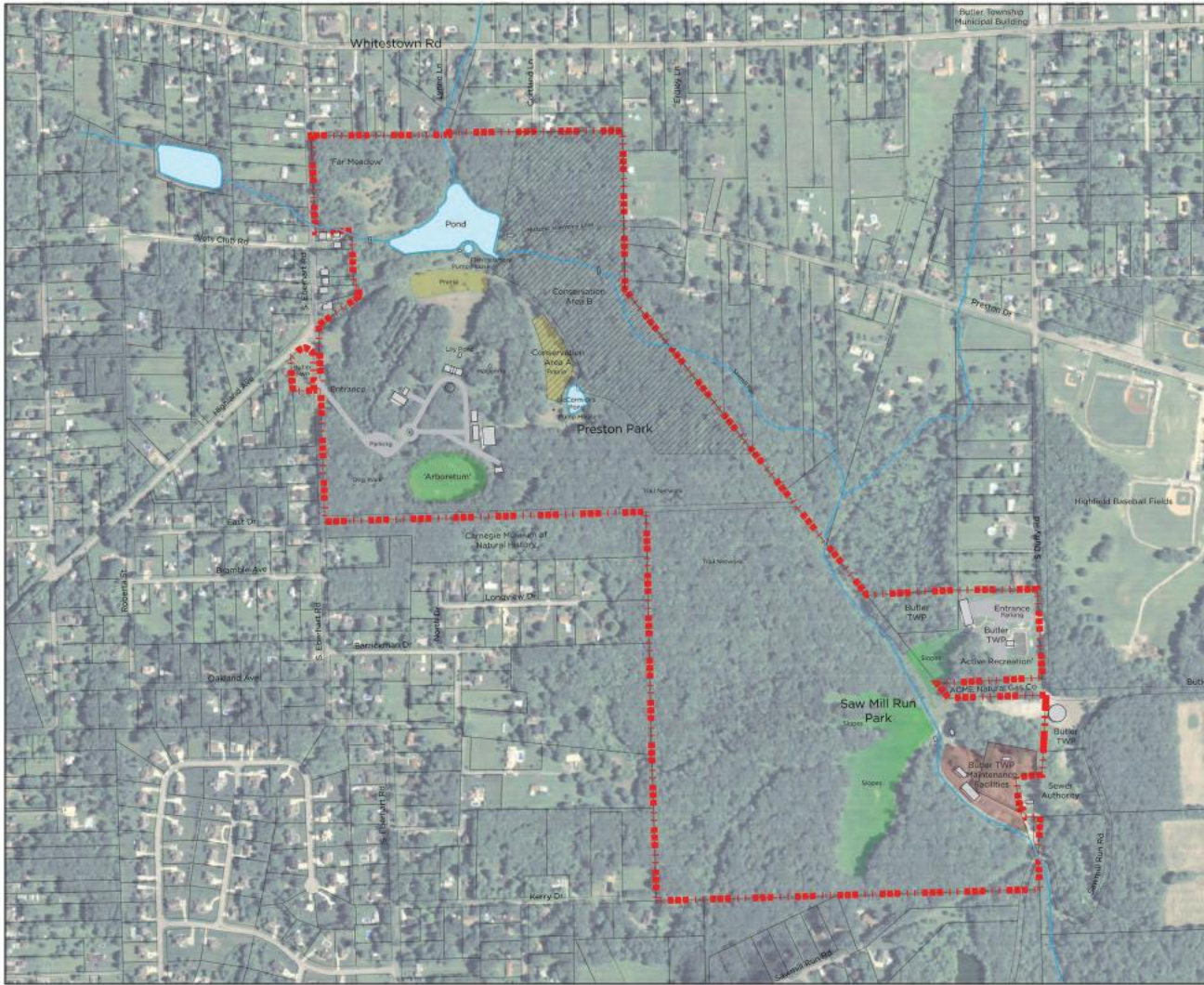
- The development of property, buildings, and structures is regulated by municipal building codes. As improvements are contemplated they should be discussed with the appropriate building code review entities/agencies.
 - Local Building Codes require Occupancy Permits for structure for fire and panic safety requirements. The pavilions proposed at the park sites will be require architectural drawings for the site specific nature of their design and needs and therefore will require code review and approval.
 - The access to or improvements within the right-of-way of Pennsylvania Department of Transportation (PennDOT) roadways requires a Highway Occupancy Permit issued by PennDOT.
 - Pennsylvania laws require notification of construction activities through the Pennsylvania One Call system. Three working days notice is required for construction phase work and ten working days for design stage work.
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Appendix G: Site Analysis Mapping

