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Toll Brothers

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**SPECIAL THANKS**

With special thanks to the residents of East Bradford Township and the staff of the Chester County Planning Commission.
Executive Summary

The Plum Run Corridor Master Plan is the product of East Bradford Township’s (Township) need to create a guiding vision for the design and development of public improvements through a 1-mile segment of the Plum Run corridor in the southern end of the municipality. The plan focuses on several primary objectives that pertain to enhancing pedestrian navigation and recreational access through the corridor, preserving and interpreting natural and cultural resources, and creating an inviting network of communal open spaces that highlight the Strode’s Mill Historic District as a hub of local, living history.

This Master Plan is the first phase of the design process and is a collaborative effort between the Township and the Chester County Planning Commission, made possible through the utilization of a Chester County Vision Partnership Program (VPP) grant. The main recreational amenity planned for the Plum Run corridor is a universally-accessible, multi-use trail that will connect the Strode’s Mill Historic District to the Plum Run Preserve, adjacent neighborhoods, and the southern section of the West Chester University campus. The Master Plan documents preferred alignments, locations and characteristics of recommended recreational trail infrastructure, including trailheads, parking and trailside features.

The Plum Run Trail will outlet to the Strode’s Barn Heritage Center, an outdoor interpretive hub planned for installation on Township property within the heart of the Strode’s Mill Historic District. This Heritage Center will compliment rehabilitation of the Strode’s Barn and will feature an array of historic and cultural interpretation that is meant to educate the public on the dynamic and important history of the Strode’s Mill village, including its significance to the Battle of Brandywine. The Master Plan details desired methods by which the Historic District can be made safer and more attractive to pedestrians and trail users. Also included in the Master Plan are natural resource management recommendations that are meant to guide the Township in its efforts to manage and enhance the public open spaces at the Plum Run Preserve.

The planning process involved inventorying existing conditions along the corridor, an analysis of potential public needs, and the incorporation of public input and involvement. Public involvement included meetings with the Plum Run Master Plan Task Force, neighbors and private/partner stakeholders, the general public, and municipal and county officials. Additional public input was solicited via a public survey/questionnaire administered by the Township.

The resulting Master Plan includes detailed recommendations and budget estimates for design, engineering and development along with an implementation strategy for pursuing the phased-in realization of the recommended improvements. The final plan is broken out into five (5) phases of implementation based upon logical segments of construction and the availability of publicly-controlled land and/or access easements. Cost estimates are based on projected expenses necessary to complete the recommended infrastructure to the quality and standards established in the plan. It is anticipated that costs to complete design and engineering of all planned amenities will fall in the range of $240,000 and costs to complete construction will be in the range of $2,500,000.
Figure 1.1 The Plan: Corridor Overview Map
Figure 1.2 Plum Run Corridor Branding Map

Corridor Branding Index

- Plum Run Trail
- Strode's Barn Heritage Center
- Plum Run Preserve
- Strode's Mill Historic District
Figure 1.3 Artistic Rendering – Strode’s Barn Heritage Center

© Copyright J. Laird 2019
1.0 Strode’s Barn Heritage Center

1.0 Strode’s Barn Heritage Center Summary
The site of the historic Strode’s Barn, including the footprint of the former Strode’s Scrapple plant on the southeast corner of the Lenape and Birmingham Road intersection, will be transformed into the Strode’s Barn Heritage Center. This location was initially proposed for a heritage center oriented around the Battle of the Brandywine in the 2015 Chester County Planning Commission document titled ‘The British Left Hook – Preparing for Battle’. This plan recommended that the Strode’s Barn site, which was purchased by the Township in 2015, house the ‘British Attack Heritage Center’, as one of four heritage centers that were planned to be located within landscapes that were strategically navigated before, during and after the battle (see Figure 1.4). The Strode’s Mill Historic District physically marks the transition between the northern battlefield landscape and the site of combat. The ‘Preparing for Battle’ plan therefore recommended that the heritage center at Strode’s Barn provide interpretation for the British flanking march and core historic themes related to the Chester County colonial landscape’s impact on the American Revolution.

Figure 1.4: ‘Preparing for Battle’ (Map 5.1, Pg. 6-2)
Figure 1.5 Strode’s Mill Historic District
1.0 Strode’s Barn Heritage Center

The recommendations of the ‘Preparing for Battle’ plan will be incorporated into the Strode’s Barn Heritage Center. In addition, the Strode’s Barn Heritage Center will also include interpretation relevant to the cultural and historic significance of the Strode’s Mill Historic District and its components beyond the colonial period. There will be an array of interpretation at the site that covers the pre-revolutionary era to the modern era of the Plum Run corridor and the historic village, including the site’s past use as the Strode’s Scrapple company headquarters. The Strode’s Barn Heritage Center will represent a destination of interest along the Plum Run Trail and will improve the aesthetic appeal of the crossroads. It will also represent a thematic connection to other battlefield sites, such as the Marshallton Village Heritage Center (see Brandywine Battlefield Preservation Plan and Preparing for Battle Strategic Landscapes Plan for additional information).

Historic structures that continue to contribute to the significance of the village, such as the Strode’s Mill, the Strode’s Barn, the original miller’s house, and the former Boarding School for Boys (i.e. the Joseph C. Strode residence) will be featured amongst the interpretive subjects. It is worth mentioning here that the Township is planning to partner with the Chester County Planning Commission, Brandywine Conservancy, and 6 other local municipalities in the battlefield on the preparation of an interpretive and connectivity plan that will integrate key historic sites within and adjacent to the Brandywine Battlefield National Historic Landmark.

This planning effort is intended to begin in late 2019 or early 2020 depending on funding, and the Township’s Strode’s Barn Heritage Center will be a principal site in the coordination effort. This Plum Run Master Plan will allow the Township to easily communicate its interpretive and connectivity goals for the Heritage Center to the project partners. It will also provide the policy and planning basis to apply for funding assistance to create the Heritage Center and Plum Run greenway corridor. Progress on this is already underway through the recent award of a $125,000 grant for design and engineering of the Plum Run Trail and associated amenities.
STRODE’S BARN HERITAGE CENTER PLAN

PROPOSED SIGN TOPICS

1. Pre-Colonial
   1a. Before Strode’s Mill
   1b. Lenni-Lenape Presence

2. 18th Century
   2a. Richard Strode Farm
   2b. Revolutionary War (multi-panel display)

3. 19th Century
   3a. Strode’s Mill as Crossroads Village
   3b. Education at Strode’s Mill Village
   3c. Local Use of Serpentine Stone

4. 20th Century
   4a. Agriculture and Pork Industry
   4b. Strode’s Mill Unchanged

5. 21st Century
   5a. Open Rural Lands

Figure 1.8 Plan View of the Outdoor Heritage Center

GATEWAY ENTRY SIGN

10 Feet
1.0 Strode’s Barn Heritage Center

1.1 Strode’s Barn Heritage Center Courtyard Design and Layout

The Strode’s Barn Heritage Center will function as an outdoor classroom designed within the confines of the former Strode’s Scrapple plant footprint. The exterior spaces will interplay with the remnant Strode’s Barn exterior and stone foundation walls which will help form a square courtyard organized around a central feature. The Plum Run Trail will outlet into the courtyard and interpretive panels will be positioned along the sides of the courtyard, oriented towards subjects of interpretation where possible. The central courtyard feature will be flanked by benches and the public will be able to navigate through the interpretive areas in a circular pattern.

A central courtyard feature will be designed and displayed, which could take the form of a statue, a water fountain, a specimen tree—or perhaps a 3-D model of the Strode’s Village depicting the Battle March along Birmingham Road.

Additional interpretive space will be provided on the south and east sides of the barn which will also improve access to the exterior of the main ground story entrance of the barn (east façade). A seating wall will be constructed around the additional interpretive space using stone that was salvaged when portions of the Strode’s Scrapple plant were selectively dismantled in 2017. A substantial amount of salvaged stone will also be reused onsite to provide additional buttressing for the northwestern courtyard wall (parallel to Lena pe Road) and for the partial restoration of the southwestern courtyard wall (parallel to Birmingham Road). Existing backfill material used to temporarily support the northwestern wall will be removed. An emergency/maintenance entrance to the courtyard will be provided at the former service entrance to the site on Birmingham Road. This entrance will be restricted and secured in a manner that compliments the character of the site.
1.0 Strode’s Barn Heritage Center

The courtyard will be configured to promote framed views and vantage points of the surrounding landscape as well as historic features in the Strode’s Mill Historic District that will be featured in the interpretation signage at the Heritage Center. The Strode’s Scrapple logo has been embraced by the community as a significant trademark of the site’s history and will be reproduced at the Heritage Center. Thoughtful discussion and public input result in the recommendation that the logo be replicated smaller than its original scale on a standalone, separated panel atop the existing northwestern foundation wall where the sign was originally located. In regard to the surviving Strode’s Barn structure, the exterior surfaces will be refurbished based on the recommendations of an architectural ‘forensic’ analysis. Stone treatments, roofing materials, and window and door openings will be dictated by the results of the analysis.

The interior rooms of the Strode’s Barn, particularly on the second level, may be utilized as future indoor interpretive space for the Heritage Center, but this will be dictated largely by need and affordability. It should be noted that there are no functioning utilities currently serving the structure. All interior spaces of the barn should be thoroughly secured, cleaned and ventilated; this is also termed “mothballing” a building. The lower level room may be most appropriate as storage space for equipment utilized in maintaining the site. If feasible, interior illumination by natural light through the strategic restoration of window openings, as based on the results and recommendations of the aforementioned architectural ‘forensic’ analysis, is preferred to avoid costly utility improvements in the near-term. If the Heritage Center project evolves in the future, consideration could be made to officially designate the barn as an improved comfort station and trailhead, with associated amenities, for which funding through the Pennsylvania DCNR could be applied.

**Strode’s Barn Heritage Center Recommendation 1:** Commission an architectural ‘forensic’ analysis to determine the character to which the exterior components of the Strode’s Barn should be rehabilitated. Materials used in the restoration or rehabilitation of doors/windows, the roof, and in treatment of the stone should conform to the Secretary of the Interior Standards.
1.0 Strode’s Barn Heritage Center

Strode’s Barn Heritage Center Recommendation 2: Construct the outdoor heritage center over the footprint of the Strode’s Scrapple plant in accordance with the layout plans and features depicted on the ‘Outdoor Heritage Center Plan’ map, to include:

- Removal of structural backfill support material and construction of supporting stone buttress walls;
- Reconstruction of foundation walls along Birmingham and Lenape Roads (utilizing salvaged stone stockpile supply). Walls should be high enough for safety (eliminate fall zones) but should not block views of the historic Strode’s Mill from the courtyard;
- Integrate bench seating around the central feature of the courtyard;
- Orient the courtyard around a central feature (options: monument, statue, fountain, outdoor artwork, etc.);
- Interpretive panels positioned along the sides of the courtyard.

Strode’s Barn Heritage Center Recommendation 3: Replicate the Strode’s Scrapple logo on a separated panel placed as near to the original location of the logo as possible, oriented towards Lenape Road but sized smaller than its original scale.

Strode’s Barn Heritage Center Recommendation 4: Secure, clean and ventilate (“mothball”) the Strode’s Barn exterior, including the roof, and the interior. The Township may use the interior for small storage purposes in the near-term while assessing feasible long-term uses. To accomplish this, exterior windows and doors will need to be rehabilitated for access and to take advantage of the natural light source.

Figure 1.12: Strode’s Barn and Scrapple Factory logo

Figure 1.13: Strode’s Country Scrapple in 15 Ounce Cans – A Meal Time Pleasure!
1.0 Strode’s Barn Heritage Center

1.2 Strode’s Barn Heritage Center Surfacing

The Strode’s Barn Heritage Center pavement surfacing should seek to conform to a historically appropriate aesthetic, in both material and color that complements the barn yet is accessible and slip resistant. The surfacing should be distinguishable from the connecting paved asphalt trail surface. In all cases, the transitions between the paved trail infrastructure and the Heritage Center surfacing should consist of accessible longitudinal and cross slopes, surfaces, texture and widths in compliance with ADA requirements. The Heritage Center surfacing should be extended to the entrance of the spring house near the barn, creating cohesion between the two structures. This connection to the spring house can be executed in a path-like manner but should be equal in width to the paved trail at 8-foot wide to better enable maintenance vehicle access.

**Strode’s Barn Heritage Center Recommendation 5:** Install an ADA compliant surfacing at the Strode’s Barn Heritage Center that suits the historic character of the site and integrates the spring house with the barn complex. All surfaces, slopes and transitions on the Plum Run Trail and the Heritage Center should strive to be ADA compliant.

Figure 1.14: Stamped concrete is a cost-effective surface option

Figure 1.15: Natural Slate Stone Texture and Hand Cast Coloration in Stamped Concrete at The Salmon River Greenway, Village of Pulaski, NY with integration of natural boulder benches and regionally native plantings
1.0 Strode’s Barn Heritage Center

1.3 Strode’s Barn Heritage Center Interpretation Themes

A primary goal of the Strode’s Barn Heritage Center is to provide a public educational showcase on the historic and cultural significance of the Strode’s Mill Historic District. Interpretation themes will be attractively displayed on fixed panels situated around the Heritage Center courtyard (as guided by the general layout proposed in Figure 1.8, the Strode’s Barn Heritage Center Plan) and will cover a broad array of information pertinent to several centuries of documented history at the Strode’s Mill village. Panels and themes can be organized by century and can cover both broad and very specific site-centric information pertinent to architecture, industry, society, agriculture, etc. An extensive list of specifically appropriate heritage themes has been compiled and is meant to guide next-phase design and installation of interpretive panels at the Heritage Center (see Appendix A: List of Heritage Themes).

Strode’s Barn Heritage Center Recommendation 6: Plan, design and install heritage interpretation at the Strode’s Barn Heritage Center in accordance with the list of themes and detailed information provided in Appendix A: List of Heritage Themes and through additional consultation with the East Bradford Historical Commission and the Brandywine Battlefield Task Force’s Historic Resources Subcommittee.

Figure 1.16: Birmingham Hill – Brandywine Battlefield Interpretive Panel Station

Figure 1.17: Interpretive panels such as those located at Martin’s Tavern can depict local historic events
1.0 Strode’s Barn Heritage Center

1.4 Strode’s Barn Heritage Center Landscaping

The immediate site and surroundings of the planned Strode’s Barn Heritage Center have been significantly degraded through several decades of onsite structural modifications and maintenance neglect. Additionally, the site is challenged by its close proximity to both the Plum Run and two major roadways (Lenape and Birmingham Roads).

Substantial landscaping improvements will need to be made in unison with the other site upgrades so that the Heritage Center functions properly and can be maintained adequately by the Township.

A professionally-engineered site plan that includes a detailed landscape plan should be prepared for the Heritage Center.

The plans will need to address site drainage and stormwater management, seeking to utilize best management practices (BMP’s). The plans should include where to install new native plantings for shade and aesthetic purposes and where to remove existing vegetation to better accommodate for the planned site upgrades included under this Master Plan. In all cases, the installation of new vegetation should take into consideration the site characteristics and may include native flowers, shrubs and trees. The size and habit (form) of plant species should vary to provide immediate diversity in plant form and scale on the site. A perennial garden could be strategically placed in front of the barn to attract interest and attention and to reflect a more managed regime for the property.

**Strode’s Barn Heritage Center Recommendation 7:** Incorporate stormwater management and adequate drainage infrastructure into the design and construction of the Strode’s Barn Heritage Center, in accordance with applicable BMPs.

**Strode’s Barn Heritage Center Recommendation 8:** Incorporate native plantings into the design and construction of the Strode’s Barn Heritage Center, including trees, shrubs and perennial flowers, with the objective of creating an attractive yet low maintenance vegetation regime for the property that also provides benefit to native wildlife. Strategically incorporate the thinning or removal of low quality or invasive vegetation.
1.0 Strode’s Barn Heritage Center

at the site to compliment planned public use and access, being sure to maintain the existing tree canopy.

**Strode’s Barn Heritage Center Recommendation 9:** Plan to incorporate the Strode’s Barn Heritage Center into the Township’s volunteer stewardship program in an effort to support the installation and establishment of new native vegetation plantings at the site.

Figure 1.19: Drainage Concerns will need to be addressed along Birmingham Road at Strode’s Barn to provide positive drainage from the intersection and Lenape Road to direct runoff away from the barn. It is possible that raingardens and BMP measures can be implemented as pre-treatment of stormwater from the roadway and future Heritage Center Courtyard before the runoff enters Plum Run. *(See Strode’s Barn Heritage Center Recommendation 7).*
2.0 Recreation

2.0 Recreation Summary:
Multi-use trails represent the primary recreational amenity envisioned for the Plum Run corridor. Off-road trail facilities offer safe and affordable means of public recreation and an alternative to vehicular transportation if linked successfully to a wide local or regional trail/sidewalk network. Unsurprisingly, there was strong support for the installation of multi-use trails within the Plum Run corridor as substantiated by the public survey administered through this effort. 93% of survey respondents advocated for multi-use trails for walking, jogging, and biking and 81% documented a preference for inclusion of natural surface trails for walking/jogging.

This is consistent with public demand on the national, state and local levels as evidenced by the results and recommendations of various comprehensive and recreation plans, including the Pennsylvania Statewide Comprehensive Outdoor Recreation Plan, the Central Chester County Bike and Pedestrian Circulation Plan, and the East Bradford Township Comprehensive Plan, to name a few.

The recreational vision for the Plum Run corridor is to provide the public with a dynamic multi-use trail experience, inclusive of both linear and loop trail alignments that offer various surfacing types, provide access to natural, cultural and historic resources, and link to desired destinations at the West Chester University Campus, the Strode’s Mill Historic District, and the Brandywine Creek Greenway (future connection).

Figure 2.2: Potential trail location at West Chester University

Figure 2.3: Multi-use Trail Cross-Sections (Paved Asphalt and Compacted Gravel)
2.0 Recreation

2.1 Multi-use Paved Trail

A multi-use paved (asphalt) trail will be the central linking physical feature of the Plum Run corridor. 60% of survey respondents preferred a paved surface for the multi-use trail. The paved trail will be off-road and will connect the Strode’s Barn Heritage Center to the Plum Run Preserve open spaces, the Gordon Nature Area, and the West Chester University (WCU) campus and athletic facility. This main paved multi-use trail will be branded the “Plum Run Trail” and will be approximately 1-mile in length and 8-foot wide along its entire stretch from the Strode’s Barn Heritage Center to the Rockwell Field (WCU) campus connection. The primary trailside amenities elaborated upon later in this section will be predominantly located along this central multi-use trail which will be open to the public from dawn to dusk and allow for several permitted uses, including bicycles and pedestrians, but excluding equestrian use.

Approximately half (.5 miles) of the 8-foot wide multi-use paved trail will be constructed on public land owned and maintained by East Bradford Township. An additional .3 miles will need to be installed on land owned by the Commonwealth of Pennsylvania, administered by West Chester University. East Bradford Township will need to acquire a public trail easement to obtain the right to install and maintain the trail on this land.

The final .2 miles of this trail will be installed on private property utilizing an already-acquired public trail easement through lands soon to be owned by the Darlington Ridge HOA. This portion of the trail will be constructed by Toll Brothers, subject to the terms and conditions of a joint settlement agreement governing the development of the Darlington Ridge subdivision, utilizing private funds, and will be maintained for public use thereafter by East Bradford Township. Toll Brothers is also responsible for constructing .25 miles of the multi-use paved trail planned for the Tigue Tract of Plum Run Preserve on the south side of Tigue Road.
Recreation Recommendation 1: Construct an 8-foot wide paved (asphalt) multi-use trail to serve as the primary access ‘spine’ through the corridor that will connect the primary destination points, being principally the Strode’s Barn Heritage Center, the Strode’s Mill Historic District, and the West Chester University campus leading into West Chester Borough.

Recreation Recommendation 2: Collaborate with Toll Brothers before and throughout Darlington Ridge site construction to ensure that the public, 8-foot wide paved multi-use trail will be graded to comply with universal access specifications and AASHTO guidelines for multi-use trails.

Recreation Recommendation 3: The Township should acquire a public trail easement for installation of the multi-use trail on land under WCU jurisdiction along the north side of Tigue Road at Rockwell Field and should collaborate with WCU in finalizing pre-construction trail alignment and road crossing locations that impact the Rockwell Field and Gordon Nature Area properties.

Figure 2.5: Example of 8’ Wide Paved (Asphalt) Multi-use Trail through meadow landscape similar to The Tigue Tract
2.2 Multi-use Compacted Gravel Trail

An 8-foot wide, multi-use compacted gravel trail has been envisioned for the interior of the Tigue Tract of the Plum Run Preserve on the south side of Tigue Road. The compacted gravel trail will be approximately .4 miles in length and will allow for bicycle and pedestrian use. All efforts will be made to design the trail in accordance with universal access standards. The primary function of this trail is to provide a connector between the paved multi-use trail and the natural hiking trails, which increases options for a diverse trail user experience. Another important function of this multi-use trail is to provide a universally accessible pathway into the interior of the preserve in order to showcase the natural features on the property and results of planned habitat restoration work. Alternatively, this trail will provide an optimal surface and route for maintenance vehicles to access the interior of the 24-acre tract.

This multi-use trail will be surfaced with a 3-inch layer of fine crushed aggregate (stone) compacted in place over top of an 8-inch course gravel subbase. This trail will be accessible to the public from dawn to dusk.

Recreation Recommendation 4: Construct an 8-foot wide, multi-use compacted gravel trail to serve as the primary access route into the interior of the Plum Run Preserve’s Tigue Tract.
2.3 Natural Hiking Trails

Natural earthen and grass hiking trails are both desired by the public and cost-effective to construct and maintain. These more primitive trails provide users the ability to intimately experience the natural features of the Plum Run corridor. 53% of survey respondents most preferred natural surface trails and the plan includes approximately 1 mile of natural hiking trail alignments that tie into planned multi-use trails for the Plum Run Preserve as well as existing natural-surfaced trails in the Gordon Nature Area. Natural trail treads can consist of earthen materials (i.e. soil, leaf litter, wood chips), but must be located or designed to avoid areas marked by steep slopes, erosion and wetlands in order to be sustained long-term and in a cost-effective manner.

The natural hiking trails are planned to allow for pedestrian-only uses and will include several single-track (1 to 2-foot tread width) loops comprised of packed natural earthen materials. Within the meadow areas of the Tigue Tract, the natural hiking trails will be 8-foot wide mown grass paths so that they can be easily mown in two passes using a 6-foot wide mower. The specific alignments and locations of the planned natural hiking trails can be seen on various maps of the corridor published in this plan.

Although the natural trails will not meet universal accessibility standards, they can be designed and constructed to include a hierarchy of slopes and challenges. Because the Plum Run Preserve is generally low lying and of gentle slope, the majority of the natural trails will be ‘easy’ to ‘moderate’ in challenge with emphasis on walking rather than climbing or negotiating steep rocky terrain. With the appropriate Township guidance, the natural trails planned for the Plum Run preserve can be constructed and maintained predominantly through volunteer manpower, with the exception of seasonal meadow (grass) trail mowing.

**Recreation Recommendation 5:** Construct and maintain natural hiking trails within the Lenape and Tigue Tracts of the Plum Run Preserve, using the locations and alignments suggested on the corridor maps as initial guides that will need to be scrutinized in the field during design and prior to construction. The natural hiking trails should connect into the planned multi-use trails.
Recreation Recommendation 6: Utilize volunteer manpower to construct and maintain the compacted earth, natural hiking trails by incorporating the Plum Run Preserve into the Township’s volunteer Adopt-a-Trail program and by engaging the Township’s 100-member volunteer corps.

Recreation Recommendation 7: Collaborate with and assist WCU in connecting the existing natural surface trail on the Gordon Nature Area (the Golden Ram Trail) to the natural hiking trails planned for the Plum Run Preserve if suggested alignments are proven feasible by in-field analysis.

Figure 2.9: Natural Surface Trail along edge of woods
2.4 Trailside Amenities

Trailside amenities will be vital to the comfortable and enjoyable public use of the Plum Run Trail and Preserve. Basic trailside amenities can include, but are not limited to, benches, dog pots, trash receptacles, trail mileage markers and interpretive panels. Total trail length and the permitted uses of a trail can help determine which trailside amenities are needed and how frequently. Visibility and the need to access certain amenities for routine maintenance should be considered when finalizing locations for trailside amenities. Given the anticipated and permitted types and volumes of public use, the Township should plan to strategically install a limited number of benches, dog pots, mile markers and interpretive signs along the paved, 8-foot wide multi-use trail (the Plum Run Trail). Trash receptacles and bike racks are better suited for designated trailheads and are enumerated upon in the Trailheads section (2.6).

In the public survey and questionnaire summary of responses, 67% of participants indicated that benches and trash receptacles were the most important amenities to have available along the trails and at trailhead parking lots. 63% of participants responded that they would like to have mile markers along the greenway and 46% indicated that dog pots are needed to ensure cleanliness along the trail.

**Recreation Recommendation 8:** Strategically install ADA accessible benches (2x), quarter-mile marker posts (4x), dog pots (4x), and interpretive panels (7x) alongside the 8-foot wide paved, multi-use trail (the Plum Run Trail) between the planned trailhead on Birmingham Road and the trail connection tie-in to the WCU trail at the Rockwell Field entrance, in accordance with the phased-in construction recommendations.
2.5 Trailside Vegetation Buffers

Once established, vegetation buffers consisting of native shrubs and site-appropriate trees are effective at limiting roadside noises and creating shade and privacy for trail users. The natural topography of the Plum Run corridor and low number of residences along Tigue Road align so that there is limited need to install vegetation buffers along the trail for privacy. In the plan there are two strips of trailside vegetation buffers, both of which have been recommended for the Tigue Tract of the Plum Run Preserve. One vegetation buffer strip is recommended for installation along the Plum Run Trail primarily to provide scattered shade and secondarily as a privacy buffer from Tigue Road. The second vegetation buffer strip is recommended for installation along the western property line of the Tigue Tract, specifically to provide privacy and screening between the natural hiking trail and the private residence on parcel no. 51-7-137.4A. No other trailside vegetation buffers are proposed for the Plum Run corridor.

Recreation Recommendation 9: Install trailside vegetation buffers on the Tigue Tract of the Plum Run Preserve alongside the Plum Run Trail parallel to Tigue Road and the natural hiking trail flanking the western property line.
2.6 Trailheads

Trailheads are critical points at which people will be entering the Plum Run Trail. Each of the three parking lots planned for the Plum Run Preserve will function as trailheads. Additionally, the entrance to the Plum Run Trail at the Rockwell Field connection to the WCU campus will be a trailhead. At the trailheads located at the three parking lots there will be at least one trash receptacle. The trailhead at the parking lot planned for the Lenape Tract should include a bicycle rack and space/access should be considered for installation of an ADA compliant port-a-pot for public use. All four planned trailheads will feature an information kiosk that should adopt the style and specifications of the standard East Bradford Township park kiosks found at East Bradford Park and at trailheads that serve the East Branch Brandywine Trail. Construction and installation of these kiosks can be executed by Eagle Scout candidates under the Township’s guidance, as has frequently been done at several Township parks. Placement of the information kiosk at all trailheads is a vital public information tool and will allow the Township to post maps, rules/regulations, and events concerning the Plum Run Preserve and the Plum Run Trail. The four planned trailheads will be located at:

- The parking lot on the Birmingham Tract of the Plum Run Preserve
- The parking lot on the Lenape Tract of the Plum Run Preserve
- The parking lot on the Tigue Tract of the Plum Run Preserve
- The beginning of the Plum Run Trail at the Rockwell Field entrance

**Recreation Recommendation 10**: Plan and install 4 trailheads at entrances to the Plum Run Trail between the Birmingham Tract of the Plum Run Preserve and the Rockwell Field entrance on the WCU campus in accordance with the phased-in construction recommendations.
**Recreation Recommendation 11:** Each trailhead should include an information kiosk that conforms in style and design to the standard Township park kiosk located at East Bradford Park and along the East Branch Brandywine Trail. Utilize Eagle Scout volunteer services to construct and install these kiosks under Township guidance.

**2.7 Neighborhood Connectors**

A prominent objective behind the installation of an off-road multi-use trail system through the Plum Run corridor is to provide safe and convenient public access for recreation, but also as an alternative to localized need for vehicular transportation. A major component in achieving this goal is to connect the Plum Run Trail into adjacent neighborhoods when feasible. For the 1-mile length of the Plum Run Trail, there are two planned neighborhood connections that will provide immediate non-vehicular access to residents. The first connection is a direct tie-in of the Plum Run Trail to a planned paved trail (6-foot wide) approximately .3 miles in length that will be installed by Toll Brothers in the Darlington Ridge subdivision. There are 107 planned residential units that will be constructed in this neighborhood, meaning an equivalent number of households will benefit from the ability to safely navigate the Plum Run corridor into West Chester Borough without use of a motor vehicle.

The second planned neighborhood connection is a direct tie-in of the Plum Run Trail to the existing Golden Ram Trail that traverses the southern portion of the WCU campus and, specifically, the off-campus student housing complexes at the East Village Apartments, the South Campus Apartments, and the Village Apartments on South Campus Drive. These apartment complexes house 1,282 students that attend WCU. This planned connection will provide all of these students, and many more who live nearby, with tremendous access to the Plum Run corridor and an opportunity to walk or bike ride off of the residential campus and into the undeveloped Plum Run Preserve where they can navigate to the planned Strode’s Barn Heritage Center.

**Recreation Recommendation 12:** Continue collaboration with Toll Brothers to ensure successful construction and completion of the neighborhood connection between the Plum Run Trail and the paved Darlington Ridge HOA trail (private).
2.0 Recreation

Recreation Recommendation 13: Work with WCU to obtain the public trail easement through the Gordon Nature Area and Rockwell Field facility that is necessary to construct and connect the Plum Run Trail to the existing Golden Ram Trail.