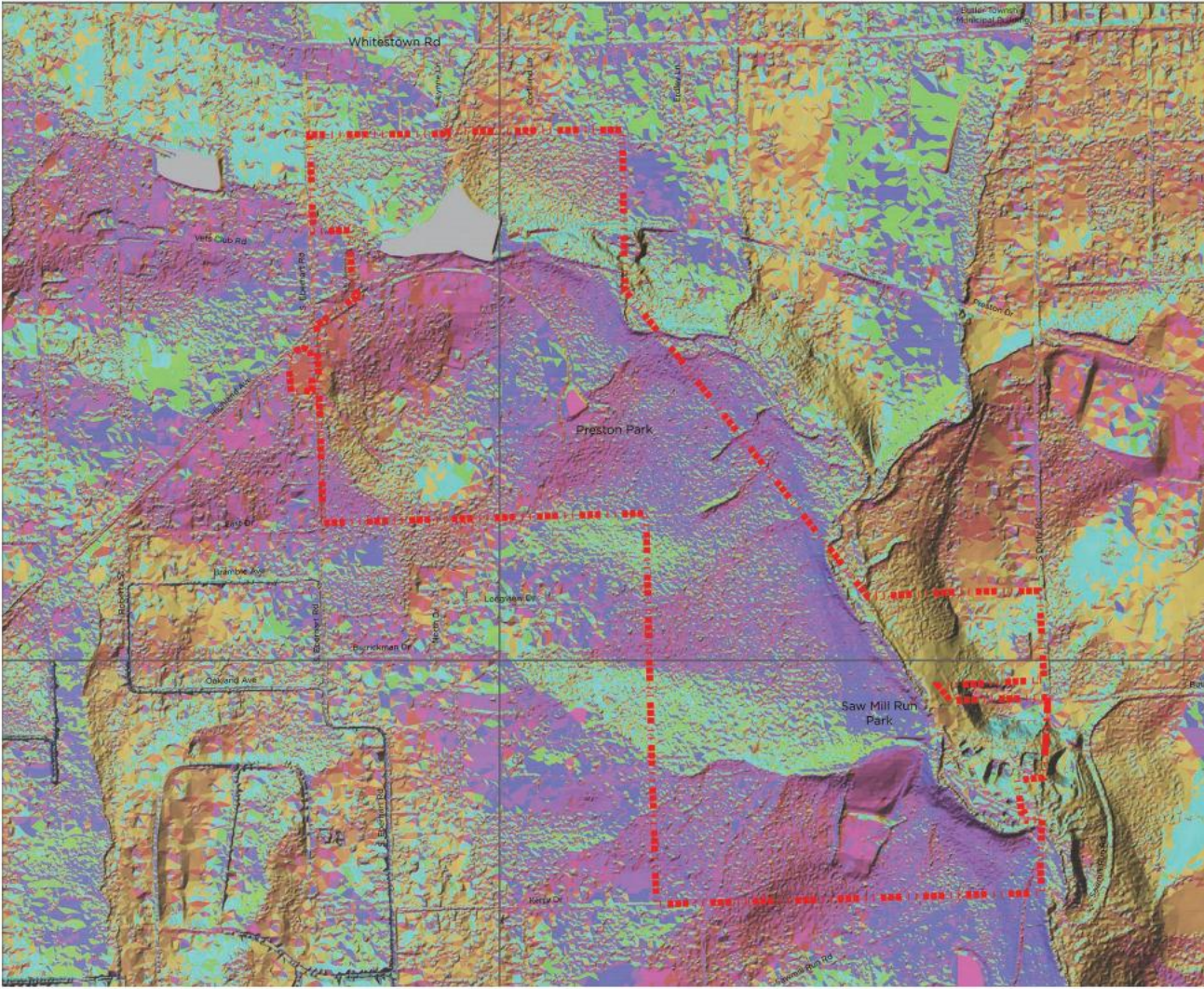


Preston/Butler Park Master Plan

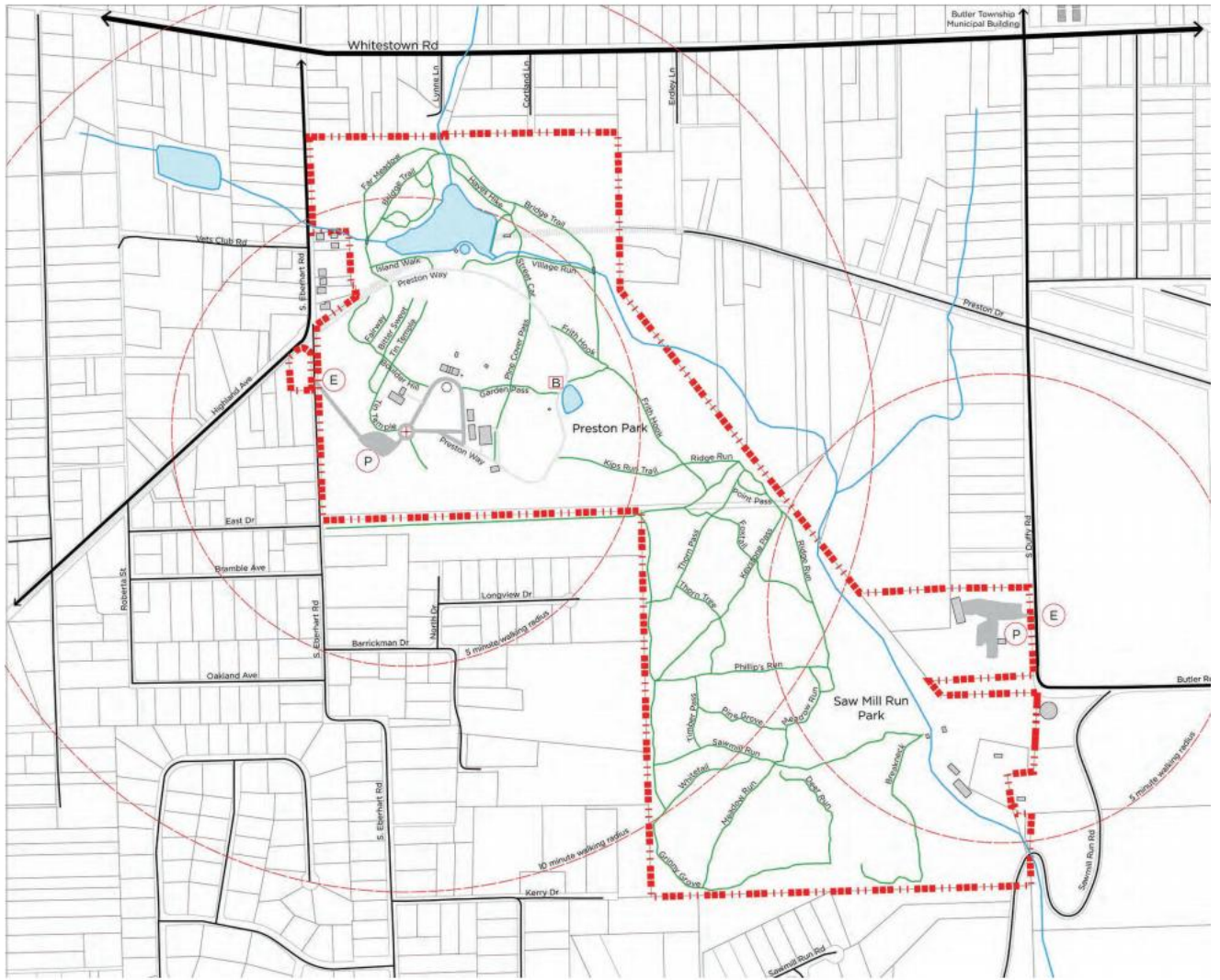
Appendix G: Site Analysis Mapping



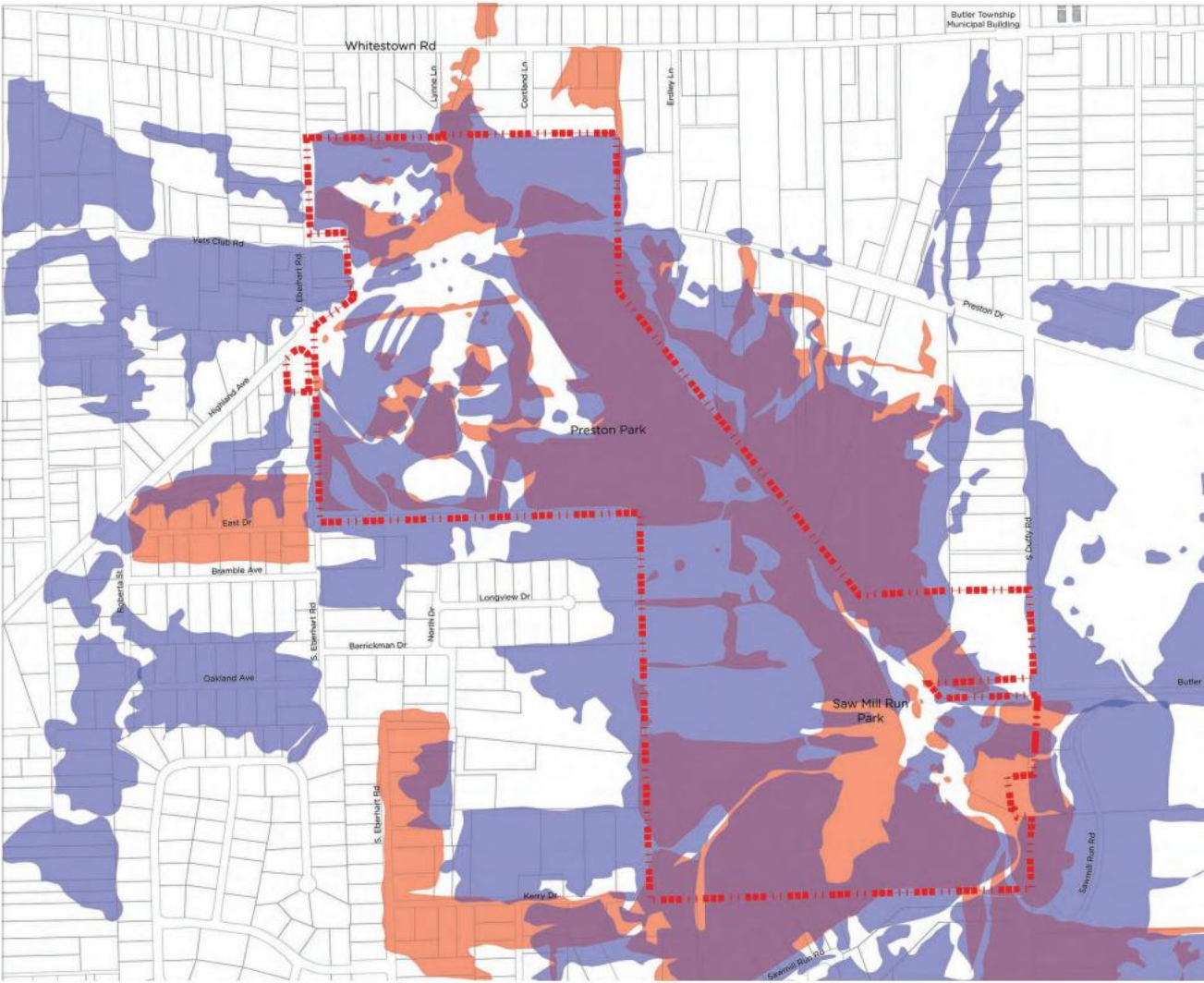
Appendix G: Site Analysis Mapping



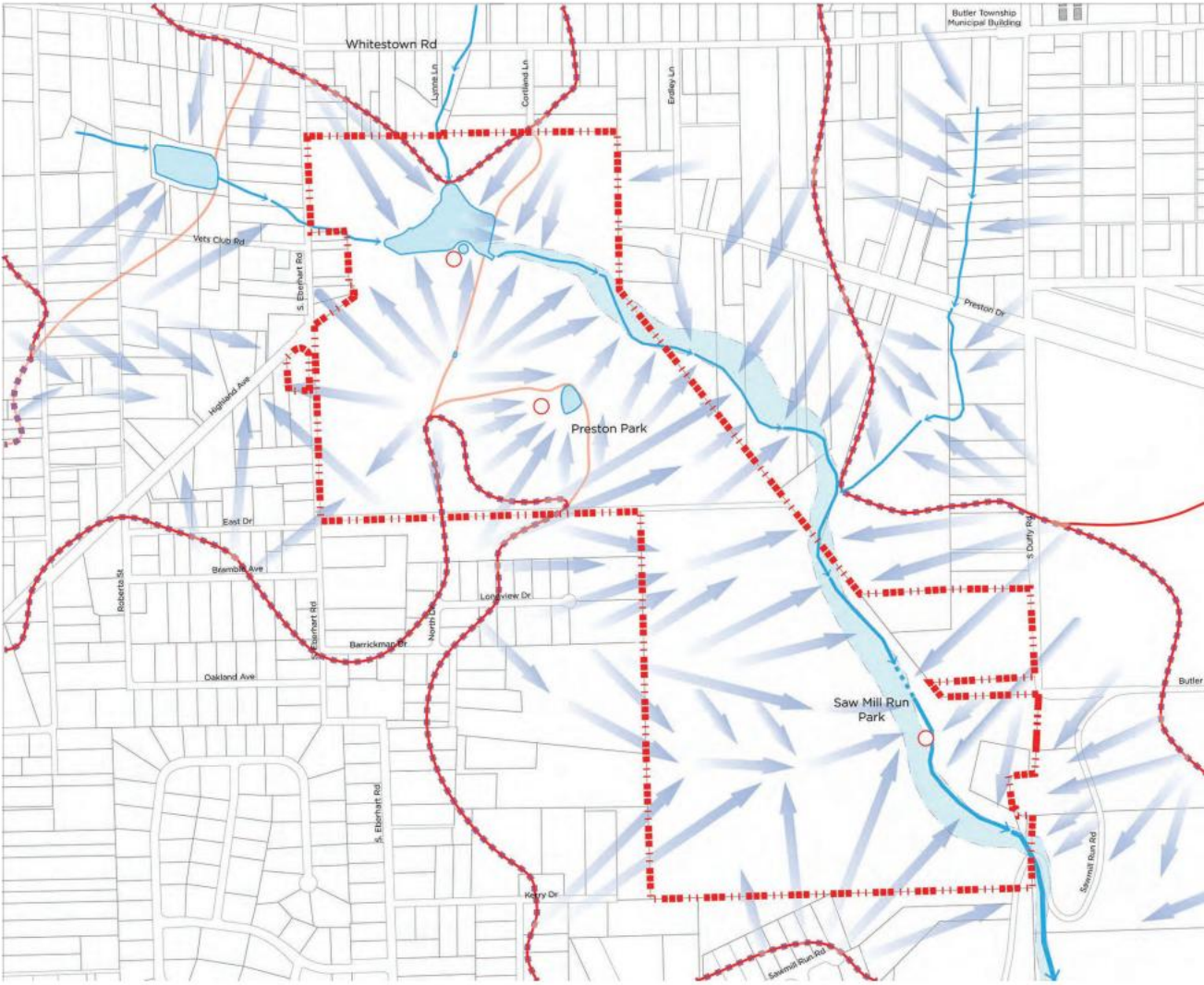
Appendix G: Site Analysis Mapping



Appendix G: Site Analysis Mapping

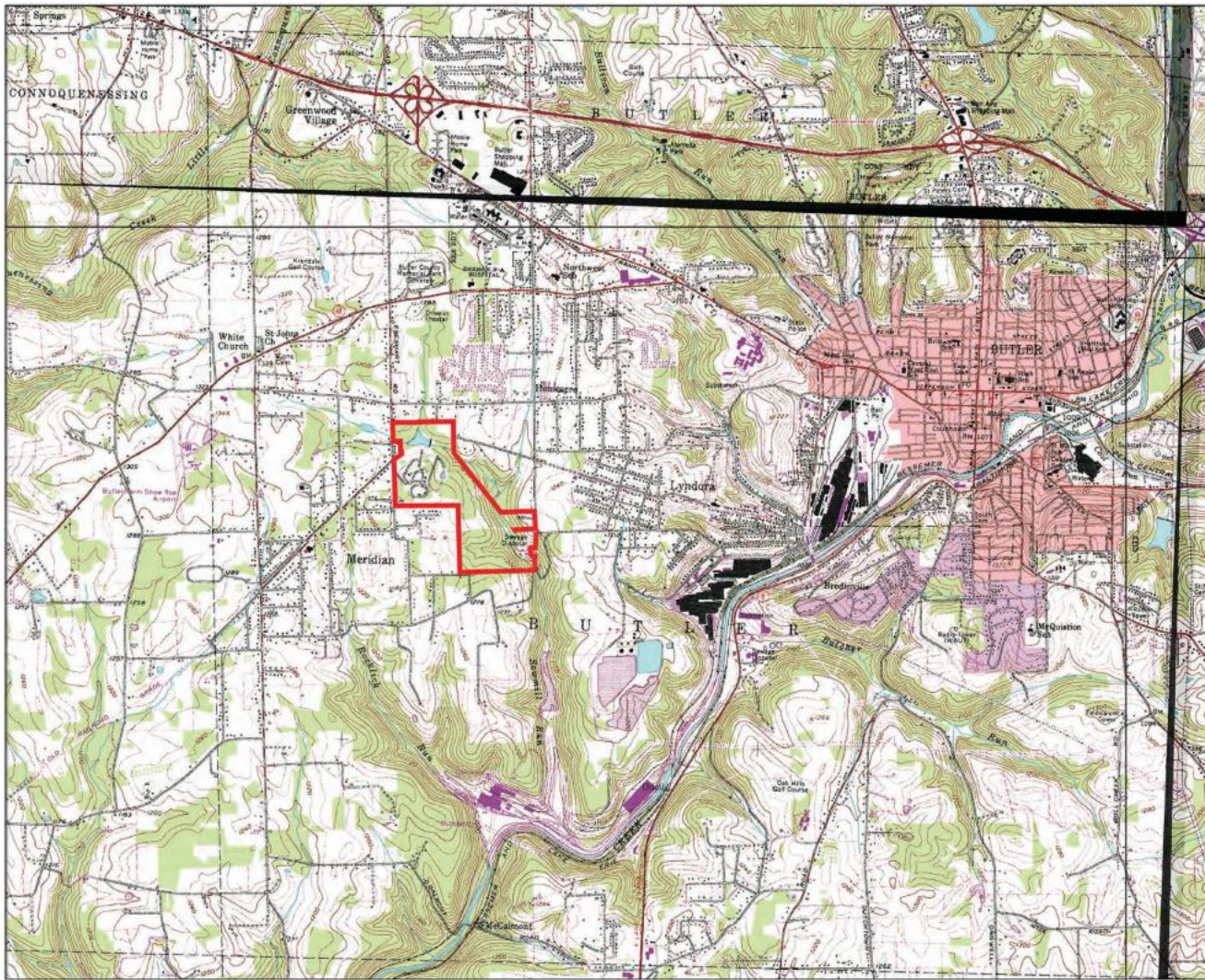


Appendix G: Site Analysis Mapping



Preston/Butler Park Master Plan

Appendix G: Site Analysis Mapping

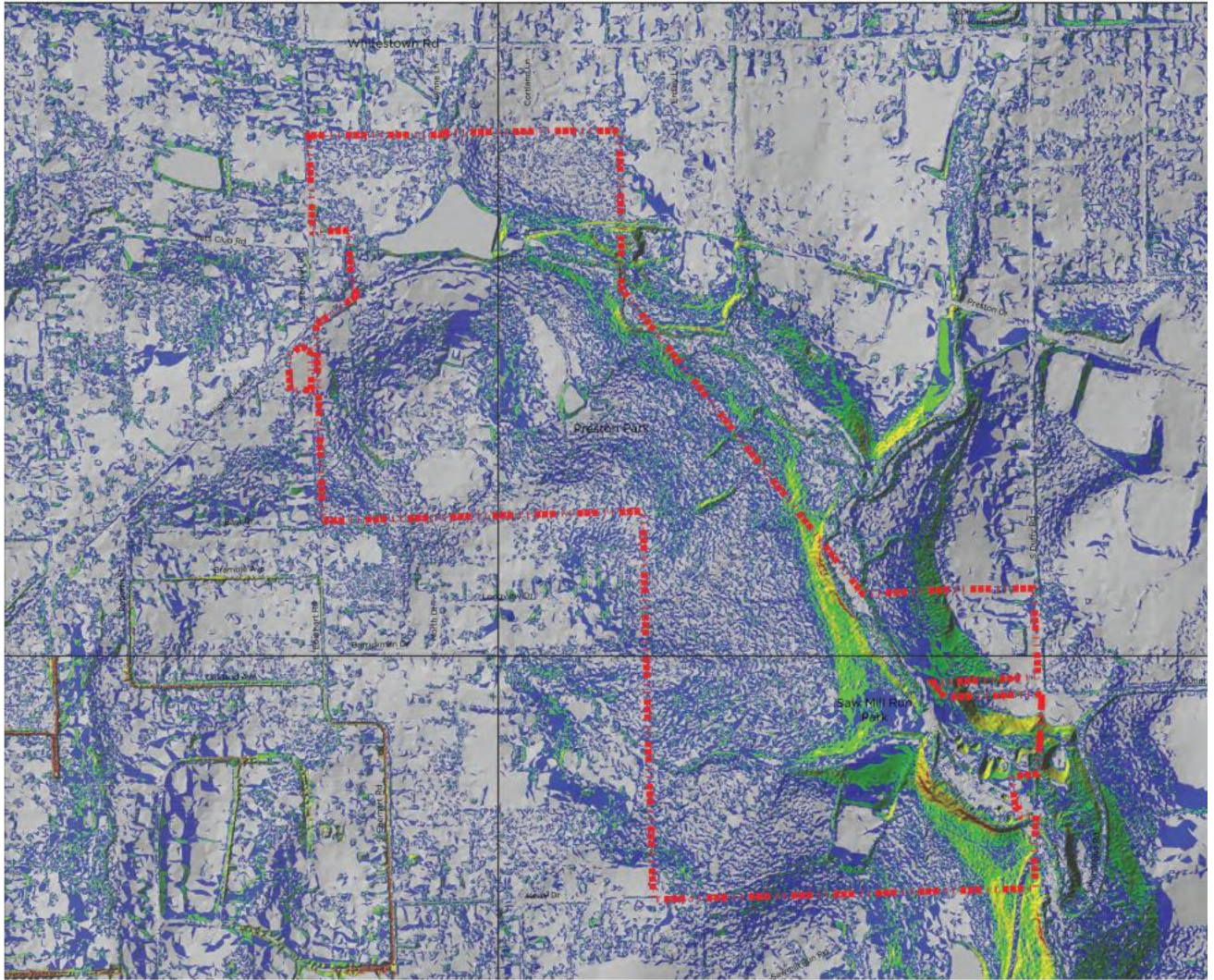


Appendix G: Site Analysis Mapping

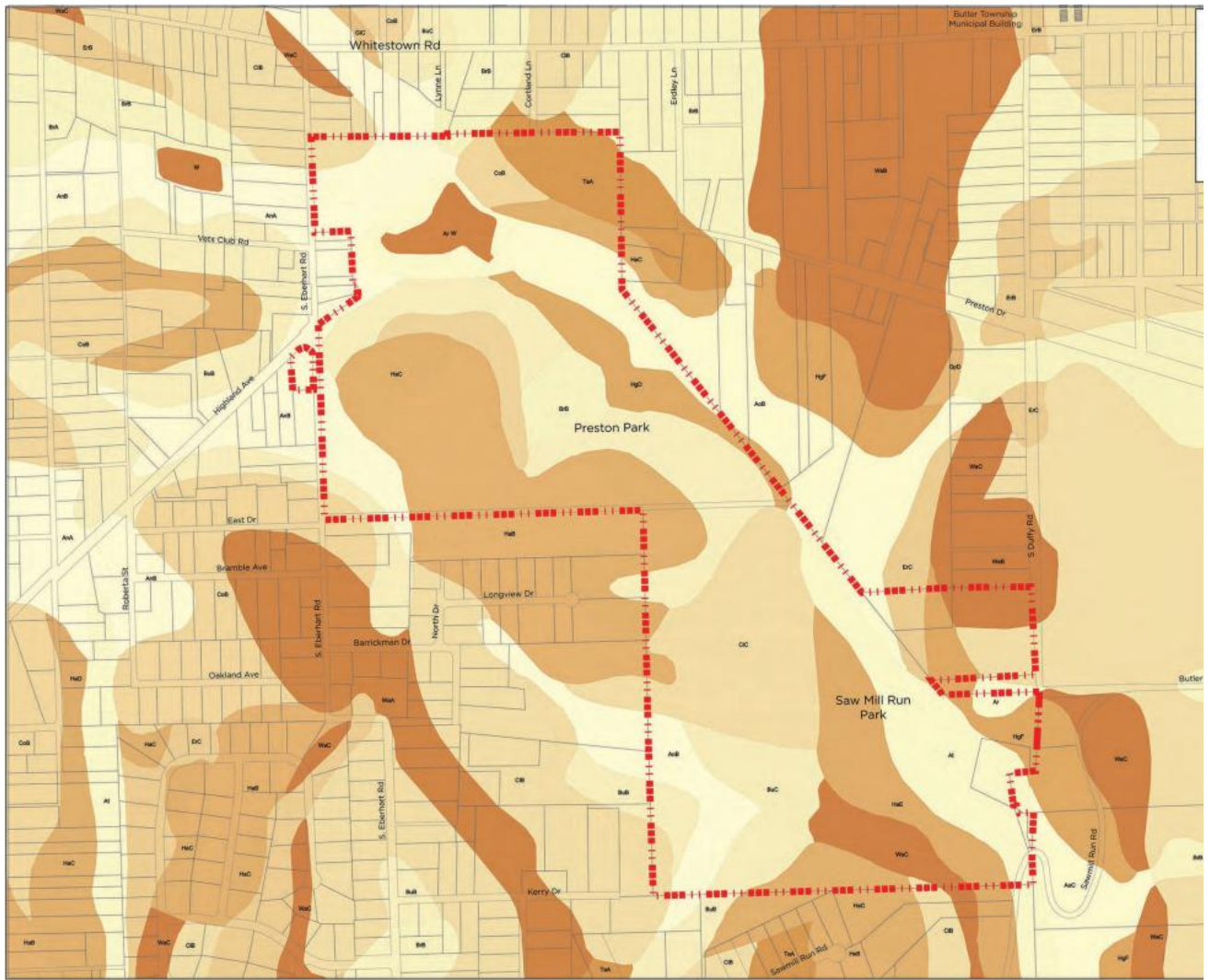


Preston/Butler Park Master Plan

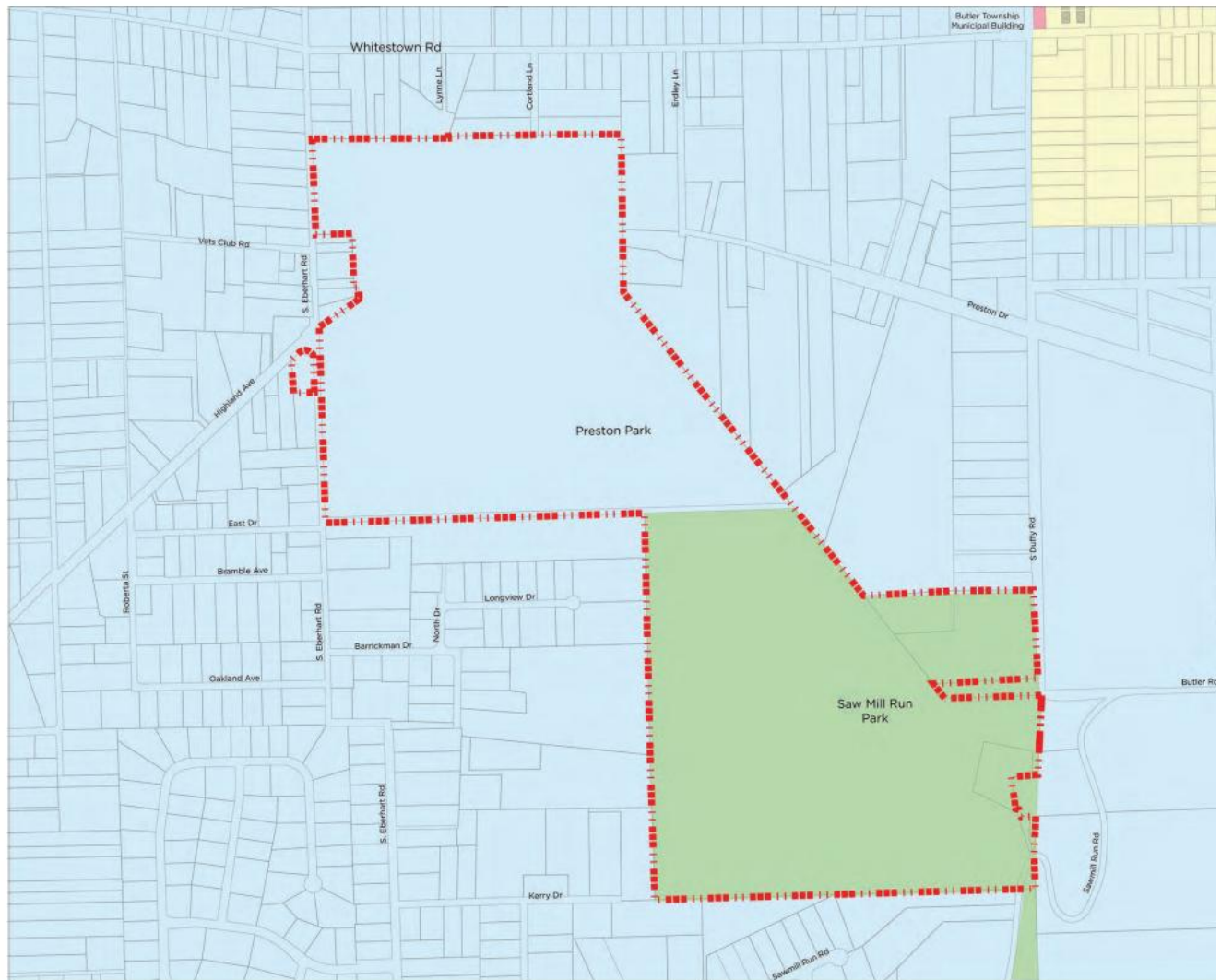
Appendix G: Site Analysis Mapping



Appendix G: Site Analysis Mapping



Appendix G: Site Analysis Mapping



S/G/A LANDSCAPE ARCHITECTURE
PLANNING
STROMBERG / GARRIGAN & ASSOCIATES

Preston/Butler Park Master Plan

May 6, 2013

Mr. Sean Garrigan, Principal
Stromberg/Garrigan & Associates, Inc.
102 East Main Street – The Penn Building.
Somerset, PA 15501

Dear Mr. Garrigan:

Subject: Conditions and Assessment Report

Civil & Environmental Consultants, Inc., (CEC)) is pleased to provide Stromberg/Garrigan & Associates, Inc. (SGA) with this Conditions and Assessment Report (Report) for the Preston Park Pond and Dam located in Butler Township, Pennsylvania (Site). This Report has been prepared in accordance with the scope of services provided to SGA in our proposal dated June 25, 2012. This report provides background information on the Site, presents the information obtained during our site reconnaissance and pond survey and offers conclusions and recommendations for further operation and/or remedial action.

1.0 SITE LOCATION AND DESCRIPTION

The Site is located in Butler County, approximately 1,500 feet southeast of the intersection of Whitestown Road and South Eberhart Road in Butler Township, Pennsylvania. It is accessible via a single lane asphalt access road into Preston Park, which has an address of 415 South Eberhart Road, Butler, PA 16001. It is located approximately 3 miles west of the town of Butler, Pennsylvania and 29 miles north of the city of Pittsburgh, PA. The site latitude and Longitude are 40 degrees, 51 minutes and 22 seconds north and 79 degrees 57 minutes 00 seconds east, respectively. The pond is part of the Saw Mill Run watershed.

The Site is situated in a forested area, with mature trees bordering the pond and dam on the north, east and west perimeters. A grass covered slope on the south side of the pond and dam provide a direct unobstructed view to the central area of Preston Park.

The centerline of the dam crest is oriented in a north and south direction, with the pond located to the west of the dam. The spillway is located at the southern end of the embankment, with the weir oriented on the same centerline as the embankment. The spillway chute is oriented/flows in a southwest to northeast direction. The stream below the chute is generally oriented/flows in an

Civil & Environmental Consultants, Inc.

Pittsburgh
333 Baldwin Road
Pittsburgh, Pennsylvania 15205
Ph: 412/429-2324 / Fx: 412/429-2114
Toll Free: 800/365-2324
pittsburgh@cecinc.com
www.cecinc.com

Austin
Boston
Bridgeport
Charlotte
Chicago