2.8 Recreational Structures for Stream Crossings

The Plum Run creek is a natural obstacle that must be navigated if there is to be an off-road trail that links the separate tracts of the Plum Run Preserve and connects people to the end-point destinations at both ends of the corridor. There are two locations where the paved Plum Run Trail will need to cross the Plum Run creek. Recommendations for the location of these two crossings are based on several key factors that include:

- Efforts to optimally align the Plum Run Trail to connect the trailheads and the Strode’s Barn Heritage Center while seeking to minimally impact natural resources as much as possible
- Efforts to place and position the bridges at points along the creek where bank-to-bank spans are narrower and where bank-to-bank elevations are most even and level.

The two planned Plum Run Trail bridges will both be located on the Lenape Tract of the Plum Run Preserve. These structures are both envisioned as pre-engineered/pre-fabricated bridges with the intended use limited to pedestrians and bicycles and light duty maintenance utility vehicles (UTVs). Heavier emergency vehicles (i.e. ambulances) and maintenance vehicles will have site access from other points without having to cross the bridges. Therefore, the loading design will be configured to pedestrian live load, but not heavy vehicular traffic.

Bridge #1 Crossing Plum Run near the historic dam remnants:

- parallel to the existing overhead utility line and easement clearing;
- within view of the partially remaining historic dam breast;
- on the northern fork of the creek just north of the creek split;
- Span estimated at 60-foot length; Track width estimated at 8-foot wide (rail-to-rail);

This bridge will primarily connect the Strode’s Barn Heritage Center and the Lenape Tract trailhead to points eastward along the Plum Run Trail and into the WCU campus.
2.0 Recreation

As an alternative structure consideration: One creative concept is to consider relocation of a historic bridge to this location as an adaptive re-use project. A repurposed bridge would satisfy the recreational need to cross the creek and would also contribute to the historic preservation legacy of the corridor in a highly visible site location. The bridge would be visible from the Tigue and Lenape Road intersection and would appear as a gateway feature approaching the Strode’s Mill Historic District from the north. Note that cost savings of adaptive re-use may be offset or exceeded by transport and restoration requirements of a historic bridge.

Bridge #2 Crossing Plum Run at the Strode’s Barn Heritage Center:

- parallel to and just north of Birmingham Road;
- will physically tie directly into a raised boardwalk that connects the Plum Run Trail to the high ground next to the sewer pump station;
- will provide an optimal view of wetland habitat;
- Span estimated at 30-foot length; Track width estimated at 8-foot wide (rail-to-rail);

This bridge will primarily connect the Strode’s Barn Heritage Center and the Lenape Tract to points westward along the Plum Run corridor, the goal being to connect into the Brandywine Creek Greenway (future phase) and the regional multi-use trail network.

Because the Plum Run Trail will be 8-foot wide paved asphalt surfacing, the transitioning approaches to these two bridge decks will be gradual and efforts will be taken to conform to ADA and universal accessibility standards.

There are numerous options available for the exterior structural aesthetics including configuration angles of the structural members, detailing of railing and surface finishes, such as Cor-Ten (natural weathering steel) or painted surface treatments (numerous colors). The bridge deck surfacing may be comprised of treated lumber, poured in place concrete, or recycled plastic board simulation products. Several of the most commonly known manufacturers of these structures are Continental, Steadfast and York.
There may be a need to bridge the Plum Run in two or three narrow locations on the Tigue Tract in order to adequately install a meaningful natural hiking trail loop system. These bridges would be much smaller in size and could be constructed using readily available lumber materials by either volunteer or in-house labor. These bridges are commonly referred to as foot bridges and would require no formal engineering for construction and installation.

Recreation Recommendation 14: The Township should proceed to finalize bridge typology, size and location specifications for the two larger bridges based on the determinations of the next-phase engineering and design process, using the specifications recommended in this section as a guide.

Recreation Recommendation 15: The Township should proceed to install the two larger bridges according to the phased-in approach recommendations. The necessity of the bridge leading from the Strode’s Barn Heritage Center to the sewer pump station is contingent upon the Township’s ability to further extend the Plum Run Trail to points west of the Strode’s Mill Historic District.

Recreation Recommendation 16: Coordinate with PennDOT to determine whether an appropriate bridge is available through the Cultural Resources Management Program (https://www.paprojectpath.org/penndot-crm/bridges/bridges-for-sale), what funding may be available from the Federal Highways Administration to assist the Township with potential relocation and rehabilitation costs, and the feasibility of this alternative approach to the Bridge #1 crossing.

Recreation Recommendation 17: Construct and install small foot bridges to serve the natural hiking trail system utilizing lumber that can be procured in-house and labor that can be provided by volunteers or as a staff project. Sequence this work based on the phased-in approach recommendations.

Figure 2.20: A Similar Trail Bridge is Required to Cross Plum Run Near Strode’s Mill Dam
2.0 Recreation

Figure 2.21: Example of Standard Pre-Engineered/ Prefabricated Bike/Ped Bridge with Concrete Stub Abutments

Figure 2.22: Cross Section of Standard Pre-Engineered/ Prefabricated Bike/Ped Bridge with Rub Rail
A trail boardwalk structure is planned for the Lenape Tract of the Plum Run Preserve, primarily as a means to extend the Plum Run Trail from the Strode’s Barn Heritage Center westward to the Birmingham Tract of the Preserve, while avoiding sensitive wetlands that have been delineated and documented onsite. This board walk would need to physically tie in to the pedestrian bridge crossing of the Plum Run, at least so far as to provide continuity in surfacing that complies with universal access standards. The boardwalk would need to span an estimated 170-foot length of wetlands and would outlet users to high ground next to the sewer pump station on the Lenape Tract. Similar to the pedestrian bridges that serve the 8-foot wide, paved multi-use trail, the boardwalk would feature an 8-foot wide inside track width (rail-to-rail). The utilization of helical piles to support the structure is recommended due to its low impact to the wetlands. The boardwalk will be constructed to accommodate for pedestrian and bicycle use and, if feasible, for small maintenance vehicles (i.e. UTVs). The secondary benefit of the boardwalk is that it will provide trail users an optimal, unobstructed view of the wetland and offers the perfect support structure from which to mount an interpretive panel specific to wetland habitats/resources.

**Recreation Recommendation 18:** The Township should proceed to finalize boardwalk typology, size and location specifications for the wetlands crossing based on the determinations of the next-phase engineering and design process, using the specifications recommended in this section as a guide.
2.9 Local & Regional Connectivity Goals

This first phase of the Plum Run corridor planning project is one of two phases that together will result in a plan to connect the West Chester Borough and WCU communities to East Bradford Township, the Brandywine Creek Greenway Trail, and onward to the regional circuit trail network. The Philadelphia Circuit Trail Network is a widely supported effort to establish connectivity amongst local and regional trails as a means to provide feasible non-vehicular alternatives to localized transportation. However, the network is also being established to provide the ability to safely navigate the region for recreational purposes. Phase I of the Plum Run corridor project entails connecting West Chester Borough to the Strode’s Mill Historic District. Phase II will concern extending the Plum Run Trail from the historic district to the Brandywine Creek Greenway. From here, the Township will need to fill in gaps in the East Branch Brandywine Trail, which once complete, will connect to the Chester Valley Trail and other connected trails in the central Chester County landscape. Connectivity is the key to successfully realizing the potential of these off-road, linear trail facilities and the Plum Run Trail is pivotal in that it will link everything to the currently-unconnected West Chester Borough locality.

Recreation Recommendation 19: Upon adoption of the first phase master plan for the Plum Run Corridor, East Bradford Township should pursue funding for the planning and implementation of Phase II to connect the corridor to the Brandywine Creek Greenway and Philadelphia Circuit Trail Network. Additionally, the Township should continue planning and completing gaps in the East Branch Brandywine Trail corridor to enable off-road linkages to the Chester Valley Trail.
Proposed Strategies to Enhance Bike and Pedestrian Connections

A. Support regional connections and extensions beyond the Township’s borders
   A1. Support extensions of the Brandywine Trail north to the existing and future Downingtown Amtrak & SEPTA Rail Station
   A2. Support enhanced connections to the existing and future extensions of the Chester Valley Trail
   A3. Support access to the West Chester Transportation Center

B. Complete the Brandywine Greenway
   B1. County Seat Trail
   B2. Plum Run Trail
   B3. M. John Johnson to Ingrams Mill to Stroud Trail

C. Provide trail connections between existing parks/preserves/open space and neighborhoods
   C1. West Chester Borough to Timber Top Farm to Stroud Preserve
   C2. Route 842 to Mt. Bradford/Sconnelltown to Delancy Fields/Shaws Bridge

D. Provide safe and friendly on-road bicycle facilities with enhanced signage and other design treatments
   D1. Valley Creek Road to Creek Road to Route 842 to West Chester Borough

E. Promote use and educate users about existing and future trails
   E1. Expand parking
   E2. Provide maps, signs, and brochures
   E3. Coordinate with schools to educate children and families

Support regional connections and extensions beyond the Township’s borders to:

A.A. Complete the Brandywine Greenway

Support regional connections and extensions beyond the Township’s borders to:

A.A. Complete the Brandywine Greenway

Figure 2.25 East Bradford Township Trail Plan Map
THE CIRCUIT TRAILS

100s OF MILES OF HAPPY

Existing Trails

Trails in Progress

Planned Trails

Figure 2.26 Regional Circuit Trail Network Plan Map
3.0 Road and Vehicle Access

3.0 Road and Vehicle Access Summary

It is the Township’s goal to create an environment within the Plum Run corridor and the Strode’s Mill Historic District that is more evocative of their past contexts and that achieves a significantly more enhanced balance between pedestrian/bicycle traffic and vehicular traffic. To accomplish this, efforts must be taken to reduce the negative impacts of current vehicular speeds through the Historic District. Improvements must also be made to increase safety and sensorial conditions for pedestrians. The vision of the Master Plan is therefore to invest in and enhance the Historic District by reducing, slowing and calming vehicular traffic, by increasing off-road pedestrian access and connectivity, and by creating safe, well-marked pedestrian and bike road crossings.

3.1 Traffic Calming

The installation of traffic calming devices within the project area is a primary means by which the Township plans to accomplish its goals relevant to the Plum Run corridor. Traffic calming can be accomplished through techniques that range from passive to aggressive. The recommended approach is to achieve a balance between passive techniques and moderately aggressive techniques, some of the latter being necessary for the planned installation of a safe mid-block pedestrian crossing of Birmingham Road.

Passive traffic calming devices recommended in this Master Plan are the installation of attractive, Historic District-appropriate gateway signs at the roadside entry points into the Historic District. Gateway signs that attract attention and signal a transition between a suburban/rural roadway and the arrival into a historic setting will passively cause drivers to slow down their vehicles. Additionally, the insertion of central verge medians, placed strategically along Birmingham and Lenape Roads, are recommended. Similar medians have been approved and installed on other PennDOT jurisdictional roads, such as along Strasburg Road through the historic village of Marshallton in West Bradford Township. Preliminary meetings with PennDOT District 6-0 staff have indicated that such medians are feasible for Birmingham and Lenape Roads. The recommendation of this Master Plan is to place medians of this nature at the entry points into the Historic District, before vehicles would be nearing close approach to the planned public parking area ingress/egress points. These medians passively slow traffic by presenting drivers with an in-road obstacle that channelizes their approach, causing them to remain at a lower speed or slow down.

Lowering the speed limit of vehicular traffic on Birmingham Road, and ideally Lenape Road too, in the approach to and through the Historic District, is also recommended. Installation of attractive, Historic District-appropriate gateway signs at the roadside entry points into the Historic District will also passively cause drivers to slow down their vehicles.
District constitutes a more aggressive strategy to calm traffic. The Township will need to collaborate with PennDOT to reduce the speed limit on Birmingham Road from the current 40 MPH to 35 MPH or below to obtain the approvals and permits needed for a mid-block pedestrian crossing. The Township should also pursue the lowering of the speed limit on Lenape Road from the current 45 MPH to 35 MPH, even though no pedestrian crossings of Lenape Road are planned. The reductions in speed limits to these roads should be applied to the portions of Lenape Road between the Edgemill Way and Tigue Road intersections, and for Birmingham Road between the Allegiance Drive and Regimental Drive intersections.

The existing one-lane bridge on Birmingham Road is an unintended traffic calming device already in place that helps to slow down traffic, but only in the immediate vicinity of the bridge. Northbound traffic along Birmingham Road is supposed to yield to southbound traffic coming over the bridge, but this does not always happen. Depending on vehicle sizes and speeds, the current navigation and yielding pattern concerning this bridge functions more as a free-for-all, lending additional weight to the recommended action to lower vehicular speeds through the Historic District.

**Road and Vehicle Access Recommendation 1:** East Bradford Township should commission a Traffic and Pedestrian Study in cooperation with PennDOT District 6-0 to evaluate the current pedestrian and vehicular conditions and limitations of Birmingham and Lenape Roads within the general confines of the Strode’s Mill Historic District.

**Road and Vehicle Access Recommendation 2:** East Bradford Township should prepare and submit a formal Application for Request of Speed Limit Reduction on both Birmingham (currently 40 MPH) and Lenape (currently 45 MPH) Roads within the Strode’s Mill Historic District.

**Road and Vehicle Access Recommendation 3:** East Bradford Township should prepare and submit a formal Application for Request for installation of traffic calming devices, including but not limited to median islands, textured surface transitions, and appropriate signage that will be effective in slowing vehicular traffic and reducing noise pollution within the Strode’s Mill Historic District.

**3.2 Intersection Improvements**

The Township is envisioning a new era of public utilization for the Strode’s Mill Historic District, especially as it concerns the dynamic between the Strode’s Mill and the Strode’s Barn. Being the two most visually dominant, and operationally integral, features of the Township’s plans, it is imperative that the navigation of the intersection of
3.0 Road and Vehicle Access

Birmingham and Lenape Roads be made safer and more inviting for pedestrians and bicyclists. The current configuration of the Lenape (SR 52) and Birmingham Road intersection includes ‘No Pedestrian’ signs at all four corners of the intersection. While the ‘No Pedestrian’ signage reduces liability for PennDOT as a cautionary warning of a hazardous crossing situation, the community is essentially disabled and prohibited from walking or crossing from the Strode’s Barn to the Strode’s Mill property.

In order to provide a safe crossing for both pedestrians and bicycles – in light of the parklike destination that is planned for the Plum Run Preserve and the Strode’s Barn Heritage Center, multiple improvements should be planned and implemented to enhance conditions for pedestrians. Given the steeply incised shoulders of Birmingham Road (on the north side of the intersection) and the desire not to detrimentally impact private properties, it is not recommended that the entire intersection be improved to complete a 4-way pedestrian crosswalk system. Rather, the primary recommendation is to enhance only the one crossing of Birmingham Road on the south side of the intersection to enable safe connectivity between the Strode’s Barn and Strode’s Mill. The mill currently operates as a private art gallery and has dedicated private parking on the west side of the building, along Lenape Road. It is reasonable and necessary to recommend improvements to the crossing and this should entail the insertion of a devoted pedestrian phase (push button activated) into the signalized intersection traffic lights, complete with electronic pedestrian signals and full-width, high-visibility white reflective continental-style crosswalk markings on the road surface. Appropriate pedestrian crossing signs should be provided along both Lenape and Birmingham Roads to alert motorists of the expected presence of pedestrians and bicyclists.

**Road and Vehicle Access Recommendation 4:** East Bradford Township should commission a Pedestrian Study in cooperation with PennDOT District 6-0 to evaluate the Lenape Road/Birmingham Road intersection for the purpose of establishing a well-marked, highly-visible pedestrian crossing with an integrated push-button pedestrian phase (timed) crossing signal.
3.0 Road and Vehicle Access

3.3 Trail Crossings

There are four planned mid-block trail crossings of public roads that will need to be installed to complete the Plum Run Trail alignment. The three most immediately necessary crossings are all located at points along Tigue Road, which falls under the Township’s jurisdiction. The first crossing likely to be completed on Tigue Road will be located shortly west of the planned public parking lot entrance. Toll Brothers is responsible for installing this crossing as based on the terms of the Darlington Ridge settlement agreement. This crossing will feature a raised (2” high) speed table with detectable warning surfaces placed at the connecting trail entrances. Signage warning motorists of the presence of pedestrians and the speed table will be placed along the roadside. Approach/warning indicator strips will be directly applied to the road surface leading up to the speed table in each direction of traffic.

The additional two mid-block crossings planned for Tigue Road will need to be installed by the Township. It is recommended that both crossings adopt the speed table design and approach warning features of the crosswalk being installed by Toll Brothers. The placement of these two additional crossings, one located approximately 815 feet (.15 miles) west of the Toll Brothers crosswalk and the other located approximately 1,200 feet (.25 miles) east of the Toll Brothers crosswalk, will help significantly lower motor vehicle speeds along Tigue Road to be in line with the posted 25 MPH limit. The Township has preliminary plans to resurface the eastern portion of Tigue Road following completion of construction on the Darlington Ridge development. The crosswalk planned for this section of the road can be proactively incorporated into the resurfacing work, sparing the need to build the expense into the Plum Run Master Plan budget.

The fourth mid-block crossing is planned to provide a safe pedestrian connection from the Lenape Tract of the Plum Run Preserve to the Birmingham Tract and will need to be installed by the Township on Birmingham Road. Birmingham Road is a public road falling under PennDOT jurisdiction, and as such, the crossing must comply with PennDOT regulations for mid-block crossings. Currently, PennDOT only permits mid-block crossings on roads where the posted speed limit is equal to or less than 35 MPH. Since the current speed limit on Birmingham Road is 40 MPH, the Township will need to commission a Traffic and Pedestrian study to help assess the feasibility of lowering the speed limit. This recommendation has been made in Section 3.1 of this plan. The planned introduction of public recreational amenities to the Plum Run Preserve, and the intent to bring a more respectful treatment to the Strode’s Mill Historic District, must be emphasized to PennDOT.
3.0 Road and Vehicle Access

If the Township is successful in securing permissions to install the planned mid-block crossing of Birmingham Road, the crossing would best be located as far as possible from the Lenape/Birmingham Road intersection. A suggested location is approximately 420 feet (.1 mile) south of the intersection, located off of the south side of the maintenance entrance into the pump station located on the Lenape Tract of the Plum Run Preserve. Sight distances in this location are good and it is far enough south of the creek and lowest ground that it should remain out of the flood zone during large precipitation events. This mid-block crossing should include the same raised speed table device and cautionary approach features as those planned for the crossings of Tigue Road. Preliminary meetings with PennDOT District 6-0 staff indicate that they may not allow a raised speed table for this crossing. A raised speed table is recommended but the final location and design of this crossing is subject to additional study and PennDOT input. It should be noted that this road crossing is recommended to occur in the latter phases of the Plum Run Master Plan implementation, only once there is adequate reason to extend the Plum Run Trail or provide public parking into the Birmingham Tract of the Plum Run preserve.

Road and Vehicle Access Recommendation 5: East Bradford Township should collaborate with PennDOT District 6-0 on the planned installation of a mid-block crossing of Birmingham Road. This would need to occur simultaneously with the lowering of the posted speed limit. The crosswalk is recommended to be designed as a raised speed table with compatible warning surface treatments and cautionary signage. No illuminated or flashing signals are recommended due to the intent to preserve the character and viewshed of the Strode’s Mill Historic District.

Road and Vehicle Access Recommendation 6: East Bradford Township should install two mid-block crossings on Tigue Road, to be identical to the crossing that Toll Brothers will install on Tigue Road. These crossings will feature a raised speed table, detectable warning surfacing, and cautionary approach signage.
3.4 Parking

Public parking access to the Plum Run Preserve will be limited by environmental features such as the presence of wetlands, floodplain, and sloping topography. Parking lots planned for the Plum Run Preserve will therefore have to be small and decentralized, which also adheres to the Township’s desire to emphasize and promote non-vehicular, multi-use access to the planned recreational trail network. Parking lots will be designed to provide public access to the trail, functioning as trailheads, and will also need to allow for maintenance vehicle access into the Plum Run Preserve.

Parking configurations, features and capacities will also depend on factors such as PennDOT requirements for ingress/egress and the need to provide ADA access. The parking lots planned for the Plum Run Preserve will have several features in common. Lots will primarily be surfaced using crushed stone, though ADA-compliant paved spots will connect adequately to the paved Plum Run Trail. The parking lots will include secured gates that will allow for maintenance vehicles to access the Plum Run Trail and Preserve. Parking lots may feature bollards and other like-structures to restrict unauthorized vehicle access.

There are three planned parking lots for the Plum Run Preserve, one located on each of the three tracts. The parking lot planned for the Tigue Tract will be installed by Toll Brothers in accordance with the terms of the Darlington Ridge settlement agreement. This lot will include five standard gravel spots and one paved ADA-compliant, van accessible spot with a paved aisle to the Plum Run Trail. This parking lot will include access for service vehicles and may include amenities such as bike racks, trash/recycling containers, and bench seating or a secured picnic table. The size of this parking lot can be expanded in the future, but that would fall under the Township’s initiative and would require the procurement of new permits, as applicable.

A second public parking lot is planned on the Lenape Tract with an entrance onto Lenape Road. The size of this parking lot will be dictated by environmental factors, but the recommendation is to pursue installation of a ten-space lot, at minimum. Nine parking spots would be gravel surfaced and one spot would need to be paved to meet ADA requirements for van access. This parking lot will be the most visible to the public, because of its entrance on a heavily travelled commuter road, and will serve both the trail and Heritage Center. Therefore, if feasible, a ten to twenty-space parking lot would be ideal. However, it may not be feasible to configure a parking lot with twenty spaces into this location. This parking lot will include access for service vehicles and is the preferred lot for placement and upkeep of an ADA-compliant port-a-pot. Bike racks and trash/recycling containers would be appropriate for this location.
A third public parking lot is planned on the Birmingham Tract with an entrance onto Birmingham Road. The size of this parking lot will be limited by topography, property boundaries, and existing stormwater management infrastructure. The recommendation is for installation of a six to ten-space parking lot in this location, with one space being paved for ADA-compliant van access and all others being of crushed stone. This parking lot should include service vehicle access, trash/recycling containers, a bike rack, and possibly a picnic table at the Township’s discretion. This parking lot is recommended for latter phase installation, to be dictated by public need and the feasibility of extending the Plum Run Trail to points further west and the Brandywine Creek Greenway.

Overflow and additional trail user parking was a commonly-discussed item throughout the planning initiative. Two feasible scenarios were identified that could allow for added public parking in the future, if the demand required. One solution would be for the Township to enter into a cooperative agreement with West Chester University (WCU) concerning public use of the Farrell Stadium parking lot located at the intersection of Tigue Road and New Street. The project team discussed this potential partnership with WCU staff who indicated that it could be feasible so long as parking in the lot could be restricted during times of heavy use, such as during weekend football games.

A second option was discussed with the owner of the Strode’s Mill property involving the potential to allow public parking at the privately-owned Strode’s Mill parking lot on Lenape Road. This too would require a cooperative agreement between the Township and the private property owners. Currently this is not of interest to the owners of the mill, but in the future, if the mill owner is interested in pursuing this type of partnership, there would be mutually-beneficial reasons to consider doing so. It would help provide added parking for the Plum Run Trail and Strode’s Barn Heritage Center. In return, the anticipated pedestrian traffic would increase visitation to the Strode’s Mill, which currently houses a privately-owned small business, and the Township could provide financial assistance for parking lot and sidewalk improvements.

**Road and Vehicle Access Recommendation 7:** The Township should install a ten to twenty-space public parking lot on the Lenape Tract of the Plum Run Preserve that, together with the six-space lot being installed by Toll Brothers on the Tigue Tract, should be planned for early-phase execution. The Township should plan to install a six to ten-space parking lot on the Birmingham Tract as a latter phase priority, once public demands warrant and/or the feasibility of extending the Plum Run Trail further west has been addressed.
3.0 Road and Vehicle Access

Road and Vehicle Access Recommendation 8: If public demand for additional trail parking warrants, the Township should pursue the negotiation of cooperative agreements with West Chester University for limited use of portions of the Farrell Stadium parking lot (as a first priority), and then with the owner of the Strode’s Mill property for limited use of the private parking lot that serves the mill (as a second priority).

3.5 Birmingham Road Bridge

The motor vehicle bridge on Birmingham Road in the Strode’s Mill Historic District is a circa-1933 cast in place concrete slab structure subject to PennDOT ownership and jurisdiction. PennDOT records list the super and sub-structural components of this bridge in ‘Poor’ condition and they list the bridge’s overall condition as ‘Poor’. The bridge supports an estimated 5,000 vehicle trips per day and should be replaced in the near future. PennDOT prioritizes bridge replacements based on numerous factors and discussions with PennDOT staff indicate that there is no immediate plan to replace the bridge.

Besides advocating for the bridge’s replacement for the sake of vehicle safety, there are other reasons why the Township should advocate for not only bridge replacement, but also for a PennDOT study of its drainage capacity and performance during heavy precipitation events. Decades of upstream development and surrounding subdivisions appear to have increased the velocity and volume of stormwater runoff flows into the Plum Run. The current bridge was constructed before the vast majority of this development took place and when Birmingham Road was still likely a dirt road. Birmingham Road is now paved, and has been for some time, but the effort to pave the road appears to have included no infrastructure to help channel, reduce or filter runoff. When stormwater from upstream arrives at the bridge, it becomes highly restricted as it combines with water running off of and along Birmingham Road, resulting in flooding that renders the road impassable at its low point of vertical curvature (see Figure 3.9).

Road and Vehicle Access Recommendation 9: The Township should coordinate with PennDOT to prepare a formal request that the Birmingham Road bridge be replaced with a structure that can provide increased drainage capacity to help reduce the flooding of Birmingham Road and the Lenape Tract.

Figure 3.9: Periodic Flooding of Birmingham Road
3.0 Road and Vehicle Access

**Road and Vehicle Access Recommendation 10:** It is recommended that the Township and PennDOT pursue all of the recommended roadway improvements, traffic and pedestrian studies, and traffic calming measures as one joint comprehensive project for the entire Strode’s Mill Historic District that includes enhancements to the management of stormwater runoff along Birmingham Road.

Figures 3.10-11: Birmingham Road Concrete Bridge – upstream invert (above) and downstream invert (below)
4.0 Natural Resources

4.0 Natural Resources Summary

The natural resources of the Plum Run corridor are not without disturbance from human impacts but continue to contribute heavily towards the appeal and beauty of the southern section of the Township. Both Lenape and Tigue Roads are designated legs of the Brandywine Valley Scenic Byway and the natural resources, dominated by the Plum Run, in addition to the protected open spaces, are largely the reasons why these roads are designated as they are. It is no surprise that the public is attracted to locations like the Plum Run corridor and there is a host of existing literature on the natural resources of this landscape. In particular, the reader is pointed to the Plum Run Watershed Restoration Plan (2008), the Chester County Natural Heritage Inventory (2015), and the Brandywine Valley Scenic Byway Corridor Management Plan (2014) if more detail on the complexity of existing natural resources within the corridor is desired.

Relevant to the Plum Run Master Plan, this section on natural resources will cover the Township’s stewardship goals for the Plum Run Preserve lands that it owns and will detail plans to incorporate the natural resources of the corridor into trailside interpretation signage. This section, amongst other objectives, will lay forth the Township’s management strategies for the natural resources and habitat restoration vision for the Plum Run Preserve.

4.1 Plum Run Stream Restoration

Decades of human impacts upstream and along the Plum Run have impacted the creek’s ability to function properly and provide quality habitat for fish and other animals. Lowering salinity levels in the water and slowing down and reducing the velocity of flows are targeted goals of stream restoration work that the Brandywine Red Clay Alliance (BRCA), in partnership with the Township, are trying to achieve through a series of stream restoration projects along the Plum Run. Prior work has been completed downstream of Birmingham Road, on the Birmingham Tract of the Plum Run Preserve and on nearby private properties. With the Township now in ownership of significant land upstream from Birmingham Road, the BRCA is focused on restoring the creek from the point where it flows under Birmingham Road on the Lenape Tract, upstream to where it crosses into the WCU Gordon Natural Area on the eastern boundary of the Tigue Tract.

The BRCA has secured significant funding and is in the process of procuring the permits that will be necessary to complete planned restoration work on the Lenape and Tigue tracts, with a possible start date as early as Fall 2019.

The main actions involved in the planned restoration work include the removal of soils and reshaping of the streambanks to a more sustainable
3:1 slope (see Figure 4.3: Sheet No. 6 of the BRCA’s [Clauser Environmental, LLC] Plum Run Riparian Restoration Plans dated January 1, 2019). This work will include the integration of in-stream features including large anchoring boulders, tree root clusters and J-hooks that will armor the creek while simultaneously increasing oxygenation, slowing water velocity, and providing fish habitat.

In order to stage and conduct their work properly, the BRCA will be performing large-scale invasive plant removal along the highly-infringed banks of the Plum Run and then will be reseeding the banks and installing young trees in the riparian buffer zones following the restoration work. Not only will this work facilitate the Township’s takeover of habitat management on the Plum Run Preserve, but it will also offer an excellent opportunity for educational interpretation and will improve public access to the stream itself, which can be used recreationally for activities such as fishing and wildlife observation, but also for environmental study and research purposes.

The BRCA will be conducting its work at no charge to the Township and will leave the site in a much more manageable condition than currently exists. Work is slated to begin first on the Tigue Tract and then on the Lenape Tract. The Township will be responsible for maintaining the young trees planted in the riparian zones but will have a leg up on combatting the invasive plants that infest the corridor. As the young trees age and a shaded tree canopy develops, mature root systems will help filter runoff and the creek waters should cool. It remains to be seen whether or not it will be possible, but the Plum Run Watershed Restoration Plan’s goal for the reintroduction of a native population of Brook trout into the Plum Run may one day be possible again.