Cincinnati
855/365-2324
866/312-2024
855/488-9539
855/859-9932
877/963-6026
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Stromberg/Garrigan and Associates
CEC Project 121-356
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May 6, 2013



easterly direction, but eventually turns southward. A United States geologic Survey (USGS) topographic map of the Site is presented as Attachment A.

2.0 BACKGROUND

Preston Park is an 88-acre English garden donated to Butler Township by Dr. Frank and Mrs. Jane Preston. Dr. Preston was the founder of Preston Laboratories, a forerunner of AGR Industries. The park is relatively undisturbed, except for a network of walking trails and two

industries. The park is relatively undisturbed, except for a network of walking trails and two ponds, one approximately 5 acres in surface area and one less than 1 acre in area. The 5 acre pond is assumed to be the Site.

The 5 acre pond was conceptualized and developed under Preston's direction. Design drawings developed by Preston Laboratories Consulting Engineers, Butler PA (Design Drawings), dated October 1940 and February 1941 appear to have been used to construct the pond and earthen embankment. The exact date of construction and the formation of the pond could not be determined; however, in a Historic Resource Survey Form Submitted by Butler Township, a 1947 report indicates that "a spring has been dammed to create a small pond of about one half acre". The possibility exists that the subject report is in reference to the 5 acre pond. The Design Drawings indicate two tributaries entering the area of the pond from the west and the north and merging into one stream, whose former location, with respect to the existing embankment is closer to the north end of the embankment than to the south end of the embankment.

PADEP was contacted to determine the classification of the dam and spillway. According to information provided in their records, the dam is classified as C-4, where 'C' categorizes the size of the dam as less than 1000 acre-feet in impoundment volume and less than 40 feet in height and '4' categorizes the dam as no risk to population and minimal damage to private or public property and no significant public inconvenience.

3.0 SUMMARY OF FIELD OBSERVATIONS

On October 25, 2012 and again on November 2, 2012, a registered professional engineer from CEC's office in Pittsburgh, PA visited the Site to obtain detailed information on the earthen dam, concrete spillway and ancillary structures at the Site. Hand sketches and dimensions were developed to illustrate pertinent spillway components, including the ogee weir, the guide and retaining walls, the floor slab, the stilling basin and erosion protection. Sketches and dimensions were also developed to illustrate the earthen embankment, including the upstream and downstream slopes, the crest, the former principal discharge structure and a secondary embankment structure downstream of the earthen embankment. Electronic versions of hand



sketches of the structures and measurements taken are provided in Attachment B. Over 100 pictures were taken to document a majority of the field measurement and observations. Selected photographs of the Site are provided in Attachment C.