**Natural Resources Recommendation 1:** The Township should collaborate closely with the BRCA and help facilitate the stream restoration work planned for the Plum Run on the Lenape and Tigue Tracts. This work is likely to begin in 2019 and is therefore represented as an early-stage activity in the Master Plan implementation strategy. The Township should prepare to maintain the native riparian plantings following completion of the restoration work and should incorporate this activity into its staff and volunteer stewardship activities.
4.0 Natural Resources

4.2 Wildlife Habitat Restoration and Stewardship

The Township will own 46 acres of land within the Plum Run Preserve that will have to be managed in a way that promotes public access but also protects and enhances wildlife habitat and natural resources. Virtually all of this acreage can be converted into more useful habitat for wildlife that also functions more capably from an environmental perspective. The Tigue Tract is currently in a fallow condition after years of being grazed pastureland that did little to support native wildlife. The portion of this tract between the underground sewer line easement and the southern property boundary will be planned to represent the riparian restoration area and will be planted in native young trees by the BRCA, in partnership with the Township and other partners. Mowing in this area should be done only to keep the planned natural trails open, if necessary. Once young trees develop and a mature tree canopy forms there should be no need to mow in the riparian zone.

The portion of the Tigue Tract land between the underground sewer line and the paved Plum Run Trail will be converted from its current fallow condition to a functioning native wildflower and grass meadow through the introduction of native seedlings. This will be implemented by the Township over time. In the immediate short term, Toll Brothers will be depositing soil onto this section of the property and top-seeding it with a mixture of native grasses that will help stabilize the site.

The seed mix introduced by Toll Brothers will include Switchgrass (25%), Deertongue (24%), Fox Sedge (22%), Virginia Wildrye (21%), and a few other types of native grasses. This portion of the property will represent the meadow area and will require mowing once or twice a year, in alignment with best management practices for meadow management. It is possible that the Township may lease out the meadow for hay production over the short term until it is ready to pursue the installation of an ideal native wildflower and grass meadow.

The Lenape Tract features less open acreage and is beginning to show signs of a maturing canopy on the north side of the Plum Run. Young trees may be planted in the less dense woody areas but conditions here will not
allow for any meadow installation. The invasive phragmites taking root within the freshwater wetland on this tract should be removed and prevented from spreading further. The BRCA may be planning to remove these invasives, which would significantly improve visibility of the property from Birmingham Road. The Township should utilize the 2015 Strode’s Barn Stewardship Plan as a guide for managing this tract into the future.

The Birmingham Tract of the Plum Run Preserve has received some riparian restoration through previous BRCA stream restoration work. Native trees were planted in the immediate riparian zone. Approximately one third of this property is a wetland and will not support most native trees or dry meadow seedlings. This portion of the tract should be kept free of invasive phragmites that may try to colonize the wet areas. Dryer areas of the tract (about one third) may allow for the introduction of native meadow seedlings but will first have to be cleared of significant invasive vines, shrubs and woody vegetation. An additional one third of this tract functions as a stormwater management basin for an adjacent residential community and must be managed to maintain the integrity of that structure and its purpose. The berm surrounding the basin should be routinely mown and the basin should be separated from habitat restoration objectives for the tract.

The resident whitetail deer population is the dominant animal species within the corridor, leaving heavy evidence of significant herd numbers and foraging impacts. While the deer are beautiful to view, they have no natural predators and are both resilient and prolific, leading to widespread over-browsing of the native understory. The local deer herd will need to be kept in check which will help keep tick populations down and allow for regeneration of native plants in the understory.

**Natural Resources Recommendation 2:** The Township should proceed to enhance the native riparian buffer zone on the Tigue Tract through the planting and maintenance of young trees. The Township should pursue installation and management of native wildflower and grass meadowland on the dry, open areas of the Tigue and Birmingham Tracts.

**Natural Resources Recommendation 3:** The Township should utilize staff, volunteer and partner resources to combat the spread of invasive plants, such as vines and phragmites.

**Natural Resources Recommendation 4:** The Township should incorporate the Plum Run Preserve lands into the Brandywine Valley Archery Club deer management program in order to help quell the resident whitetail deer herd. Portions of the Preserve have been incorporated into the program already.
Natural Resources Recommendation 5: The Township should utilize volunteer Eagle Scout opportunities to install small-scale habitat devices into the Plum Run Preserve, such as bird boxes, bat boxes and bee boxes.

4.3 Preservation of Birmingham Road ‘Witness Tree’

The immense White Oak on Birmingham Road is an impressive specimen that has endured the centuries, surviving droughts, blights and pestilence. This silent giant continues to thrive as a commemorating witness to history, including the march of British troops towards battle on September 11, 1777. A few public access management measures specific to the tree are listed in Section 5.4, but because this particular tree is a significant natural resource, additional care must be given to ensure its longevity, survival and protection.

While the tree appears to be in good health, several added preservation tactics are recommended, including future arboricultural assessment and pruning treatments, as needed. The Township may also want to consult with a professional arborist to determine whether or not the strategic placement of structural cabling would benefit the tree long-term. Importantly, because of the tree’s immediate proximity to a PennDOT-managed public road, a posted ‘No Spray Zone’ should be implemented for the road frontage on the Birmingham Tract and limitations on winter snow melting salts and chemicals should be recommended to further protect and preserve this living monument.

As recommended in Section 5.4, another level of protection for the tree, in restricting public access and respecting the nearby private residence, would be to strategically place a protective fence a distance off of the base of the tree – possibly 30 feet away (respectively of the DOT Right-of-Way and private property owner’s land, landscape and structures.) This fence should be 30”-36” in height to deter unauthorized access but should not prevent open viewing or authorized access for management and maintenance. The protective separation fence could be a wooden picket (dowel or slat) fence reflective of the colonial era. The most important aspect is protection, but the fencing certainly would also distinguish the tree as a special, revered and valuable resource.

Natural Resources Recommendation 6: The Township should plan to invest in specialized care of the Witness tree by a certified professional arborist. The tree should be inspected at least once every two years and pruned based on arborist recommendations for the health of the tree.

Natural Resources Recommendation 7: The Township should apply a ‘No Spray Zone’ policy along Birmingham Tract road frontage and install protective fencing a distance away from the Witness tree, which would also provide a place to mount the ‘No Spray Zone’ sign.
4.4 Natural Resource Interpretation

A key component to natural resource stewardship is education and public involvement. By way of trailside interpretation, the Township can help educate the public and future generations on the importance and function of natural resources within the Plum Run corridor. People are more likely to care for something if they understand how it lives, grows and interacts with its natural surroundings. With the installation of the Plum Run Trail and habitat restoration work planned for the Plum Run Preserve, the Township will have an ideal platform for installing trailside interpretation specific to natural resources that users will be able to see from the trail as they look out across the Plum Run landscape.

Figure 4.8: Example of high quality and function Interpretive Panels convey the theme of Restoring Streams and Creating Wetlands

Four interpretive panels specifically covering natural resource themes are planned for installation along the Plum Run Trail. These are planned only for sections of the corridor that the Township owns. Two panels are planned for the Tigue Tract, located on the south side of the Plum Run Trail, to be oriented facing the meadow and Plum Run. One of these panels is envisioned to include interpretation on the native wildflower
Natural Resources Recommendation 8: The Township should plan to design and install four natural resource interpretive panels along the Plum Run Trail, in the locations recommended on the Potential Signage Locations Map, that will act as powerful tools to help educate and foster public stewardship of the Plum Run corridor’s natural resources.
Figure 5.1: Artistic Rendering of Strode’s Mill Crossroads
5.0 Cultural Landscape & Historic Resources Summary

The cultural landscape and historic resources within the Plum Run corridor are not limited to the confines of the officially bounded Strode’s Mill Historic District. There are several visible and noteworthy historic resources elsewhere along the corridor that will be viewable by trail users and visitors of the Plum Run Preserve. In fact, through land preservation efforts, the Township has made considerable investments over the last decade in an attempt to conserve the landscape of the corridor as an essential element critical to the modern-day effort to tell the story of the corridor’s history. The Plum Run and its stream valley supported indigenous native peoples prior to the arrival of European settlers and then continued to provide sustenance and enable livelihoods from colonial times into the 20th century. The flowing waters of the Plum Run provided mill power which was used to ground wheat into flour that was used to feed Washington’s army during the revolutionary war. Later, the mill
produced cider and lumber products. A whole village grew around the mill operation and included several tenant residences, farm houses, barns and accessory structures. Surrounding fields were used to produce crops and raise livestock. Historically, the corridor was very much rural and agrarian in character. Over time, subdivision and residential development have drastically altered the surrounding landscape. However, the Township, with assistance from conservation partners, has preserved approximately 140 acres of connected open space throughout the corridor. This landscape is important to the maintained integrity of the Historic District as well as to the positive contribution it has on the quality of life for local residents. The Master Plan includes interpretive features, strategically placed along the Plum Run Trail, to educate visitors on the cultural landscape that includes natural, scenic, and built features. Interpretive elements will be respectful of the fact that some important resources are privately owned.

5.1 Strode’s Mill

The circa-1721 stone mill on the southwest corner of the Birmingham and Lenape Road intersection, referred to most commonly as Strode’s Mill, is an absolutely essential component to the story of the Strode’s Mill Historic District. This property is privately owned and currently houses the Strode’s Mill Gallery, a custom framing and fine artwork shop. The mill’s history will be incorporated into the interpretive panels located at the Strode’s Barn Heritage Center. The mill is listed on the National Register of Historic Places and is afforded certain protection under its Township designation as a Class I historic resource. The Township Historical Architectural Review Board (HARB) reviews and provides input on alterations proposed to the mill because of this designation. The mill is worthy of more robust restoration and protection and, due to existing conditions and utilities, represents a more feasible prospect for a future interior component of the Strode’s Barn Heritage Center. The mill could also serve as a small museum and provide office and meeting space for the Friends of Strode’s Mill, a 501(c)3 non-profit group led by local residents, that partners with the Township and strives to preserve, protect, educate and advocate for the natural and historic resources in and around the Strode’s Mill National Historic District. The Township should begin consulting with non-profit partners and assess the feasibility of having a non-profit preservation group acquire the mill in the future for similar conditions.
Cultural Landscape & Historic Resources

purposes and to further enhance protection of the structure. (See Chapter 1 for discussion about protection and rehabilitation of the Strode’s Barn, which is also a historic resource in the village.)

Cultural Landscape & Historic Resources Recommendation 1:
The Township should work with the Friends of Strode’s Mill and other private/non-profit partners to plan a preservation strategy for the Strode’s Mill that may include its future purchase for use as an indoor space that supports the Strode’s Barn Heritage Center and other educational and preservation purposes relevant to the Strode’s Mill Historic District.

Figure 5.4: Artistic rendering of Strode’s Mill Village (illustrating utilities underground) by D. Campbell, 2015
5.0 Cultural Landscape & Historic Resources

Figure 5.5: Collage of Images of Strode’s Mill and Strode’s Barn

Strode’s Mill circa 1985

Strode’s Barn circa 1985

Boiling vats circa 1986

Strode’s Barn on Lenape Rd. circa 1986

“Home of Strode’s Country Fresh Sausage & Scrapple” logo on Lenape Rd. façade of removed addition

“Enjoy a can of Strode’s Fresh Country Scrapple”

2016 view of barn addition(s) from Plum Run

West façade of Strode’s Barn Heritage Center Courtyard (left) and east façade (right) of barn with ground level entry door and windows. Note that the upper story is constructed of locally quarried green serpentine quarry stone.
5.0 Cultural Landscape & Historic Resources

5.2 Strode’s Barn Spring House
The Township owns a small masonry spring house on the Lenape Tract of the Plum Run Preserve that is an accessory structure to the Strode’s Barn. Not much is known about the spring house, but it is spatially and functionally related to the past uses of the barn and should be preserved and restored so that it adds value to the site and achieves harmony with the rehabilitation of the barn. It is therefore recommended that this spring house be included in the architectural ‘forensics’ analysis that will be performed on the barn and that the results of the analysis direct the Township in its plan to rehabilitate the structure. The interior space is relatively small and may provide for a small storage area. In rehabilitating the spring house, entrances will need to be re-secured and the interiors should be cleaned and ventilated.

Cultural Landscape & Historic Resources Recommendation 2: Include the Strode’s Barn spring house in the scope of work of the commissioned architectural ‘forensic’ analysis to determine the most appropriate rehabilitative treatment. Materials used in the rehabilitation of doors/windows, the roof, and in treatment of the stone should conform to The Secretary of Interior Standards.

Cultural Landscape & Historic Resources Recommendation 3: Secure, thoroughly clean and ventilate (“mothball”) the interior of the Strode’s Barn spring house and utilize this covered space for small equipment and tool storage to support maintenance of the Plum Run Trail and the Heritage Center.

Figure 5.6: Creek side view of the Strode’s Barn Spring House

Figure 5.7: Barn side view of the Strode’s Barn Spring House
5.0 Cultural Landscape & Historic Resources

5.3 Strode’s Mill Dam
Remnants of the historic Strode’s Mill dam are still visible on the Lenape Tract of the Plum Run Preserve. The dam, now owned by the Township, has not been intact for over a century but was a pivotal feature in the 19th century operation of the mill. The dam is of stone construction and will be the subject of an interpretive panel placed alongside the paved Plum Run Trail, oriented so that viewers of the panel will be in a direct line of vision with the dam remnants. No recommendations are made to repair any portions of the remnant dam, but stabilization of the surviving elements should be prioritized for educational and interpretive purposes.

Cultural Landscape & Historic Resources Recommendation 4:
Stabilize what remains of the historic Strode’s Mill dam and install a trailside interpretive panel in view of the dam that details its historical importance for educational purposes.

Figure 5.8: Current Image of Strode’s Mill Dam (Note control pipe)

Figure 5.9 Photo “Falls at Strode’s Mill Dam” circa 1895 (Officially undated)

Figure 5.10: Current photo of Strode’s Mill Dam stonework
5.0 Cultural Landscape & Historic Resources

5.4 Witness Tree

Located on the Birmingham Tract of the Plum Run Preserve, just outside of the Birmingham Road right-of-way, is a living witness to the passage of British troops that took place on September 11, 1777. The great white oak ‘Witness Tree’ is over 250 years old and has been a constant sentinel observing centuries of events taking place within the Strode’s Mill Historic District. This incredible specimen tree should be routinely monitored by the Township for its health and pruned as needed to insure structural strength. Disturbances to the surface and root system around the tree should be avoided. The Witness Tree should be made the subject of a trailside interpretive panel located within view of the specimen, either from the paved Plum Run Trail or from the trailhead planned for the Birmingham Tract. Parking infrastructure should be located as far away from the tree as possible. The tree sits in close proximity to a private residence and a heavily traveled public road. For these reasons, the public should not be allowed within close range of the tree and the township should plan to install an attractive, period appropriate fence some distance away from the tree that will deter the public from making close contact (see Figure 5.12).