On November 20, 2012, CEC conducted a bathymetric survey of the pond and obtained spot elevations and locations of other pertinent features, including the embankment crest, the

spillway, the approximate location of the principal spillway pipe and an earthen trail across the stream downstream of the dam. The topographic information identified above is presented in Attachment D.

A detailed discussion of the observations made during the October 25 and November 2 site visits is presented below. These observations do not include or reference information presented on the Design Drawings which were provided to CEC by SGA.

3.1 Spillway

An ogee weir spillway is located on the south side of the earthen embankment. The weir can be categorized as a sharp-crested weir. The anticipated purpose of the spillway is to maintain the elevation pool of the pond and to provide drainage of the pond for selected storm events. The ogee weir is approximately 34 feet wide, as measured from abutment to abutment and approximately 6 feet tall, as measured from the crest of the weir to the floor elevation of the chute downstream of the weir. The ogee weir structure appears to be constructed using concrete that is not reinforced. The cross sectional geometry of the weir consists of a vertical upstream face and a downstream face that slopes at a rate of approximately one and one-half vertical to one horizontal (1H:1.5V). The downstream face does not appear to include any compound curves. A concrete sill approximately 2 feet long extends horizontally from the base of the downstream weir slope. The sill is an integral part of the weir; no type of construction joint is present. A plan view of the spillway is presented on sheet 1/6 in Attachment B.

The spillway weir appears to have been constructed in 4 segments, based upon the location of three vertical construction joints on the downface portion of the weir. The segments are eight to ten feet wide. Each segment contains three weep holes arranged horizontally across the downstream face of the spillway, approximately 4 feet above the sill of the spillway. An elevation of the spillway is shown on sheet 2/6 in Attachment B.

The overall height of the ogee weir could not be measured on the waterside, due to the presence of sediment accumulation against the spillway. The depth to sediment from the crest of the weir was measured at 36 inches.



The abutment walls directly adjacent to the weir are 16-inches thick and are vertically battered on the waterside portion of the wall. The abutment walls are three feet higher in elevation than the crest of the weir and are nearly at the same elevation as the earthen embankment crest. A cutoff wall approximately 17-inches thick connects to this abutment wall in a perpendicular fashion on both sides of the weir. The depth and length of these cutoff walls is unknown. Each

abutment wall connects to a wingwall that extends into the pond area and funnel flow into the ogee weir crest.

The wingwalls are approximately 12 feet in length and are angled approximately 30 degrees to the abutment wall. The walls are 12-inches thick and do not appear to be vertically battered.

A spillway chute extends approximately 35 to 40 feet downstream from the toe of the weir, as measured along its centerline. The chute bends to the northeast immediately downstream of the weir sill; the angle between the centerline of the chute and centerline of the weir is approximately 25 degrees. This bend results in the south chute wall length of approximately 47 feet and a north chute wall length of 27 feet, and creates a termination sill for the chute that is perpendicular to the drainageway centerline downstream of the chute. The chute floor is constructed from concrete, with a surface that can be described as 'roughened'. The thickness of the floor is unknown. The chute floor appears to have settled when compared to the elevation of the weir sill. The settlement is approximately 1-inch on the south side of the floor slab and 4 inches on the north side of the floor slab. The top of footing of the south chute wall is located at the same elevation as the chute floor. The top of footing of the north chute wall is approximately 3 to 4 inches above the elevation of the chute floor, which is a continuation of the settlement of the floor slab at the weir sill. An energy dissipation structure is located approximately 9 feet before the end of the chute walls and footings. The energy dissipation structure extends across the chute perpendicular to the chute walls and consists of a series of thin rock stacked vertically between the chute walls, with the axis of the longitudinal length of the rock oriented parallel to the direction of flow. Three rows of rock are present, creating an overall width of 30 inches measured parallel to the chute centerline. The concrete chute floor appears to end at this location. The energy dissipation structure extends approximately 4 to 6 inches above the concrete floor slab. This difference in elevation has created an area approximately 4 feet wide and 20 feet long that accumulates soil and sediment. Brush and grass up to 3 feet in height are observed growing from this area. The chute walls extend an additional 10 feet beyond the energy dissipation structure. The width of the spillway chute at the exit is approximately 24 feet, compared to the 32 feet width at the location just downstream of the weir sill.



The chute walls are approximately 12-inches thick at the top of the wall and 16-inches thick at the bottom. The vertical batter created by the difference in thickness faces the spillway. One weephole 4 inches in diameter was observed at the base of the wall, midway between the overall length of the wall. The footing for the chute walls extends 20 inches to the waterside of the wall

and is 14 inches deep. The overall width of the footer could not be determined. No drainage pipe or toe drain was observed behind the wall. A 4-inch diameter metal drain pipe extended over the south chute wall. The pipe contained no flow and its origin could not be determined. An elevation of the north and south chute walls is presented on sheets 1/6 and 2/6 in Attachment B.

The stream channel downstream of the energy dissipation structure and the chute consists of an area of large flat rocks that form the floor of the stream channel and earthen sideslopes covered with trees and shrubs. The sideslopes appear to have been formed by the excavation of the channel. A 6-inch to 12-inch vertical drop exists between the elevation of the chute floor and the elevation of the flat rocks of the stream channel.

3.2 Earthen Embankment

The earthen embankment of the dam consists of a 15 feet wide crest, with a downstream embankment slope of approximately two horizontal to one vertical (2H:1V) and an upstream embankment slope that varies between 2.5H:1 and 2H:1V. The crest is grass covered mowed to a height of approximately three inches. The downstream slope is covered with a combination of unmowed grass, weeds and brush that vary in height between one and six feet. Three trees, with trunk diameters between 4 and 8 inches are also located on the downstream embankment slope. The estimated maximum vertical height of the downstream slope, measured from the crest to the toe is approximately 12 feet. This height decreases near each end of the embankment, where it ties into existing natural ground. The upstream face is covered with riprap protection, consisting of two to three rows of thin stone stacked in a vertical orientation. The stone is covered with a thin layer of vines and weeds that are growing through various joints in the stone. The water surface of the reservoir is approximately 2.5 feet below the crest elevation of the embankment. The riprapped stone extends from the water's edge to an elevation approximately 1 foot from the grass crest. A plan and section of the embankment is presented on sheet 3/6 in Attachment B.

The embankment crest is approximately 220 feet long, measured from the north concrete abutment of the spillway to the water's edge at the north end of the reservoir. The crest extends another 30 feet north beyond the water's edge to connect to existing high ground.

Remnants of the principal spillway pipe decant system are also present on the upstream and downstream embankment slope and crest. The metal pipe stem shaft that connected to the valve at the upstream toe of the embankment is broken just below the water surface of the reservoir.



Two concrete pillars that supported the pipe are present on the upstream slope; one located at the top of the upstream slope and a second located beneath the water surface, approximately 13 feet away. The principal spillway pipe beneath the dam could not be observed. A concrete headwall

away. The principal spillway pipe beneath the dam could not be observed. The outlet of the pipe beneath the dam was observed on the downstream side of the embankment, approximately 25 feet away from a point where the crest meets the downstream slope. The exposed portion of the headwall is approximately 11 feet wide and 4 feet high. No wingwalls are present. The pipe extending from the headwall could not be observed, due to the presence of eroded soil accumulated against the headwall. The location of the headwall and the remnants of the pipe valve stem and pillars create a spillway pipe alignment perpendicular to the longitudinal, 250-foot long centerline of the dam crest. A section and elevation of the headwall is shown on sheet 6/6 in Attachment B.

A wet area was also observed approximately 15 feet to the north of the principal pipe headwall. The elevation of the wet area is approximately equal to estimated elevation of the pipe. Pondered water was observed adjacent to the wet area and connected to the pondered water beneath the abandoned bridge, which is discussed in detail below.

3.3 Abandoned Bridge, Abutments and Discharge Channel

Remnants of an abandoned bridge and concrete abutments were observed at a location 50 feet downstream of the earthen embankment. The bridge was reported to extend across the former streambed of Sawmill Run. The bridge superstructure consists of two 18 inch deep wide flange beams. Wood timbers approximately 3 inches thick and 10 inches wide are attached to the tension flange of the beam and comprise the deck of the bridge. The beams are located in two pockets constructed within the concrete abutments, thereby allowing the top elevation of the beam to match the top elevation of the abutments. The bridge is covered with a gable shaped corrugated metal roof supported from the beams with four 3-inch diameter pipe columns. The pipe columns are located at each end of the two beams and are attached to the tension flange of the beam with a pipe flange and three bolts. A 3-inch by 10 inch wood header beam parallel to the W18 beam extends between the pipe columns to support the roof structure. A third wood timber forms the ridge beam of the gable roof and is supported from the header beams with 2" x 6" wood rafters. Several 6-inch wide flange beams extend perpendicular between the two wood header beams and two pipe columns extend vertically from these smaller W6 beams to aid in supporting the ridge beam. The overall length of the roof is approximately 25 feet and the width is approximately 9 feet. The roof system is approximately 92 inches above the elevation of the W18 beams. A plan and section of the bridge and abutments is shown on sheet 4/6 and 5/6 in Attachment B.



The concrete abutments that support the bridge are approximately 10 feet high, 24 to 36 inches thick and oriented in a northeast-southwest direction. The abutments are steep battered on the

thick and oriented in a northeast-southwest direction. The abutments are step battered on the earthen side, which creates the additional thickness of the abutment at the base. Wingwalls are located at the upstream and downstream end of both abutments; this results in an overall length of the abutment of approximately 35 feet. Depending on the location, the wingwalls are either angled 45 degrees to the earthen side of the abutment or are aligned parallel with the abutment. The perpendicular distance between the abutments is approximately 13 feet. No concrete floor between the abutments or no concrete footings was observed. The abutments form a channel that directed flow from the principal spillway pipe, located on the west side of the abutment, to the Saw Mill Run stream channel located on the east side of the abutment. The channel contains approximately 12 inches of stagnant, non-flowing water.

3.4 Trailway Dam

One of the trails that are located within the park crosses the Saw Mill Run stream channel approximately 150 feet downstream of the embankment toe and the spillway. The embankment for this trail was constructed using large stone and concrete pieces. Most of the stone is relatively flat with thicknesses of 6 to 10 inches, but has lengths in excess of 48 inches. The eight feet wide trail surface consists of gravel with grass berms. The overall length of the trail is 50 feet, measured to a location where it intersects high ground on either side. There is no culvert located within the embankment that allows water from the spillway to directly flow into the Saw

Mill Run streambed downstream of this dam. Water was observed flowing from beneath several stones in the embankment. The presence of this trail embankment created a pool of water approximately 50 feet square and one to two feet deep in a low spot immediately upstream of the trail and approximately 50 feet from the downstream toe of the pond embankment. A plan of the pool area and sections of the trailway dam are shown on sheets 4/6 and 5/6 in Attachment B.

3.5 Bathymetric Survey

The bathymetric survey was performed to obtain water depth measurements and the depth of sediment at locations established using a 50 and 100 feet grid pattern. The depth of water was obtained at 76 locations, with each location documented using Global Positioning System (GPS) methods. The thickness of sediment was obtained at 13 locations using a calibrated rod inserted into the water from the side of a johnboat. A rod reading was obtained when the estimated top of sediment was encountered; based upon the additional resistance advancing the rod. The rod was then advanced through the sediment by applying additional force until refusal associated with the bottom of the pond was encountered.



In addition to the survey locations within the pond, a total of 56 locations were selected around the perimeter of the pond and surveyed to create a boundary for the edge of the pond and for determination of sediment volume. Following the work at the pond, several survey readings were taken at the location of the various features described above. Locations and elevations for the weir, the chute and the basin slab were obtained, as well as for the abandoned bridge and its abutments and the railway dam. Several spot elevations were also obtained for the earthen embankment and the approximate location of the pipe stem for the former principal pipe within the pond and the pipe headwall on the downstream portion of the embankment.

4.0 CONCLUSIONS AND RECOMMENDATIONS

In this section of the report, conclusions and recommendations for the Site are presented. These conclusions and recommendations are based upon the observations made during the site reconnaissance, the bathymetric survey and a review of the Design Drawings for the embankment and spillway. They also are based upon CEC's experience in evaluating structures for rehabilitation, reconstruction or demolition. In addition to these criteria, regulatory criteria will also be discussed. In the discussion of conclusions that follow, descriptions of selected features will be classified using a rating of excellent, very good, good, fair or poor.

4.1 Conclusions

4.1.1 Spillway Weir, Abutments and Chute

The spillway weir is in good to very good condition. The concrete is weathered with pitting and appears aged, but has no structural cracks. The weepholes near the center of the spillway are clogged, possibly due to the buildup of sediment on the waterside portion of the weir. The weir appears to be in a stable condition; there are no indications of settlement, or of structure sliding or overturning. The sill is in very good condition, with no indications of settlement.

A review of the Design Drawings for the weir generally reflects the conditions identified in the field survey with one exception. The lip of the weir possesses a beveled edge facing the water that is approximately two-thirds the size as shown on the drawings. This minor change does not affect the flow characteristics of the weir.

The weir abutments and pond side wingwalls are also in good to very good condition. The concrete is weathered with pitting and appears aged, but has no structural cracks. Moss has accumulated on the walls, primarily on the south abutment, which receives less sunlight. A review of the Design Drawings for the weir abutments and wingwalls generally reflects the conditions identified in the field survey with one exception. The abutment wall thickness of 16



inches is approximately 4 inches thicker than the wingwalls and chute walls and is not illustrated on the drawings.

The north and south spillway chute walls are in fair and poor condition, respectively. They are cracked at several locations downstream of the weir. For this Report, the extent of the cracking is categorized as minor, moderate, severe or displaced. On the north wall adjacent to the earthen dam embankment, one moderate crack (N1) was observed, extending from the top of the chute wall down to the chute footer. The crack is nearly vertical in direction and is located at the bend between the abutment wall perpendicular to the weir and the spillway chute wall, which is about 6 feet downstream as measured from the top/crest lip of the weir. On the south wall, four cracks are present. The first crack (S1) is a moderate crack located approximately 33 feet from the bend between the abutment wall perpendicular to the weir and the wall of the spillway chute. The crack is nearly vertical in direction and extends from the top of the wall to the footer. It extends through the entire depth of the wall, as viewed from the top of the wall.

The second crack (S2) is a minor crack located approximate 25 feet from the bend between the abutment wall perpendicular to the weir and the wall of the spillway chute. The crack is nearly vertical in direction and extends from the top of the wall to the footer. This crack also extends through the entire depth of the wall, as viewed from the top of the wall.

A moderate crack (S3) is located approximate 15 to 17 feet from the bend between the abutment wall perpendicular to the weir and the wall of the spillway chute. The crack is angled at approximately 15 degrees from vertical, with the crack location at the top of the wall farther downstream than the crack location at the bottom. The crack extends from the top of the wall to the footer and through the entire depth of the wall, as viewed from the top of the wall.

The final crack (S4) is located 5 to 15 feet from the bend between the abutment wall perpendicular to the weir and the spillway chute wall. The crack is angled approximately 45 degrees from vertical, with the crack at the bottom of the wall adjacent to the footer farther downstream than the crack at the top of the wall. This crack is classified as displaced, with the upstream portion of the wall displaced 8 inches (measured horizontally) from the downstream portion of the wall. This crack extends into the footer and merges with the S3 crack at the top of the footer. The displacement has resulted in a portion of the south wall between crack S3 and S4 rotating inward towards the spillway. This rotation is due to the pressure exerted by the soil backfill against the wall and the absence of additional the redundant support created by the overall length of the wall, due to the crack. The rotation may also be due to the presence of the drain pipe located on the top of the wall at this location. The possibility exists that the integrity of the pipe has been compromised, resulting in additional hydrostatic pressure.



The foundation soils at the downstream ends of the chute walls are eroding, possibly due to a lack of erosion protection on the sideslopes of the stream channel downstream of the chute. The Design Drawings indicate that riprap should be used in the absence of natural rock.

The floor slab of the spillway chute adjacent to the sill of the weir is in good condition, but appears to have settled. On the north side, the settlement of the chute slab is approximately 4 inches, while on the south side the settlement is less than 1-inch. There are no indications that differential settlement of the slab has occurred. One contraction joint that bisects the location of the chute walls exhibits no signs of cracking or fatigue.

A review of the Design Drawings for the chute walls generally reflects the conditions identified in the field survey; however, no indication of reinforcement was observed in the field. The Design Drawings indicate one row of reinforcement. The 8-inch-thick floor slab thickness shown on the Design Drawings could not be verified.

4.1.2 Earthen Embankment

The earthen embankment is in excellent to very good condition. There are no indications of instability, settlement, or of embankment sliding or overturning. No slips or sloughs were observed on the upstream or downstream slopes. No animal burrows were observed; however, brush and vegetation in some areas has grown to a height of 6 feet, making some locations difficult to access for observation. There are several trees with trunk diameters between 4 inches and 8 inches and tree canopies with diameters of 15 feet. The root structure of these trees weakens the embankment structure and creates potential pathways for seepage. The headwall for the principal spillway pipe located on the downstream side of the embankment is partially backfilled with soil. Due to the backfill, the cast iron pipe material could not be determined, nor could it be determined if the pipe was intact and whether it was empty or full of water. The wet area adjacent to the headwall may be a seep; however, no flow of water from the area could be observed. A review of the Design Drawings for the embankment identifies the potential seep location as the former location of the creek prior to the construction of the embankment. A Design Drawing review for the remaining components of the embankment generally reflects the conditions identified in the field survey. The presence of the concrete core wall within the earthen embankment and the stone in the downstream toe could not be verified.

4.1.3 Abandoned Bridge, Abutments and Discharge Channel

The abandoned bridge is in fair to poor condition. The deck of the bridge is missing several timbers and those that remain are rotted to various degrees. The beams supporting the timbers are in fair condition, with some section loss noted in the compressive flange of one beam. The column attachment to the timbers is unsecure. The corrugated roof panels are corroded, but not

to the point where holes are present. The wood beams supporting the roof are weathered, with no section loss identified. The absence of diagonal bracing on the columns, in combination with the surface area and height of the roof structure and the relatively small cross sectional area of the four pipe columns could potentially create an unstable condition during a wind event. There is no railing on the bridge.

The concrete abutments are in good condition. The concrete is weathered with pitting and appears aged, but has no structural cracks. Moss has accumulated on the surface of the concrete, primarily on the south abutment, which receives less sunlight.

The Design Drawings contain no details for the bridge and abutments. Park personnel have installed orange safety fencing across the entrance to the bridge

4.1.4 Trailway Dam

The trailway dam across the Saw Mill Run stream channel approximately 150 feet downstream of the embankment is in good condition; however, it creates a ponded area approximately 50 feet square and restricts the flow of water from the spillway into the stream channel. There is no culvert within the trailway dam to allow flow to pass and the materials used to construct the dam are unknown. The Design Drawings contain no details for this structure.

4.1.5 Bathymetric Survey

The bathymetric survey information indicates that the pond covers approximately 142,727 square feet (3.27 acres) and contains approximately 313,300 cubic feet (2,344,000 gallons) of water. The depth of water varies between a maximum of 6.2 feet along the centerline of the pond approximately 100 feet from the embankment to a minimum of 0.1 feet at several perimeter locations. Below the water, approximately 179,500 cubic feet (6,650 cy) of sediment exists. The thickness of sediment varies from near 0 at the perimeter of the pond to 2.5 feet at two locations along the former centerline of the stream prior to the construction of the embankment, sediment depths of 2.5 feet were measured. Assuming deposition of the sediment after construction of the pond was completed, the total capacity of the pond immediately after construction may have been approximately 492,500 cubic feet (3,684,000 gallons). This sediment, which contains a variety of substances, covers the pond bottom, eliminating the natural habitat and continued life cycle for fish and insects, while also creating low dissolved oxygen levels. The sediment that is less dense can be suspended in the water, resulting in a cloudy appearance. Development, disturbance or use of fertilizers or chemicals anywhere within this watershed of the pond can degrade the pond water quality, often leading to toxic blooms of bluegreen algae (cyanobacteria) through a process called eutrophication

4.2 Recommendations

The following recommendations are provided for your review.

- **South Spillway Chute Wall.** Approximately 20 linear feet of the wall and footing will need to be removed at the location of cracks S3 and S4 and a new wall constructed with cross-sectional characteristics, including batter and reinforcement (if present) identical to the existing wall. The new portion of the wall should be doveled into the existing wall to integrate the entire length of wall and provide continuous length of support of the backfill behind the wall. The existing backfill behind the wall that is removed to facilitate construction should be inspected to determine if granular and gradation characteristics necessary to reduce hydrostatic pressures are present. If the backfill is non-granular and is not of the proper size and gradation, it should be replaced to a width approximately 12 to 18 inches behind the wall.

If it is determined that the backfill for the remaining downstream portion of the wall does not meet the conditions described above, replacement with appropriate backfill is recommended. If a foundation drain is not present, one should be installed along the excavated length of the wall at the bottom elevation of the foundation and backfilled with the same granular material as described above. The drain pipe located at the top of the wall should be located beneath grade and investigated for leakage no less than 50 feet behind the wall, and upon confirmation of watertightness, relocated downstream of the chute structure. Any remaining cracks, including the single crack on the north chute wall, should be cleaned, then sealed with an epoxy grout.

- **Stream Channel Sideslope Protection.** Immediately downstream of the spillway chute walls, the earthen sideslopes should be protected with a layer of riprap, the thickness of which should be designed by an engineer based upon a selected peak flow and velocity exiting the chute. The riprap should be installed to a vertical height no less than 4 feet to protect the sideslope during the hydraulic transition from the rectangular cross section in the spillway chute to the trapezoidal section of the stream channel. The length of the riprap downstream should be no less than 25 feet, or until stream velocities are reduced to acceptable values that minimize erosion of the earthen sideslopes. In conjunction with the riprap installation, all trees and shrubs on the stream channel sideslopes should be removed to reduce friction losses, create laminar flow conditions and reduce the potential for debris exiting the chute to snag in the channel. Slopes not designated to receive riprap but cleared will be vegetated with a native seed mixture.





- **Principal Spillway Pipe.** This inactive pipe should be grouted closed from the valve at the upstream toe to the headwall at the downstream toe to eliminate a structure that would allow for uncontrolled discharge of the pond water should a failure of the pipe wall occur beneath the embankment. It is assumed that the valve located at the upstream toe of the embankment is closed; however, the age and structural integrity of the valve cannot be ascertained. The grouting can be performed from the headwall location at the downstream end of the embankment once the soil has been removed. The possibility exists that the ponded water located just north of the headwall could be the result of leakage of water contained in the pipe.

The valve stem that remains below the water in the pond should be removed down to the location of the valve.

- **Sediment Removal from the Pond.** The bathymetric survey identified the presence of sediment that occupies approximately 36% of the total capacity of the pond. Excavation of the sediment from the pond will create an opportunity for the pond to become more 'healthy'. Sediment removal can be accomplished using several procedures. The most recognized procedure consists of dewatering the pond and excavating the sediment using conventional low ground pressure equipment. This procedure was used successfully in the removal of sediment from North Park Lake in Allegheny County in 2010. The second procedure would involve excavating the sediment through the water using long reach excavation equipment operated from the shoreline. This approach may be more appropriate for this Site, given the small footprint of the pond; however, the reach limit of the excavation equipment would result in some sediment left in the middle of the pond. The deepest portions of the sediment are within equipment reach distance. The sediment, once excavated, dewatered and chemically tested (certified clean) may be used for a variety of purposes or disposed at an appropriate permitted facility.

In addition to the sediment removal from the pond, the small amount of sediment and brush located in the chute area should also be removed.

- **Trailway Dam.** This structure should be removed in its entirety, as it creates impedance for the proper flow of stormwater from the spillway structure. It would also eliminate the ponded area created just upstream of the trail, which serves no aesthetic purpose and could be considered a nuisance. Removal of the trailway dam should be performed to the limits of existing slopes and elevation of the stream channel. Vegetation of the sideslopes should be performed with native grasses upon completion of excavation. If continued access from the south end of the park to the north end of the park is necessary, construction of a pedestrian bridge could be considered, or access can be accomplished



using the existing trails on the west side of the pond. If a bridge is proposed, design should be performed by a registered professional engineer, in accordance with applicable regulations and permits. As an interim measure, two corrugated metal pipes of adequate length with diameters no less than 36-inches can be installed at a selected invert to temporarily provide drainage beneath the trail.

- **Abandoned Bridge.** This structure should be removed in its entirety, as it could be considered a safety hazard for the patrons who access the area. The bridge possesses several construction connections whose structural integrity, code compliance and method are questionable. The height of the roof and the absence of diagonal bracing create a potential for failure due to excessive wind or other outside uncontrolled forces. Removal should include the bridge deck, steel beam superstructure and roof structure and columns. The concrete abutments do not need to be removed, but proper fencing with posts doveled into the concrete on the top of the abutment or securely attached to the site of the abutment is recommended given the 10 feet vertical height of the abutment. Replacement of the bridge should not be considered, since access to the embankment crest can be accomplished via existing trails, unless the presence of such a bridge could be considered a scenic or focal point in the park. If replacement of the bridge is proposed, design should be performed by a registered professional engineer in accordance with applicable regulations and permits.
- **Downstream and Upstream Embankment Clearing.** A majority of the downstream face of the earthen embankment is covered with shrubs and several trees. The shrubs and trees and their root structures, to the extent possible, should be removed. Voids created by the root removal should be filled with cohesive soil and compacted. A native grass should be planted in place of the removed shrubs and trees. Once established, this grass should be mowed in the same manner as the grass growing on the embankment crest. On the upstream embankment slope, residual weeds and small shrubs growing through the stone slope protection should be removed/cut down. This vegetation should be cut back at a predetermined interval, not to exceed annually.

5.0 LIMITATIONS AND STANDARD OF CARE

5.1 Limitations

This conditions and assessment report was prepared for the purpose of design development and should be provided to contractors for information only. Contractors should not rely on this report for purposes of bid development.



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5.2 Standard of Care

The services performed by CEC were conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the engineering profession practicing contemporaneously under similar conditions in the locality of the project. No warranty, expressed or implied, is made or intended by rendition of these consulting services or by furnishing oral or written reports of the findings made. We reserve the right to revise or amend any opinion in this report in the event that new information, documentation, or evidence becomes available.