Cultural Landscape & Historic Resources

Recommendation 5: The Township should routinely monitor and maintain the Witness Tree on the Birmingham Tract and install a trailside interpretive panel in view of the tree that details its historical significance for educational purposes. The public should be kept at a distance from the tree to respect the adjacent private property and for safety purposes. The Township should install period appropriate fencing to help restrict access.

Figure 5.11: Majestic ‘Witness Tree’ on Birmingham Rd.

Figure 5.12: Example of Battlefield Era split rail ‘snake fence’ detail
5.5 Interpretive Subjects

There are several high-visibility historic resources that are not owned by the Township which will be featured in interpretive signage planned along the Plum Run Trail or at the Strode’s Barn Heritage Center. The public will not have direct access to these features but all efforts will be made to provide vantage points to them from near where their respective panels are positioned. Refer to the ‘Potential Interpretive Signage Locations’ Map (Figure 7.3) for recommendations on where interpretive panels can be placed along the Plum Run Trail to provide historical information on these resources. Most of the interpretive panels will be incorporated into the Strode’s Barn Heritage Center displays. These panels will highlight resources such as the historic mill, the miller’s house, the former East Bradford Boarding School for Boys, architectural use of local serpentine stone, etc. Peripherally there will be interpretive panels located at the trailhead next to the parking lot on the Tigue Tract to provide information on the historic Entriken/Tigue Farmstead. There will also be interpretive panels stationed at the trailhead next to the parking lot on the Birmingham Tract to provide information on the historic Richard Strode Farmstead.

Cultural Landscape & Historic Resources Recommendation 6:
The Township should utilize Appendix A: List of Heritage Themes, the Potential Interpretive Signage Locations Map, and recommendations for interpretive signage within Section 7 of this Master Plan to design and install an array of educationally interesting and visually attractive interpretive panels that provide insight and information on the surrounding cultural landscape and historic resources of the Plum Run corridor.
5.6 Battle of the Brandywine Interpretation

The Battle of the Brandywine took place on September 11, 1777 and involved a complex series of troop movements leading up to combat. British and Hessian forces under the command of Generals Howe and Cornwallis forded the west and east branches of the Brandywine Creek at locations unguarded by American forces and proceeded to march southward along Birmingham Road. The forces halted in the vicinity of the Strode’s Mill crossroads and Osborne Hill in order to regroup and rest before they were then arranged into three columns of brigades that measured about a mile in width. These forces marched to the south where they were confronted by American forces. Combat and artillery fire initiated thereafter and the battle ensued. The Plum Run area marks the location where the British flanking march transitioned to troops being placed into combat formations and is therefore a critical juncture in the battle history. There will be several interpretive panels located at the Strode’s Barn Heritage Center that will provide important and interesting information on the Battle of the Brandywine. The panels will include maps illustrating the British flanking march movements and assembling of the troops preparing for battle, as well as interactions with local citizens, the role of topography, and the local, largely Quaker community.

The 2015 plan prepared by the Chester County Planning Commission entitled ‘The British Left Hook – Preparing for Battle’ includes a wealth of detailed information that was intended to be included in the displays at the Strode’s Barn Heritage Center. This plan is to be used as the principle resource to guide the design of the battle-centric interpretive panels planned for the Strode’s Barn Heritage Center. Moreover, the survival of the Brandywine Battlefield as a living cultural landscape that remains vital to the preservation of Chester County heritage, quality of life, and sense of place, is highlighted in the ‘Preparing for Battle Plan – Appendix A’.
and is a primary driver behind the effort to conserve land within the Brandywine Battlefield landscape. This concept of a ‘Living Cultural Landscape’ should be incorporated into the Brandywine Battlefield interpretation planned for the Strode’s Barn Heritage Center and should strive to relay to the public how the local community plays an active role as caretakers and stewards of the battlefield.

Cultural Landscape & Historic Resources Recommendation 7:
Design and install Battle of the Brandywine-specific interpretive signage at the Strode’s Barn Heritage Center utilizing the ‘Preparing for Battle’ document as the primary guiding resource for the inclusion of specific information relating to maps, documented witness accounts, the context of the battle and preceding troop movements as they relate to the area surrounding the Strode’s Mill Historic District, and the modern battlefield evolution into a ‘Living Cultural Landscape’ that represent a target for local stewardship and conservation.

Figure 5.16: Brandywine Battlefield Reenactments transform the landscape into a living history museum
6.0 Utilities

6.0 Utilities Summary
Utilities are necessary infrastructure that impact the Plum Run corridor and represent both obstacles that must be physically negotiated and features that contribute to the degradation of the visual aesthetic of the landscape. There are both underground and above ground utilities present throughout the project area, the future disposition of which can’t be unilaterally controlled by the Township. In dealing with existing utilities and anticipated or as-of-yet unknown new infrastructure, the objective of the Master Plan is to decrease the visual impact of utilities on the integrity of the Strode’s Mill Historic District and ensure harmonization between the physical needs of the public to recreationally use the corridor and the needs of utility companies to safely access, operate and maintain their equipment.

6.1 Site Lighting
Site lighting will be an important component of the plan to develop and manage the Strode’s Barn Heritage Center. The strategic installation of lighting at the Heritage Center is necessary for nighttime security purposes and as a means of aesthetically highlighting the historic features of the Strode’s Barn after dark. PECO provides electric service to the intersection of Lenape and Birmingham Roads and a connection exists to provide service to the Heritage Center. New lighting should be kept minimal and new electric lines installed to serve the Heritage Center should be buried. The character of lamps and above ground lighting equipment should comply with the Secretary of the Interior’s Standards for the Treatment of Historic Properties, if possible. Aesthetic lighting should focus on the Lenape Road-facing façade of the Strode’s Barn and on the planned sign featuring the replicated Strode’s Scrapple & Sausage logo. Security lighting should focus on the Heritage Center courtyard and the ground level entrance(s) into the Strode’s Barn in an effort to deter vandalism and unauthorized attempts to enter the building. The Master Plan does not propose any site lighting for the trail or parking lots. The Township will manage the Strode’s Barn Heritage Center and surrounding Plum Run Preserve based on a dawn-to-dusk public use policy.

Utilities Recommendation 1: Extend electricity to the Strode’s Barn Heritage Center (via buried electric lines) and strategically install site lighting.
lighting to help secure the Heritage Center and aesthetically enhance the historic barn after dark.

**Utilities Recommendation 2:** No new site lighting should be installed along the Plum Run Trail or at trailheads or parking lots in order to preserve the rural and historic aesthetic of the corridor as well as to minimize impacts on wildlife and natural resources.

6.2 **Existing Overhead Utilities**

PECO maintains overhead electric lines that run along Tigue, Birmingham, and Lenape Roads as well as through a portion of the Lenape Tract of the Plum Run Preserve. The overhead lines merge at the intersection of Lenape and Birmingham Roads, creating a visual smorgasbord of unsightly electric wires, utility posts, and support cables directly in the heart of the Strode’s Mill Historic District. Coupled with traffic signals on all four corners of the intersection and a myriad of scattered signage, these features greatly erode the historic character of the Strode’s Mill village. This problem is sensed most keenly within the boundary of the Strode’s Mill Historic District, just the area where one would most expect such features to have been more thoughtfully arranged and considered. PECO, and potentially Verizon, are primarily responsible for the maintenance of this overhead utility infrastructure. It is not realistic to expect that these utilities can be immediately altered or relocated, but over time this infrastructure will need to be upgraded and replaced. The Township should collaborate with PECO and Verizon, utilizing what power it may have, to advocate for the burying of electric lines within the Strode’s Mill Historic District at such time when existing infrastructure must be updated and/or replaced.

**Utilities Recommendation 3:** The Township should begin advocating (while working with PECO and Verizon as necessary) for the planned future burying of all electric lines within the Strode’s Mill Historic District, primarily focusing on the intersection of Lenape and Birmingham Roads.
6.0 Utilities

6.3 Existing Sewer and Underground Utilities

There is existing above and below ground sewer infrastructure on the Lenape and Tigue Tracts of The Plum Run Preserve. No buried gas lines are known to exist within the project area. As of December 2018, the sewer infrastructure is entirely owned and managed by AQUA Pennsylvania, Inc. (AQUA). A buried sewer main runs through the entire length of the Tigue Tract, north of and parallel to Plum Run. The main line continues through private property and then enters the Lenape Tract where it outlets to a pump station accessible from Birmingham Road. The entirety of the buried main is subject to a utility easement. The footprint of the pump station, which is enclosed by a secured fence and gate, is owned in fee simple by AQUA. The paved access way from Birmingham Road to the pump station is subject to an access easement held by AQUA and can’t be obstructed. The planned public trails and access to the Plum Run Preserve can be realized in a way that protects and limits interference with the operation and maintenance needs of the utility. The buried main running through the Tigue Tract creates an optimal boundary between the planned meadow restoration area and the planned riparian buffer expansion area.

The compacted gravel multi-use trail is planned to run parallel with the buried sewer main but should be offset from the sewer line easement and installed so that it is not physically above the sewer line. This will spare the trail any unnecessary damage if the utility needs to disturb the surface to maintain the line. Likewise, riparian tree plantings should be spaced well enough away from the utility easement area so that underground root systems do not impact the buried line. Regarding the Lenape Tract, the sewer station is secured by a surrounding fence and gate that is locked at all times. The paved access way can be utilized by pedestrians and bicyclists but can not be impeded by any permanent structures or unpermitted vehicles. The Plum Run Trail is planned to tie into the existing paved surfacing. To prevent unauthorized vehicular use and obstruction of the access drive, the Township should collaborate with AQUA to install a secured access gate at the entrance of the driveway. Both AQUA and the Township would retain keys or the combination to the locks on the gate to ensure that maintenance and service personnel have unrestricted access.

Utilities Recommendation 4: Utilize the sewer line easement running through the Tigue Tract as a separator between the riparian buffer area (trees planted no less than 20 feet from the sewer line easement) and the

Figure 6.3: Artistic Rendering of buried utilities at Strode’s Barn
managed meadow area, installing the compacted gravel multi-use trail next to but not overtop the sewer line easement area.

**Utilities Recommendation 5:** The Township should collaborate with AQUA to install a secured access gate at the entrance of the sewer pump station on Birmingham Road to ensure that public use does not interfere with the utility company’s ability to access the pump station.
7.0 Corridor Signage

7.0 Corridor Signage Summary

Signage is one of the most important aspects of providing and promoting public access to a park and trail system because it represents the principal public interface mechanism between the Township and users. Signage can be utilized to brand a public resource and ingrain a park or trail name into the public lexicon. Signage denotes what facilities are public, where permitted access points are located, and what activities are allowed. Signage also instructs park and trail users on how to go about navigating from one destination to another along a trail system. Signage can also be a powerful tool to educate the public on important resources and historical information, adding an extra dynamic to the recreational trail experience. The Plum Run corridor will feature a diverse mix of signage types and styles that strategically accomplish all of these necessary communications. Certain signage planned for the Plum Run corridor will conform to existing Township standards. Other signage will need to conform to standards that have been accepted and utilized by neighboring municipalities in an effort to create cohesion along the multi-municipal Brandywine Battlefield Trail network. Additionally, interpretive signage planned for the Plum Run Trail and the Strode’s Barn Heritage Center is less standardized and can be customized based on interpretive objectives and aesthetic preferences. The following subsections will cover the various signage types planned for the Plum Run corridor. Recommended locations associated with each particular signage type can be seen on the Potential Signage Locations Map Figure 7.3.
Figure 7.3 Potential Signage Locations Map

Potential Signage Locations Map
Plum Run Corridor Master Plan
East Bradford Township, Chester County, PA

Legend:
- Information
- Environmental Sign
- Gateway Sign
- Battlefield Interpretation Sign
- Historic Interpretation Sign
- Potential Parking Locations
- Pedestrian Bridge/Boardwalk
- Multi-Use Trail
- Multi-Use Trail-Paved-Twp
- Darlington Ridge Trail Private - Paved
- WCU Golden Ram Trail - Existing
- Streams
- Wetland Boundary

Legend:
- Plum Run Trail Public - Paved
- Darlington Ridge Trail Private - Paved

Legend:
- 0 200 400 Feet

PLEASE NOTE:
Legends need to be centered between the 'PA Locator' data frame and the border to the right, as well as vertically in the space between the figure imagery and the bottom border. Normal legend settings are included in the blank legend present in the template.

1.) After a legend is added to a map, select the legend so it has the four teal squares, one at each corner. Then go to the drawing toolbar and make the font size 15 (14 if additional space is needed).

2.) In the legend properties, the 'Column Gap' should most often be at least 15.

3.) Never include the title 'Legend'

4.) Always export a PDF of your figure and review it before sending it on.
7.0 Corridor Signage

7.1 Corridor Branding

Branding is an essential step in introducing a new public resource to potential users. Formally naming and identifying facilities helps direct the public to their desired destinations and also eliminates confusion when trying to communicate effectively about important matters that might impact users. Branding is strategically reflected on and incorporated into signage. Signage should therefore be made as visible as possible, be it planned for placement along roadsides, trails, property entrances or property boundaries. Identification of resources should be consistent and this is where branding becomes of critical importance. The main recreational amenity planned for the Plum Run corridor is the 8-foot wide paved asphalt multi-use trail. This trail will be accessible from several entrance points and should be branded, similar to how the Township has branded its East Branch Brandywine Trail. The main paved trail is planned as a spine that will connect the public resources along the Plum Run

Figure 7.4: Corridor Branding Map
Corridor. This trail will be branded as the ‘Plum Run Trail’. The Plum Run Trail will connect and link three tracts of land along the corridor that are owned by the Township and will feature public access improvements such as parking areas, trailheads, and minor trails. These three tracts together will comprise a complex of protected Township land referred to as the ‘Plum Run Preserve’. Each of the three tracts, which are separated from one another by either roads or privately-owned properties, will be branded with a tract name. The ‘Tigue Tract’ is the easternmost block of the Plum Run Preserve and fronts Tigue Road. The ‘Lenape Tract’ is the central block of the Plum Run Preserve and contains most frontage along Lenape Road. The ‘Birmingham Tract’ is the westernmost block of the Plum Run Preserve and fronts Birmingham Road. The Lenape Tract of the Plum Run Preserve will feature a very prominent destination of public interest along the Plum Run Trail: the ‘Strode’s Barn Heritage Center’. The Strode’s Barn Heritage Center will be spatially distinguishable from the Plum Run Preserve on maps and published literature and represents a space where the intended public use deviates from that of the surrounding Plum Run Preserve. Lastly, there is the designated ‘Strode’s Mill Historic District’ that features prominently into the recommendations of this Master Plan and should be more aggressively and visibly branded.

**Corridor Signage Recommendation 1:** Designate and brand the main, paved trail through the Plum Run corridor as the ‘Plum Run Trail’.