6.0 CLOSING

CEC appreciates the opportunity to be of service to you on this project. Please call if you have any questions or comments after your review of this report.

Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

A blue ink signature of Patrick J. Sullivan, Jr. is written over the company name.

Patrick J. Sullivan, Jr., P.E.
Principal

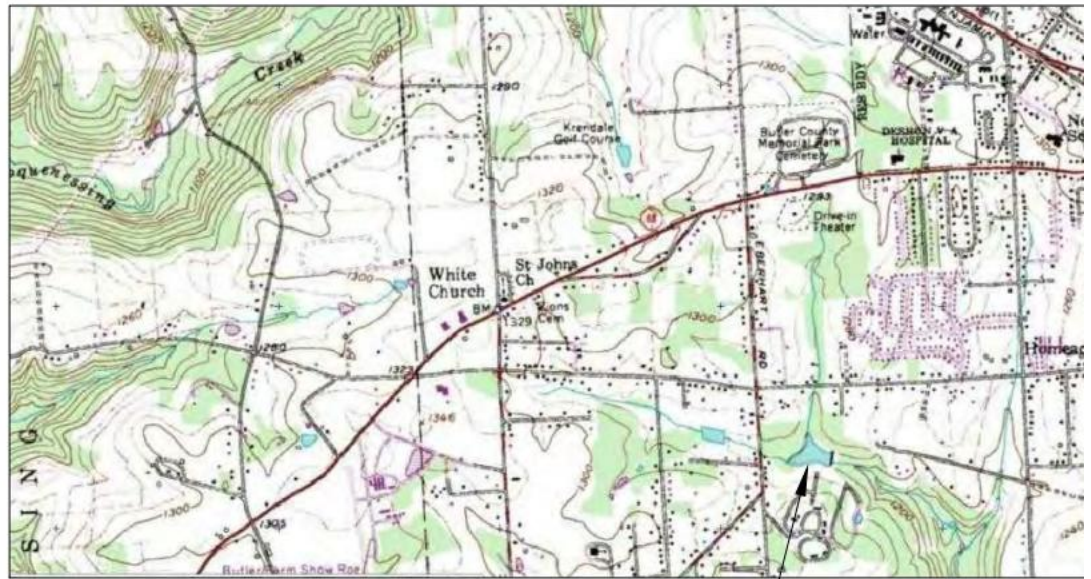
A blue ink signature of Jeffrey C. Woodcock is written over the company name.

Jeffrey C. Woodcock, P.E.
Vice President

Enclosures

ATTACHMENT A

TOPOGRAPHIC MAP



N.T.S.

PRESTON PARK
POND AND DAM

REFERENCE

1. TOPOGRAPHIC MAP OBTAINED FROM THE UNITED STATES GEOLOGIC SURVEY (USGS).

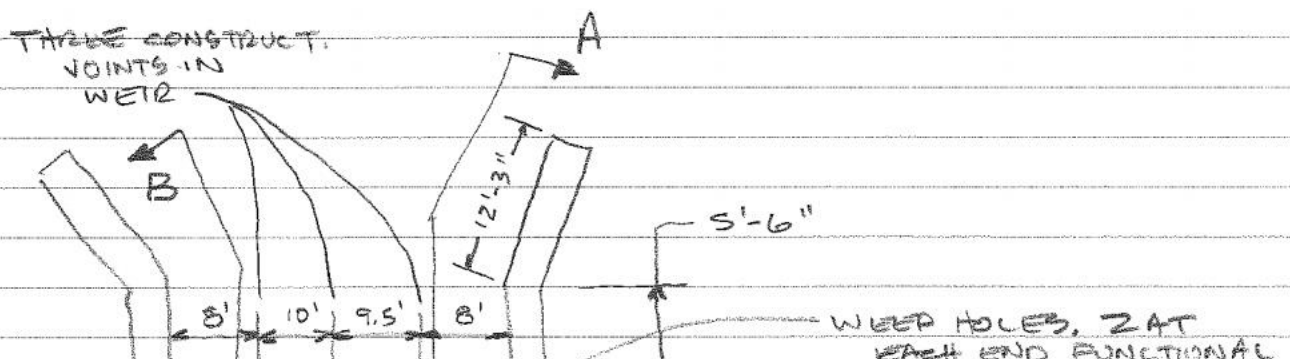
 Civil & Environmental Consultants, Inc. 333 Baldwin Road - Pittsburgh, PA 15205 412-429-2324 · 800-365-2324 www.cecinc.com			
DRAWN BY: ZAC		CHECKED BY: PJS	
DATE: DECEMBER 13, 2012		DWG SCALE: N.T.S.	

ATTACHMENT B

HAND SKETCHES AND MEASUREMENTS

1/6

SITE VISIT - PRESTON DAM 10-25-12



POSSIBLE
CONSTRUCT.
JOINT

CONSTRUCTION
JOINT

CONCRETE
FOOTER

CONCRETE WALL

WEIR
CREST

VARIABLES

BEND

BEND IN
WALL

1:10 WALL BATTER

ROUGHENED
CONCRETE

30" WIDE VERTICAL
ROCK DISSIPATOR
SHALE STACKED
VERTICALLY
2 TO 3 ROWS

STACKED FLAT STONE

PLAN

CRACK IN WALL
1/4" TO 1/8"

SECTION
A-A

10-25-12

2/6

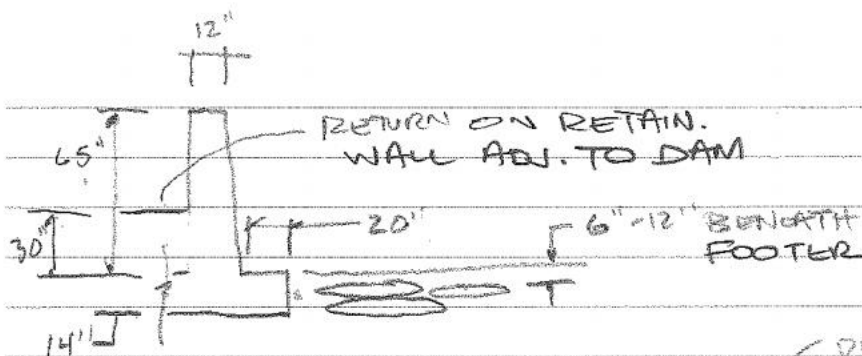
(BEYOND) CUTOFF WALL 12"

WATER SPLITS
THE 4"

H₂O
CONDITION

10-25-12

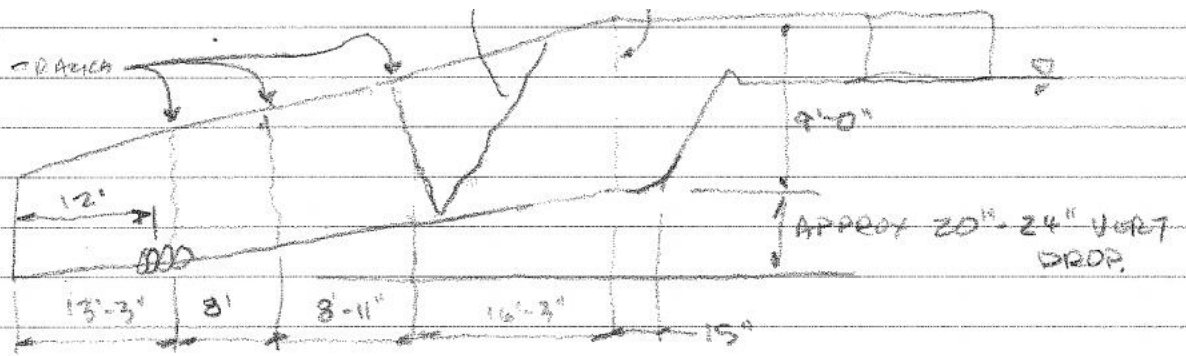
30"



SECTION C-C

DISPLACEMENT 1"-3" AT TOP

BEND

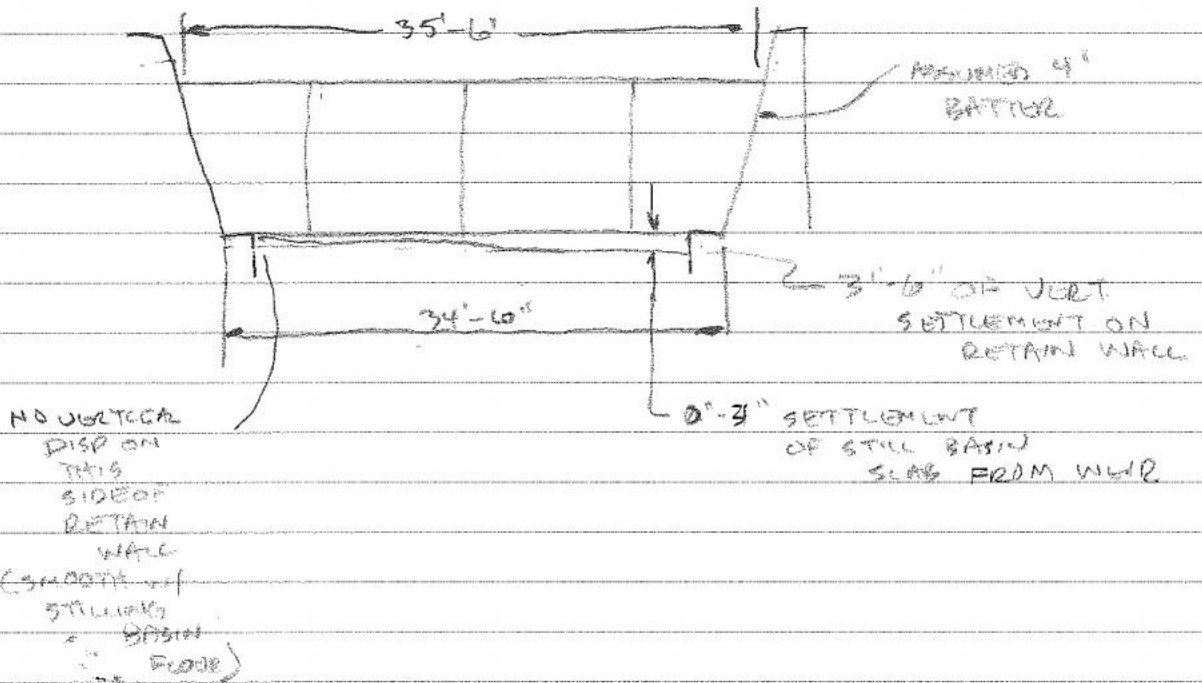


RETAIN. WALL
CONCRETE
NOT
REINFORCED

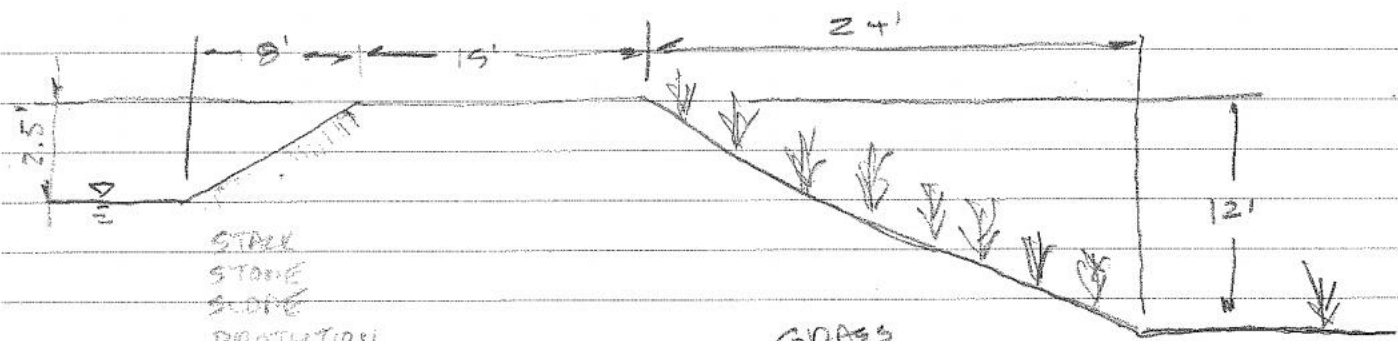
SECTION B-B

17 7
16 11
37 15

VEGETATION
IN
STILLING
BASIN.

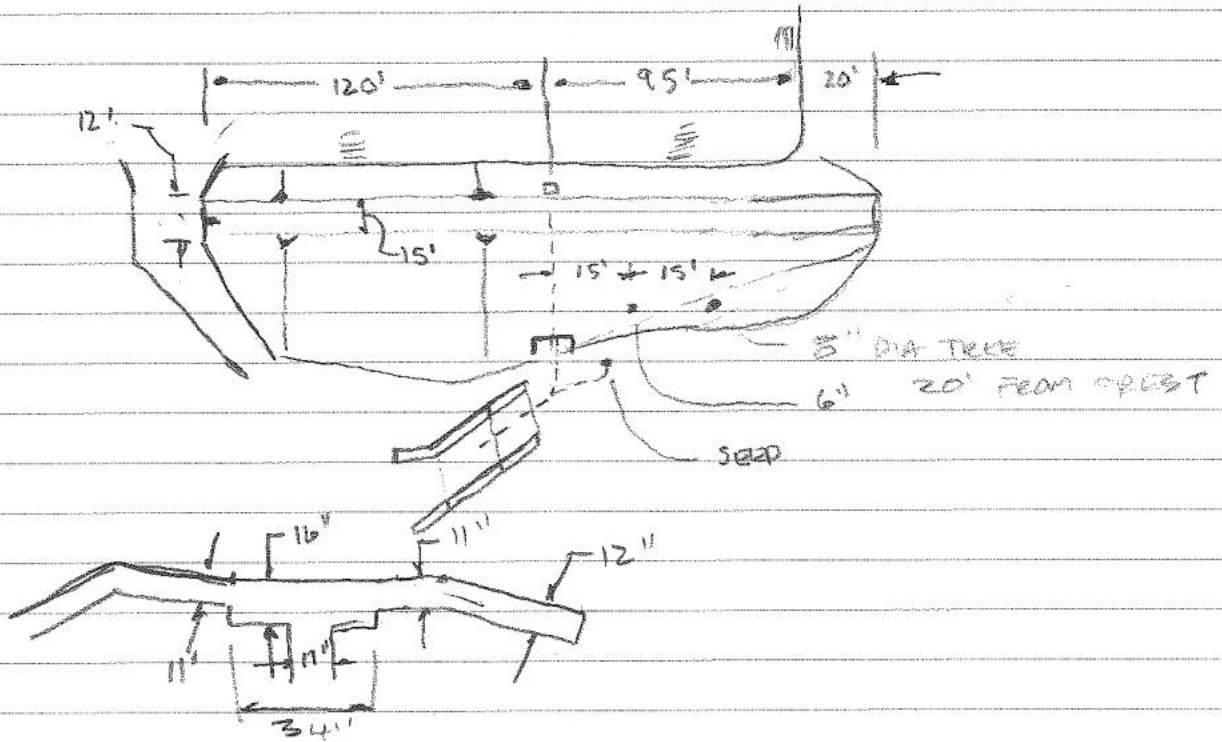
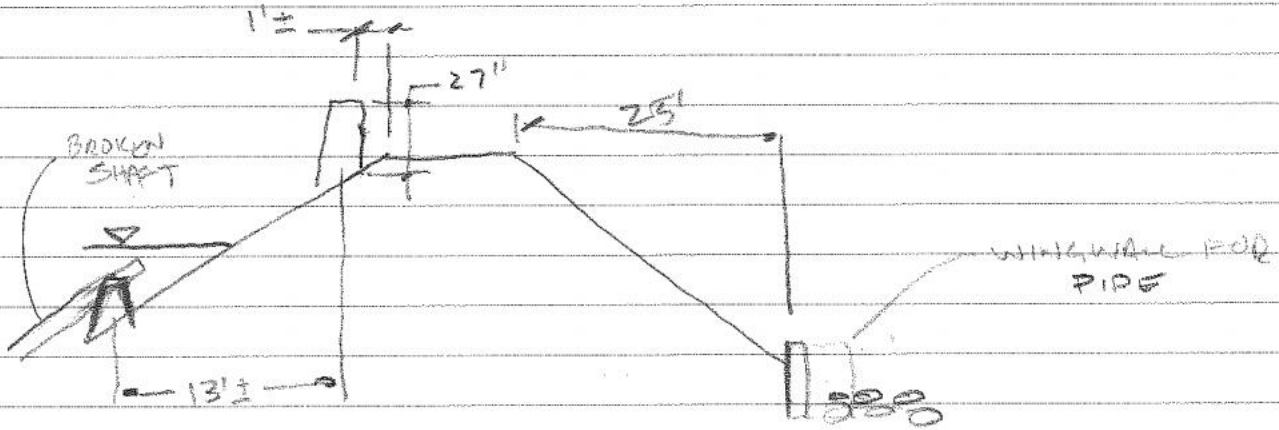


10-25-12 3/6

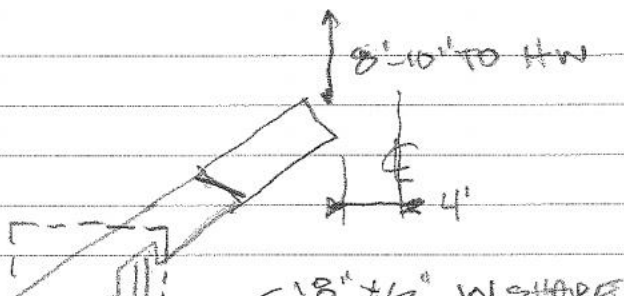


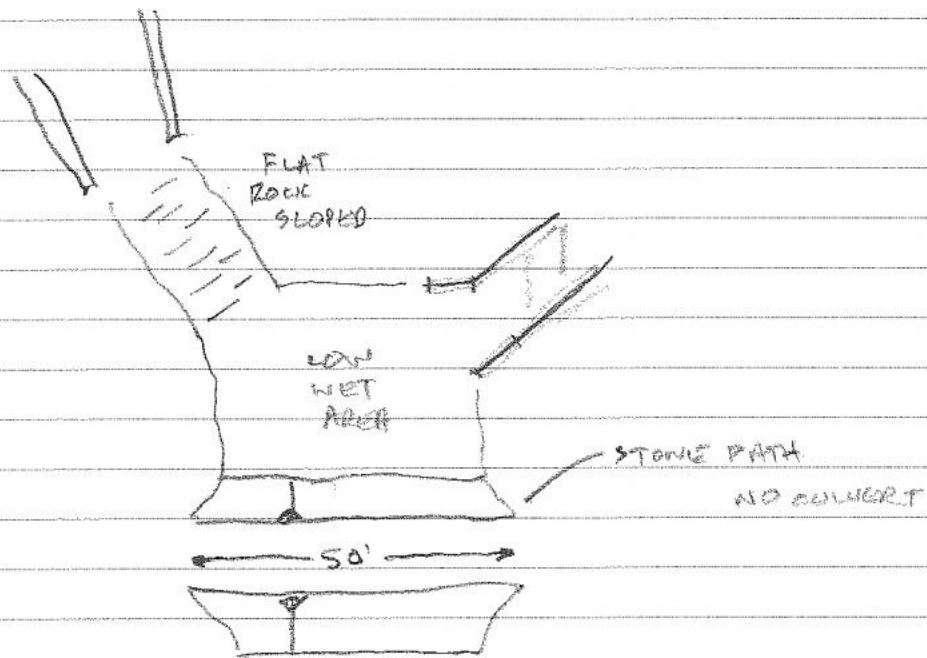
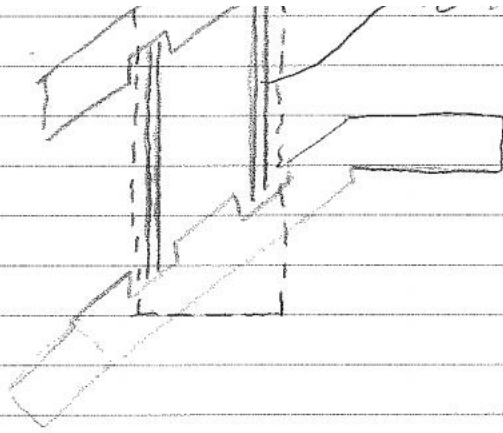
VIEWES + WOODS
COULD
STONE
NO TREES / SHRUBS
0'-2' HIGH

OVER RUN
WITH WOODS
2'-6' HIGH
SOME SMALLER
TREES
3/4" - 1" DIA TRUNKS

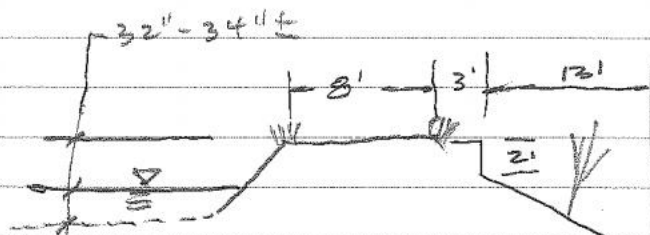


10-25-12 4/6





11-2-12 5/6



GRAVEL CRUST
GRASS EDGES
STONE SLOPES
AND CONSTRUCTION

L 1' DEEP
WATER ±

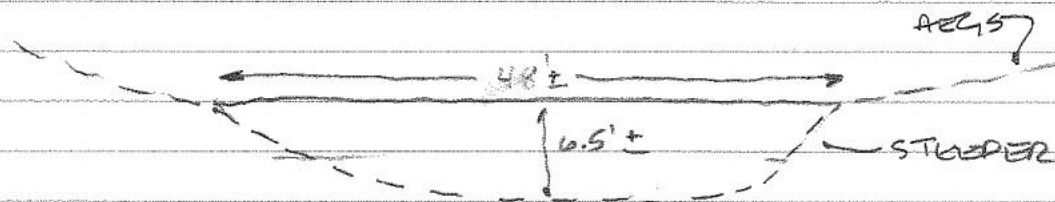


STONE 6" TO 48"
LONGEST EDGE

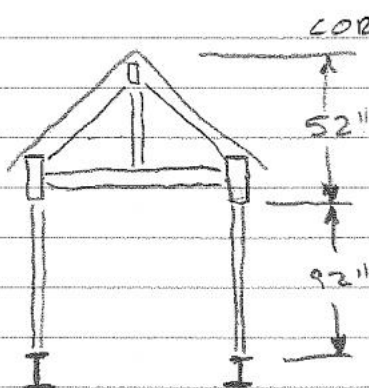
SECTION-WALKWAY ACROSS STREAM CHANNEL

INDICATIONS OF OVERTOPPING
DURING 'SANDY'

STONE APPEARS TO BE SANDSTONE, LIMESTONE, CONCRETE



WALKWAY ACROSS STREAM CHANNEL (LOOK UPSTREAM)



CORRUGATED METAL ROOF

3" PIPE COLUMNS

6" W SHAPE LATERALS

3" X 10" ROUGH WOOD STRINGERS

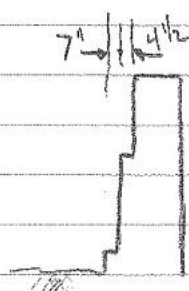
TYPICAL 3 RAKES

2" X 6" RAFTERS

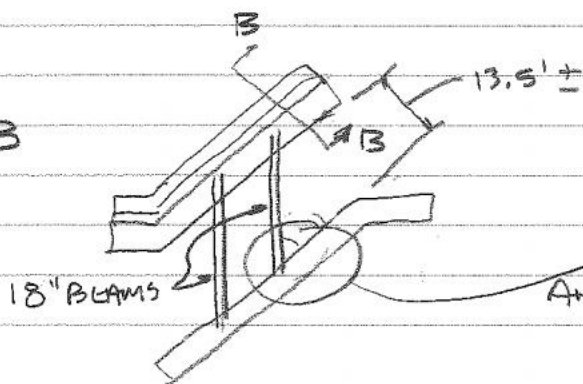
3" PIPE SUPPORT OF
WOOD BAY.

ABANDONED COVERED BRIDGE

18" W SHAPES



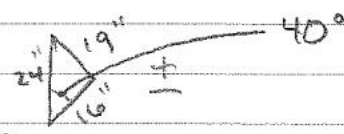
B-B



18" BEAMS

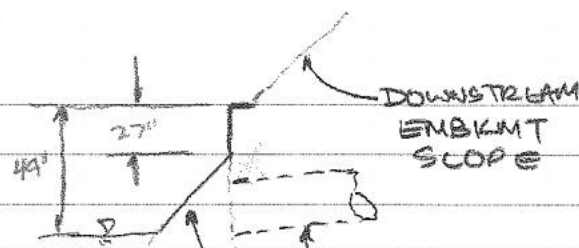
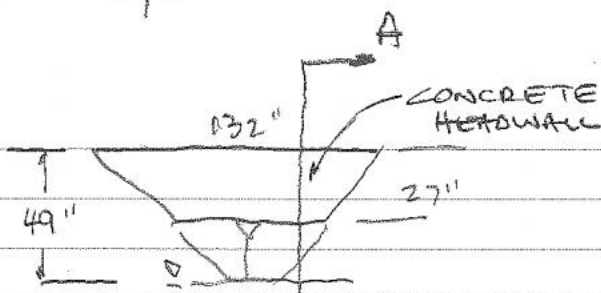
ANGLE

$$\tan^{-1} \frac{16}{19} = 40^\circ$$



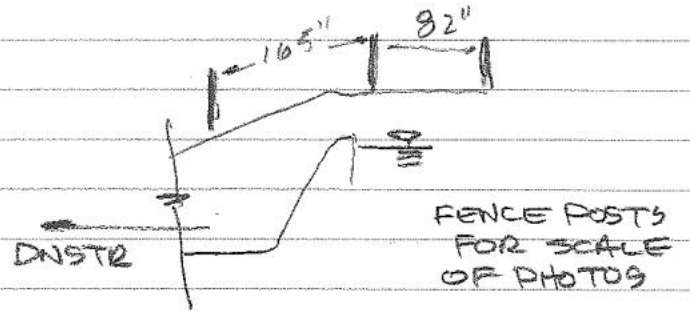
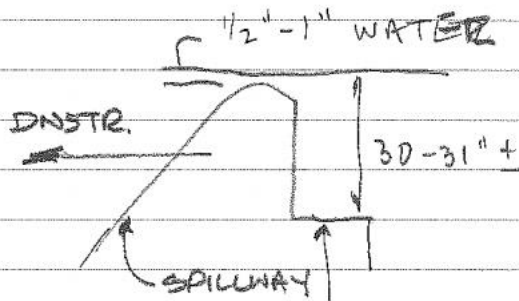
$$\sqrt{16^2 + 19^2} = 24.8$$

11-2-12 6/6



L-A
HEADWALL ELEVATION

PIPE?
 6"-8" SOIL
SECTION A-A



STICK AT VALVE 4"-4 1/2" WETTER

THAN AT CURRENT H₂O SURFACE

H₂O SURFACE 16"-1"

ABOVE SPILLWAY

H₂O CONDITION AFTER
SEVERE STORM
SANDY

ATTACHMENT C
PHOTOGRAPHS

SPILLWAY AREA





Right side of Spillway as viewed looking upstream. Note settlement of slab on right side



Left side of Spillway as viewed looking upstream. Note absence of settlement of slab on left side





Left abutment at end of chute (if viewed looking downstream). Note sediment/ vegetation in chute area



Left abutment at beginning of chute (if viewed looking downstream). Note crack.