**Corridor Signage Recommendation 2:** Designate and brand the complex of preserved land owned by the Township and accessible to the public as the ‘Plum Run Preserve’, allocating tract names for each of the three separated blocks. These tracts shall be referred to as the ‘Birmingham Tract’, the ‘Lenape Tract’ and the ‘Tigue Tract’ of the Plum Run Preserve.

**Corridor Signage Recommendation 3:** Designate and brand the interpretive hub of the corridor, to be located at the site of the Strode’s Barn, as the ‘Strode’s Barn Heritage Center’.

**Corridor Signage Recommendation 4:** More aggressively brand and promote the ‘Strode’s Mill Historic District’ by incorporating this existing entity into the Township’s overall Plum Run corridor signage strategy (i.e. gateway signs, information kiosk maps, interpretive panel displays).
7.0 Corridor Signage

7.2 Gateway Signage

Gateway signs are recommended to help inform approaching vehicles that they are entering into the Strode’s Mill Historic District or have arrived upon the Strode’s Barn Heritage Center. Both of these attractions are tightly linked to the Brandywine Battlefield Trail and represent points of interest along it, especially if a self-guided driving tour is established and promoted in the future. The gateway signs should therefore be placed just outside of the road right-of-way in locations that are visible to vehicular traffic.

For the Strode’s Barn Heritage Center gateway sign, this means prominent display on the southeastern corner of the Birmingham and Lenape Road intersection. For the Strode’s Mill Historic District gateway signs, two are currently recommended for installation. One should be installed on the Lenape Tract, facing westbound Lenape Road traffic, placed between the planned visitor parking lot entrance and the intersection of Lenape and Tigue Roads. The other gateway sign should be installed on the Birmingham Tract, facing northbound Birmingham Road traffic, placed just south of the planned visitor parking lot. These two entry points into the historic district are recommended for gateway signage because the Township owns rights to the ground where they will be placed. The Township does not own property rights at the other two roadside entrances into the historic district and would need to acquire sign easements for their placement. This is recommended as a future action in order to increase visibility in branding of the Strode’s Mill Historic District.

In all cases, the gateway signage should adopt the standard of that which has been installed at Sandy Hollow by Birmingham Township. The Strode’s Mill Historic District gateway signs should copy the color scheme of the Sandy Hollow signage and should include the Brandywine Battlefield insignia at top center. The Strode’s Barn Heritage Center gateway sign should deviate from the color scheme of the Sandy Hollow signage by reversing the colors so that the text is imprinted in navy blue set against a white background. The Brandywine Battlefield insignia should appear at top center. This will help distinguish the heritage center, draw focus to it from the road, and will better compliment the white stucco façade of the barn. The Gateway Sign System design specifications
booklet published in 2014 for the Brandywine Battlefield National Historic Landmark should be used as a guide in the final designing of the gateway signage.

**Corridor Signage Recommendation 5:** Design and install gateway signage for the Strode’s Barn Heritage Center and the Strode’s Mill Historic District according to the recommended locations referenced in the Potential Signage Locations map and in conformity to the signage template standards utilized by Birmingham Township (at the Sandy Hollow Brandywine Battlefield Trail site) and recommended in the Brandywine Battlefield Gateway Sign System publication.

**Corridor Signage Recommendation 6:** The Township should pursue the donation of signage easements at the two additional roadside entrances into the Strode’s Mill Historic District and should subsequently install identical gateway entry signage at those locations.
7.0 Corridor Signage

7.3 Corridor Entry Signage

Corridor entry signage is recommended for installation at public access points into the Plum Run Preserve and onto the Plum Run Trail. This signage will serve to identify and direct public traffic, including pedestrians, bicyclists and vehicles. These signs are synonymous with ‘park’ or ‘trail’ entry signs and will help brand the public amenities along the corridor and signal transitions between private and public property. Plum Run Preserve entry signs will be located next to the planned parking area entrances on the Plum Run Preserve, at the Plum Run Trail entrance located at the intersection of Tigue and Lenape Roads, and at the Plum Run Trail entrance into the Tigue Tract from the adjacent Gordon Natural Area. A Plum Run Trail entry sign will be located at the Plum Run Trail trailhead planned at the entrance to the WCU Rockwell Field connection. Corridor entry signs should be placed so that they are most visible to their intended public viewers and should conform to the standard style used by the Township at most of its other park facilities. These signs are double-posted signs featuring white text imprinted against a dark brown background. Typically, the name of the park or trail location will be centered in large font on the front of the sign and the street address of the entry point will be centered below in smaller font. Street addresses (if available) are important to include on the corridor entry signs for navigation and emergency response purposes.

Corridor Signage Recommendation 7: Design and install corridor entry signage for the Plum Run Preserve and the Plum Run Trail entry points, in accordance with the recommended locations referenced in the Potential Signage Locations map and in conformance with the standard East Bradford Township park and trail entry sign template and style.
7.0 Corridor Signage

7.4 Trailhead Information Kiosks

Visitor information kiosks are planned for the major trailhead locations along the Plum Run Trail. A kiosk will be installed at each of the three parking areas planned for the Plum Run Preserve and a fourth kiosk will be planned for the Plum Run Trailhead entrance located in front of Rockwell Field. These kiosks are the main vehicles used by the Township to post park and trail use rules/regulations signage, park maps, event flyers, and additional property identification information. These kiosks and the information posted within them are critical to the insurance of a quality user experience and play an important role in providing safe and enjoyable park environments. They also inform users on where destinations of interest may be along the trail and how to navigate the public trail system.

The information kiosks planned for the Plum Run corridor should conform to the standard Township kiosk style employed at many Township park locations. Typically, these kiosks are of treated lumber construction, doubled-posted (6”x6”), and include an A-frame roof cover that shelters an aluminum-framed cabinet with glass panes that are secured by key locks. The kiosks should be installed on level ground and should be oriented towards the location of heaviest pedestrian traffic. These kiosks can be constructed and installed by prospective Eagle Scouts at a low cost to the Township. The Township would supply the kiosk cabinet and the Eagle Scout would procure all other needed materials and hardware.

Corridor Signage Recommendation 8: Work with volunteer Eagle Scout prospects to construct and install visitor information kiosks at the Plum Run Trailheads, in accordance with the recommended locations referenced in the Potential Signage Locations map and in conformance with the standard East Bradford Township park visitor information kiosk template and style.
7.0 Corridor Signage

7.5 Trail Navigation Signage

Trail navigation signage can be especially useful or necessary for larger interconnected trail systems. For smaller trail systems like that planned for the Plum Run corridor, the Township should utilize discretion in finalizing plans for the installation of trail navigation signage. Mile markings for the paved Plum Run Trail would be appropriate, in increments of a quarter mile, and can be paint-applied directly to the asphalt surface. Where the non-paved trails intersect with the paved Plum Run Trail, such as with the WCU Golden Ram Trail and with the loop trail planned for the Tigue Tract, 6”x6” wooden trail intersection posts would be appropriate. Aluminum blazes could be attached to the trail posts that help users navigate accordingly. The Township utilizes this type of blazing scheme along the East Branch Brandywine Trail system. Trail blazes and intersection posts are not recommended for placement within the Tigue Tract meadow or away from the Plum Run Trail. The landscape offers high visibility and the hiking trails are well-confined such that users should not have difficulty navigating the hiking trails. This will help maintain the natural appearance of the Plum Run Preserve and limit visible man-made features.

**Corridor Signage Recommendation 9:** The Township should install appropriate trail navigation signage along the Plum Run Trail at its discretion and according to the anticipated needs of the public.
7.0 Corridor Signage

7.6 Interpretive Panels

Effective interpretive panels come in a wide variety of styles and tend to share common elements, regardless of particular subject matter. Most interpretive panels feature a strong, informative story captured in limited text. They are visually compelling and include attractive graphics combined with relevant captions (many people tend to read captions linked to the images rather than the longer narrative text). Depending on the subject matter, it is common to see the utilization of maps, time lines, historic photos, and artistic renderings, etc. The Plum Run corridor will include an array of vibrant interpretive panels that will educate the public on the surrounding natural resources, the cultural landscape, historic resources, and past events of major importance, such as the Battle of the Brandywine. Several panels will be installed along the paved Plum Run Trail within the Plum Run Preserve, oriented so that the reader can observe the real-life subject matter, where appropriate. Interpretive panels are not recommended for installation outside of the paved Plum Run Trail/Trailheads and the Strode’s Barn Heritage Center because they should be visible and along accessible routes to better serve those with mobility challenges and for ease of maintenance. Interpretive panels can be installed along the trail with relative ease, anchored into the ground by cement poured at a specified depth and width. Interpretive panels can also be mounted to structures or vertical surfaces, such as may be preferred at planned locations within the Strode’s Barn Heritage Center or along the planned wetland boardwalk. The Township will have flexibility in customizing the interpretive panels to the desired sizes and there are numerous options to consider when selecting materials and aesthetic treatments. The final design of the interpretive panels should be based on a combination of factors, including site location constraints, aesthetic appeal, and the need to adequately convey the subject matter in an attractive and compelling manner.

Corridor Signage Recommendation 10: The Township should design and install interpretive panels for the Plum Run corridor in accordance with the recommended locations referenced on the Potential Signage Locations map. Panel sizes, configurations, styles and aesthetic treatments should be based on site constraints, the desired aesthetic appeal, and subject matter requirements.

Figure 7.13: Examples of Interpretive panels and options for mounting and display
7.0 Corridor Signage

**Meadows Store and Filter Water**
Meadows act like a sponge, soaking up water from winter rains and spring snowmelt. This water is then slowly released downstream, providing a critical source of moisture through California’s dry summers.

**Native Plants Need Native Pollinators**
The wildflowers of Loney Meadow would not be here without the work of native pollinators, such as bumble bees, butterflies, and hummingbirds.

Figure 7.14: Example of a natural resource interpretive panel information display

Figure 7.15: Example of Chronological History interpretive panel (left) and historic architecture interpretation (right)
8.0 Implementation and Action Plan

8.0 Implementation and Action Plan Summary

It is recommended that implementation of the Master Plan components be broken apart and pursued in phases. This will make the project more cost-affordable to the Township and will allow the Township to pursue a timeline of implementation that best suits the ability to procure grant funds that will be required for full implementation. In this implementation approach, various components of the Master Plan are broken apart into phases in section 8.2. The reader should note that the Township will have the flexibility to pursue single phases at a time, or, if funding and other parameters allow, can approach multiple phases together at once in the pursuit of a more aggressive implementation strategy. Budget expectations and costs have been provided as estimates only, assembled using the best information and comparable data that could be procured relevant to the various complexities and scales/dimensions of the individual components of the project. To avoid the risk of underestimating cost estimates, a 10% increase has been applied to cover unanticipated contingency costs.

8.1 Budget Expectations and Probable Costs

It is important that East Bradford Township have a full sense of probable costs of construction by phase. The following list of project components, site improvements and site amenities are assembled in order to project the cost of implementation of Phase I of the Plum Run Corridor. Costs are assigned as installed in situ (materials and labor) values over the course of Plan implementation, including probable costs of materials, mobilization, labor and installation of site amenities.

A contingency factor has been integrated to provide a buffer of unforeseeable project costs such as contractor insurance variables, weather delays, unexpected shifts in products related to volatile timber, liquid fuel or labor force rates and unit prices. Similarly, for the benefit of the Township’s ability to adjust cost in subsequent years, it will be prudent to calculate additional 3-5% inflation per year to the projected probable costs anticipated herein.
8.0 Implementation and Action Plan

GRAND TOTAL - Opinion of Probable Cost for: Plum Run Corridor

**This Opinion of Probable Cost is based on Trail Alignment Exhibits dated April 30, 2019, and is subject to change as the design of the corridor is further developed. (Add 3-5% Escalation per year thereafter)**

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<th>ITEM</th>
<th>QUANTITY</th>
<th>UNIT COST</th>
<th>TOTAL</th>
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<td>Survey (Presume expansion and same benchmark/ datum controls of prior site survey)</td>
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<tr>
<td>Public Involvement (Led by Twp. with minimal Contractor and Consultant time)</td>
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<tr>
<td>PS&amp;E and Bid Package (Township Lets Bid Package and Announcements)</td>
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<td><strong>Design Total</strong></td>
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| Construction                                                                 |
|------------------------------------------------------------------------------|----------|-----------|-----------|
| ITEM                                                                        | QUANTITY | UNIT COST | TOTAL     |
| Mobilization                                                               | LS       | $17,500.00 | 17,500.00 |
| Stabilized Construction Entrances                                          | LS       | 14,500.00  | 14,500.00 |
| Clearing and Grubbing                                                      | LS       | 10,000.00  | 10,000.00 |
| Erosion & Sedimentation Controls                                           | LS       | 50,000.00  | 50,000.00 |
| Seeding and Mulching (Presume limited machine access)                      | 5 AC     | 8,000.00   | 40,000.00 |
| Excavation                                                                 | LS       | 110,000.00 | 110,000.00|
| 8' Wide Multi-Use Paved Trail                                             | 1,868 LF | 125.00     | 233,500.00|
| 8' Wide Multi-Use Paved Trail (WCU Extension) (with geofabric)            | 1,560 LF | 125.00     | 195,000.00|
| 8' Wide Multi-Use Compact Gravel Trail                                    | 1,648 LF | 75.00      | 123,750.00|
| Natural surface Single Tread Trails (Incl. blazing and mile markers)      | 6,814 LF | 3.00       | 20,435.00 |
| **Structures**                                                             |          |           |           |
| Pedestrian Bridge 60' x 8' (Phase 1)                                       | 1 LS     | 113,500.00 | 113,500.00|
| Pedestrian Bridge 40' x 8' (Phase 1)                                       | 1 LS     | 94,800.00  | 94,800.00 |
| Wetlands Boardwalk 180' x 8' (Phase 1)                                     | 180 LF   | 500.00     | 90,000.00 |
| Stormwater & Drainage                                                      | LS       | 31,000.00  | 31,000.00 |
| Landscaping (Native plants, shrubs, trees)                                | LS       | 42,500.00  | 42,500.00 |
| 3-Rail Split Rail Fencing                                                 | 1,250 LF | 50.00      | 62,500.00 |
| Strode's Barn Heritage Center Courtyard                                    | LS       | 40,000.00  | 40,000.00 |
| Commissioned Custom Art Center Feature                                    | LS       | 30,000.00  | 30,000.00 |
| Strode's Scrapple & Sausage Factory Sign Replica                          | LS       | 10,000.00  | 10,000.00 |
| Interpretive Panels                                                       | 12 EA    | 5,000.00   | 60,000.00 |
| Benches                                                                    | 4 EA     | 800.00     | 3,200.00  |
| Roadway Crossings (Intersection Bike/Ped Enhancements)                    |          |           |           |
| ADA Ramps/ Truncated Domes                                                 | 2 EA     | 2,500.00   | 5,000.00  |
| High Visibility 10' Wide Cont. Crosswalk (Twp)                            | 2 EA     | 3,500.00   | 7,000.00  |
| Pedestrian Push Button Actuation Signal Phase                             | LS       | 160,000.00 | 160,000.00|
| Curbcut, Conduit, Wire, Hardware                                           | LS       | 40,000.00  | 40,000.00 |
| Share the Road White Reflective Sharrows                                   | 6 EA     | 400.00     | 2,400.00  |
| Fixed Solid Bollards (2 at 8 trail entrances)                             | 17 EA    | 1,000.00   | 17,000.00 |
| Removable Bollards (1 at 8 trail entrances)                               | 9 EA     | 2,000.00   | 18,000.00 |
| **Corridor and Pedestrian Signs**                                          |          |           |           |
| Pedestrian Stop/Yield Signs at Road Crossings                              | 5 EA     | 500.00     | 2,500.00  |
| Kiosk                                                                      | 4 EA     | 3,500.00   | 14,000.00 |
| Entrance Signs                                                             | 6 EA     | 1,500.00   | 9,000.00  |
| Gateway Signs                                                              | 5 EA     | 2,000.00   | 10,000.00 |
| Interpretive Panels                                                       | 5 EA     | 5,000.00   | 25,000.00 |
| **Trail Head Parking Lots (Paved Asphalt, striping and wheel stops)**     | 3 EA     | 50,000.00  | 150,000.00|
| **Trail Amenities**                                                       |          |           |           |
| Benches                                                                    | 3 EA     | 800.00     | 2,400.00  |
| Dog Waste Receptacle                                                      | 4 EA     | 600.00     | 2,400.00  |
| Trash Receptacles                                                         | 9 EA     | 500.00     | 4,500.00  |
| Picnic Tables                                                              | 2 EA     | 1,200.00   | 2,400.00  |
| Inspectors Office & Equipment Package                                     | 1 LS     | 10,000.00  | 10,000.00 |
| Construction Surveying                                                    | LS       | 7,500.00   | 7,500.00  |
| **Subtotal**                                                              |          | $2,142,010.00 | 2,142,010.00 |
| **Contingency (10%)**                                                     |          | $214,201.00 | 214,201.00 |
| **Construction Subtotal**                                                 |          | $2,356,211.00 | 2,356,211.00 |
| **On-Site Inspection/ Construction Observation (10%)**                    |          | $235,621.10 | 235,621.10 |
| **Table 1: Overall Design + Construction Total**                          |          | $2,591,832.10 | 2,591,832.10 |
8.0 Implementation and Action Plan