Right abutment at beginning of chute (if viewed looking downstream). Note moss and crack.



Right abutment (if viewed looking downstream). Note moss and major crack.



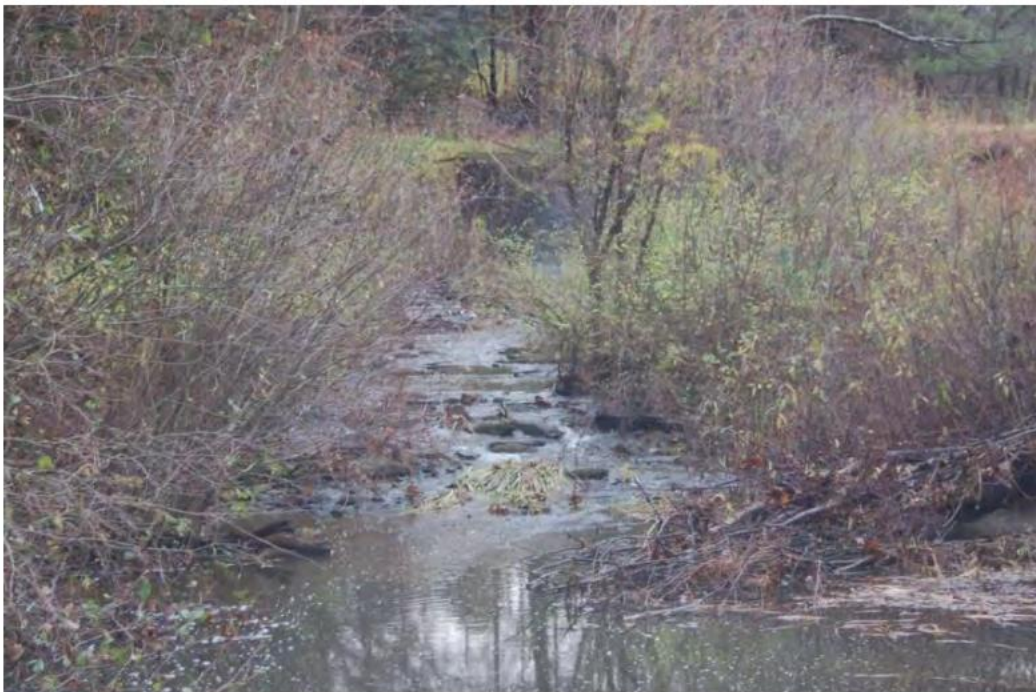
Right abutment at end of chute (if viewed looking downstream). Note moss and energy dissipation.



Right abutment with crack S4 and 8-inch horizontal displacement in foreground.



Spillway and chute floor, with energy dissipation barrier in foreground



Stream channel downstream of spillway.

EARTHEN EMBANKMENT



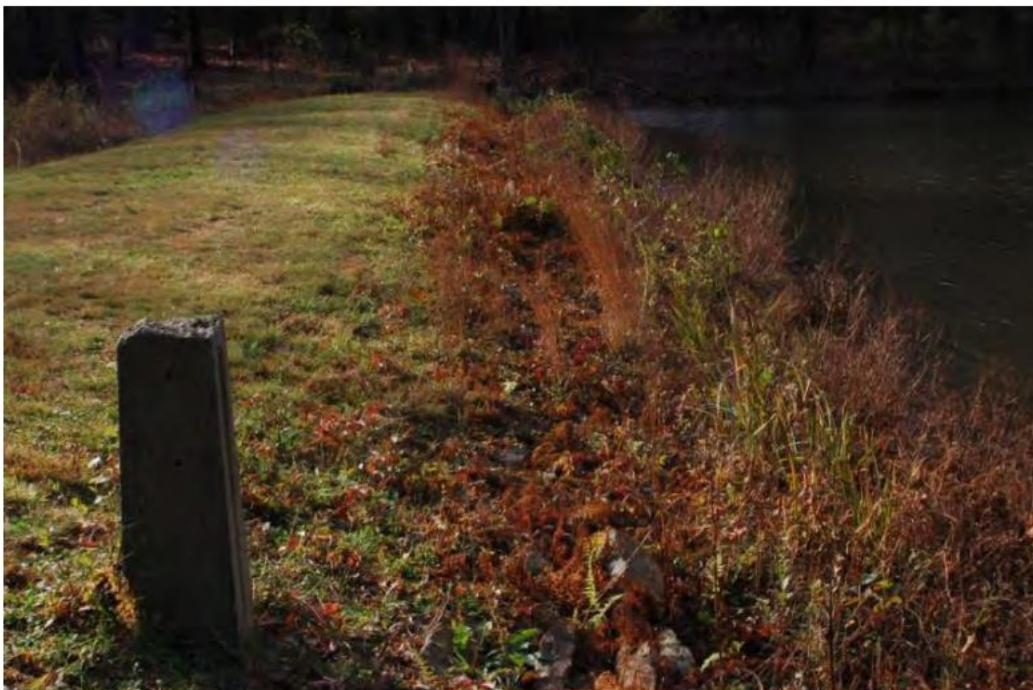
Downstream face of embankment, looking south. Note Spillway in background.



Downstream face of embankment, looking north.



Crest and upstream face of embankment, looking north



Cest and upstream face of embankment, looking south. Note spillway in background.



Remnants of valve stem (below water above stake) and concrete support on upstream embankment



Embankment crest and upstream and downstream face, looking south. Spillway in background.



Concrete headwall of principal spillway pipe, on downstream side of embankment



Water flow from headwall location (left fork) and from possible seepage (right fork)

TRAILWAY DAM



Path of railway dam, looking north. Bag in picture at center of railway dam.



Pond area created by railway dam. looking north. Earthen embankment (not in picture) to left



Downstream face of railway dam, left side



Downstream face of railway dam, right side



Pond area created by railway dam. looking west. Railway dam in foreground



Pond area created by railway dam. looking southwest. Railway dam in foreground.



Pond area created by railway dam. looking northwest. Abandoned bridge in background.



Pond area created by railway dam. looking northeast. Railway dam in background.

ABANDIONED BRIDGE AND ABUTMENTS

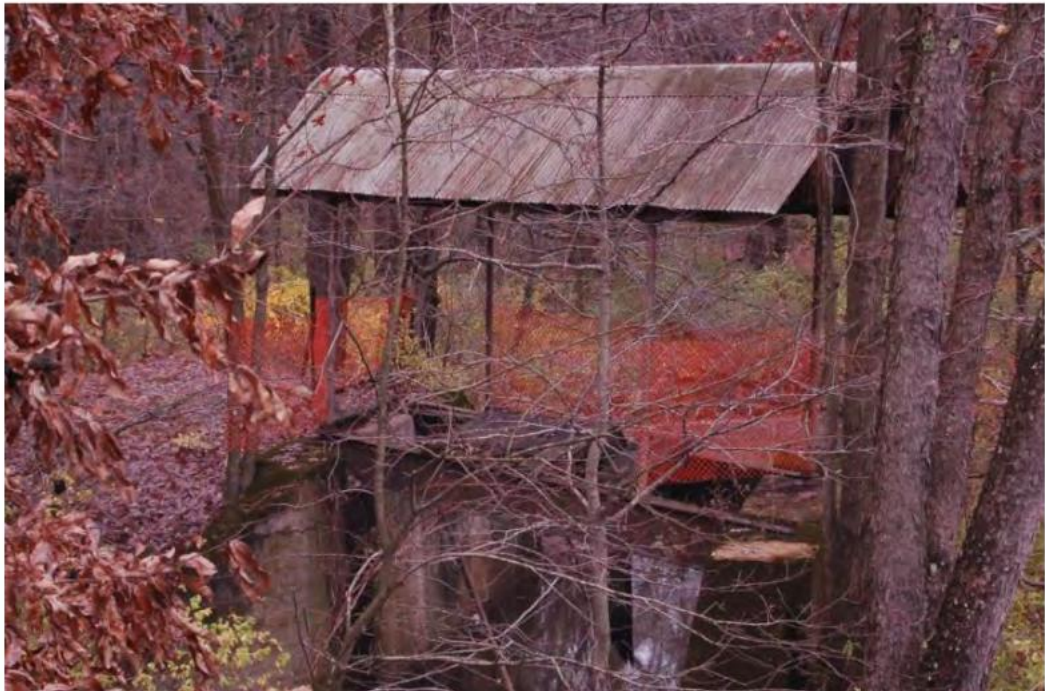


Abandoned bridge, superstructure and concrete abutments, looking southeast.





Deck of abandoned bridge. Note steel beam superstructure and concrete abutments.



Abandoned bridge

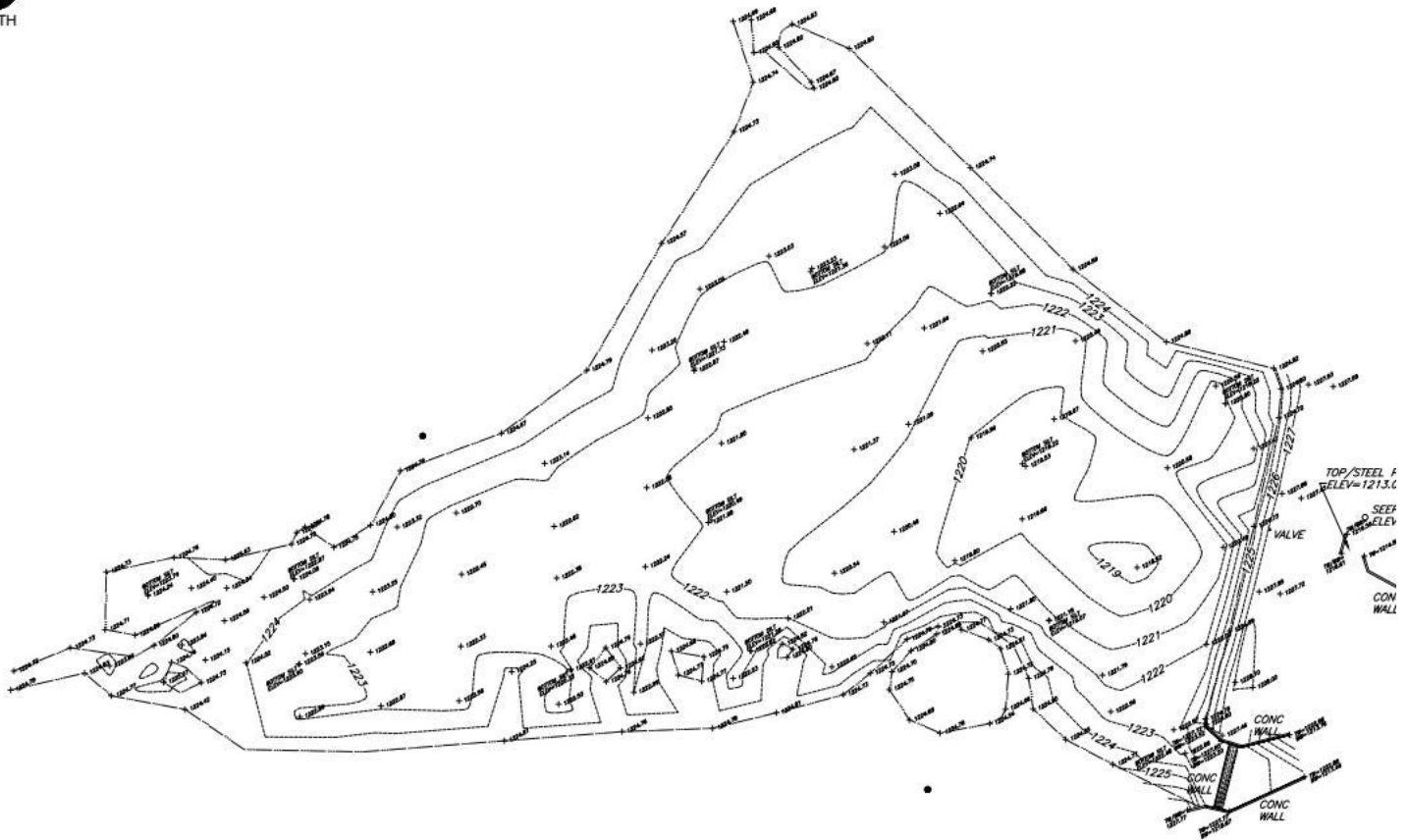




Abandoned bridge superstructure and concrete abutments, looking southeast.

ATTACHMENT D

TOPOGRAPHIC AND BATHYMETRIC SURVEY



REFERENCE

1. NOTE 1
2. NOTE 2
3. NOTE 3

SCALE IN FEET
0 30 60