8.2 Phased Implementation Plan

**PHASE A.** Darlington Ridge Development Phase: The paved, 8-foot wide multi-use Plum Run Trail on the Tigue Tract, the 6-space gravel parking lot on the Tigue Tract, the Tigue Road raised crosswalk near the parking lot, the paved, 8-foot wide multi-use Plum Run Trail on the Darlington Ridge property (north side of Tigue Road), and the paved, 6-foot wide private trail connection into the Darlington Ridge community will be completed during the construction of the Darlington Ridge development at no cost to the Township.

**PHASE 1.** Plum Run Trail Completion Phase: The paved, 8-foot wide multi-use Plum Run Trail will be completed between the Strode’s Barn Heritage Center and the WCU Rockwell Field trailhead, to include two pedestrian bridge crossings of the Plum Run and a wetland boardwalk crossing on the Lenape Tract. This phase will also include the installation of a parking lot on the Lenape Tract with ingress/egress from Lenape Road (Rt.52), to include associated site amenities and signage. Included in this phase will be two additional crosswalks on Tigue Road.

**PHASE 2.** Strode’s Barn Heritage Center Phase: This phase will include restoration of the exterior components of the Strode’s Barn and spring house, plus installation of the planned courtyard-style Heritage Center features, to include stormwater management and site drainage improvements. The courtyard improvements will include the removal of existing backfill, limited restoration of former foundation walls, the construction of new supporting stone buttress walls, the design, fabrication and installation of interpretive panels, re-surfacing, the installation of seating features, and placement of a central showcase feature. This phase will include the extension of the paved, 8-foot wide Plum Run Trail from the Lenape Tract parking lot to the Lenape and Birmingham Road intersection through the front yard of the Strode’s Barn and a signalized continental crosswalk crossing of Birmingham Road to provide pedestrian access between Strode’s Mill and the Strode’s Barn Heritage Center. This phase will include the fabrication and installation of the Strode’s Scrapple logo replication paneling.

**PHASE 3.** Plum Run Preserve Recreational Trails Phase: This phase will include the installation of the compacted gravel, 8-foot wide multi-use trail and the natural hiking trails planned for the Lenape and Tigue Tracts of the Plum Run Preserve. With the cooperation of WCU, this phase would include the natural hiking trail extensions into the Gordon Natural Area.

**PHASE 4.** Birmingham Tract Improvements Phase: This phase includes the extension of the 8-foot wide multi-use Plum Run Trail from the Lenape Tract wetland boardwalk to the Birmingham Tract parking lot, including the installation of a mid-block pedestrian crossing on Birmingham Road. This phase further includes installation of a parking lot on the Birmingham Tract and all associated site amenities and signage. This phase will also include the installation of traffic calming islands in Birmingham Road and Lenape Road.

**PHASE 5.** Potential Strode’s Mill Parking Lot Phase: This phase is dependent on future interest and collaboration with the owner(s) of Strode’s Mill and includes the potential for sidewalk improvements that would improve access between the signalized continental crosswalk and the existing parking lot on the southwestern side of the mill, including potential parking area improvements that would allow for public use.
# 8.0 Implementation and Action Plan

## PHASE 1 - Opinion of Probable Cost - (2) Bridges, Boardwalk, Asphalt Multi-use Trail

### Design, Engineering, Survey and Permitting

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QUANTITY</th>
<th>UNIT</th>
<th>UNIT COST</th>
<th>TOTAL</th>
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<td>Utility Coordination (PA One-Call, Overhead and Underground)</td>
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### Construction

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# Implementation and Action Plan

## PHASE 2 - Opinion of Probable Cost - Strodes Barn Outdoor Heritage Center, Parking, Trail

**Design, Engineering, Survey and Permitting**

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<tr>
<th>ITEM</th>
<th>QUANTITY</th>
<th>UNIT</th>
<th>COST</th>
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<td>Environmental Clearance (Presumes General, but NO Joint Permit)</td>
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<td>Utility Coordination (PA One-Call, Overhead and Underground)</td>
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<td>Public Involvement (Led by Twp. with minimal Contractor and Consultant time)</td>
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<td>4,000.00</td>
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<td>(Include Phase 3 Multi-Use Trail in Twp. Approvals)</td>
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## Construction

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<td>2,500.00</td>
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<td>Clearing and Grubbing</td>
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**This Opinion of Probable Cost is based on Trail Alignment Exhibits dated April 30, 2019, and is subject to change as the design of the corridor is further developed. (Add 3-5% escalation per year thereafter)**

**Subtotal** $625,375.00  
**Contingency (10%)** $62,537.50  
**Construction Subtotal** $687,912.50  
**On-Site Inspection/ Construction Observation (10%)** $68,791.25  

**Table 3: Phase 2 Design + Construction Total** $756,703.75
# 8.0 Implementation and Action Plan

## PHASE 3 - Opinion of Probable Cost - Plum Run Corridor Compact Gravel/ Natural Surface Trails

### Design, Engineering, Survey and Permitting

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<th>QUANTITY</th>
<th>UNIT</th>
<th>UNIT COST</th>
<th>TOTAL</th>
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<td>$10,000.00</td>
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<tr>
<td>3-Rail Split Rail Fencing</td>
<td>150</td>
<td>LF</td>
<td>$50.00</td>
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<tr>
<td>Roadway Crossings (Intersection Bike/Ped Enhancements)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Fixed Solid Bollards (2 at 8 trail entrances)</td>
<td>1</td>
<td>EA</td>
<td>$1,000.00</td>
<td>$1,000.00</td>
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<tr>
<td>Removable Bollards (1 at 8 trail entrances)</td>
<td>1</td>
<td>EA</td>
<td>$2,000.00</td>
<td>$2,000.00</td>
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<tr>
<td>Trail Amenities</td>
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<td></td>
<td></td>
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<tr>
<td>Trash Receptacles</td>
<td>1</td>
<td>EA</td>
<td>$500.00</td>
<td>$500.00</td>
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</tbody>
</table>

**This Opinion of Probable Cost is based on Trail Alignment Exhibits dated April 30, 2019, and is subject to change as the design of the corridor is further developed. (Add 3-5% Escalation per year thereafter)**

<table>
<thead>
<tr>
<th>Cost Type</th>
<th>Description</th>
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<tr>
<td>On-Site Inspection/ Construction Observation (10%)</td>
<td></td>
<td>$18,164.85</td>
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</table>

**Table 4: Phase 3 Design + Construction Total** | $199,813.35
## 8.0 Implementation and Action Plan

### PHASE 4 - Opinion of Probable Cost - Plum Run Corridor Birmingham Parking/Compact Gravel Trail

**Design, Engineering, Survey and Permitting**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QUANTITY</th>
<th>UNIT</th>
<th>UNIT COST</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey (Presume expansion and same benchmark/datum controls of prior site survey)</td>
<td>1</td>
<td>LS</td>
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<td>5,000.00</td>
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<tr>
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<td>1</td>
<td>LS</td>
<td>3,500.00</td>
<td>3,500.00</td>
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<tr>
<td>Environmental Clearance (Presumes General, but NO Joint Permit)</td>
<td>1</td>
<td>LS</td>
<td>10,000.00</td>
<td>10,000.00</td>
</tr>
<tr>
<td>Utility Coordination (PA One-Call, Overhead and Underground)</td>
<td>1</td>
<td>LS</td>
<td>2,000.00</td>
<td>2,000.00</td>
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<tr>
<td>Preliminary and Site Final Plans (Presumes NO Subdivision Plans or Zoning Apps)</td>
<td>1</td>
<td>LS</td>
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<tr>
<td>Public Involvement (Led by Twp. with minimal Contractor and Consultant time)</td>
<td>1</td>
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<tr>
<td>PS&amp;E and Bid Package (Township Lets Bid Package and Announcements)</td>
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<td>LS</td>
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<td>3,000.00</td>
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<td>Construction Consultation, 1 Pre-Bid Meeting, Response to RFIs</td>
<td>1</td>
<td>LS</td>
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### Construction

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<th>UNIT COST</th>
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<tr>
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<td>1</td>
<td>LS</td>
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<td>10,000.00</td>
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<tr>
<td>Seeding and Mulching (Presume limited machine access)</td>
<td>1</td>
<td>AC</td>
<td>8,000.00</td>
<td>8,000.00</td>
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<tr>
<td>Excavation</td>
<td>1</td>
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<td>30,000.00</td>
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<td>Landscaping (Native plants, shrubs, trees)</td>
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<td>LS</td>
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<td>10,000.00</td>
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<tr>
<td>3-Rail Split Rail Fencing</td>
<td>250</td>
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<td>High Visibility 10’ Wide Cont. Crosswalk (Twp)</td>
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<td>Corridor and Pedestrian Signs</td>
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<td>Pedestrian Stop/Yield Signs at Road Crossings</td>
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<td>Kiosk</td>
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<tr>
<td>Benches</td>
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<td>Dog Waste Receptacle</td>
<td>1</td>
<td>EA</td>
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<tr>
<td>Trash Receptacles</td>
<td>1</td>
<td>EA</td>
<td>500.00</td>
<td>500.00</td>
</tr>
</tbody>
</table>

**This Opinion of Probable Cost is based on Trail Alignment Exhibits dated April 30, 2019, and is subject to change as the design of the corridor is further developed. (Add 3-5% Escalation per year thereafter)**

<table>
<thead>
<tr>
<th><strong>Contingency (10%)</strong></th>
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<tr>
<td><strong>Construction Subtotal</strong></td>
<td><strong>267,767.50</strong></td>
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<tr>
<td><strong>On-Site Inspection/Construction Observation (10%)</strong></td>
<td><strong>26,776.75</strong></td>
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</tbody>
</table>

**Table 5: Phase 4 Design + Construction Total**

$294,544.25
# 8.0 Implementation and Action Plan

## PHASE 5 - Opinion of Probable Cost - Plum Run Corridor Potential Strode's Mill Trail & Parking

### Design, Engineering, Survey and Permitting

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QUANTITY</th>
<th>UNIT</th>
<th>UNIT COST</th>
<th>TOTAL</th>
</tr>
</thead>
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<tr>
<td>Survey (Presume expansion and same benchmark/ datum controls of prior site survey)</td>
<td>1</td>
<td>LS</td>
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<td>5,000.00</td>
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<tr>
<td>Right-of-Way (PennDOT Coordination) and Easement Exhibits</td>
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<td>AC</td>
<td>8,000.00</td>
<td>8,000.00</td>
</tr>
<tr>
<td>Environmental Clearance (Presumes General, but NO Joint Permit)</td>
<td>1</td>
<td>LS</td>
<td>20,000.00</td>
<td>20,000.00</td>
</tr>
<tr>
<td>Utility Coordination (PA One-Call, Overhead and Underground)</td>
<td>1</td>
<td>LS</td>
<td>1,500.00</td>
<td>1,500.00</td>
</tr>
<tr>
<td>Preliminary and Site Final Plans (Presumes NO Subdivision Plans or Zoning Apps)</td>
<td>1</td>
<td>LS</td>
<td>8,500.00</td>
<td>8,500.00</td>
</tr>
<tr>
<td>PS&amp;E and Bid Package (Township Lets Bid Package and Announcements)</td>
<td>1</td>
<td>LS</td>
<td>3,000.00</td>
<td>3,000.00</td>
</tr>
<tr>
<td>Construction Consultation, 1 Pre-Bid Meeting, Response to RFI's</td>
<td>1</td>
<td>LS</td>
<td>1,250.00</td>
<td>1,250.00</td>
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<tr>
<td><strong>Design Total</strong></td>
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<td>23,250.00</td>
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### Construction

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<th>UNIT COST</th>
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</thead>
<tbody>
<tr>
<td>Erosion &amp; Sedimentation Controls</td>
<td>1</td>
<td>LS</td>
<td>5,000.00</td>
<td>5,000.00</td>
</tr>
<tr>
<td>Seeding and Mulching (Presume limited machine access)</td>
<td>1</td>
<td>AC</td>
<td>8,000.00</td>
<td>8,000.00</td>
</tr>
<tr>
<td>Excavation</td>
<td>1</td>
<td>LS</td>
<td>20,000.00</td>
<td>20,000.00</td>
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<tr>
<td>8' Wide Multi-Use Paved Trail</td>
<td>108</td>
<td>LF</td>
<td>125.00</td>
<td>13,500.00</td>
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<tr>
<td>Landscaping (Native plants, shrubs, trees)</td>
<td>1</td>
<td>LS</td>
<td>7,500.00</td>
<td>7,500.00</td>
</tr>
<tr>
<td>3-Rail Split Rail Fencing</td>
<td>200</td>
<td>LF</td>
<td>50.00</td>
<td>10,000.00</td>
</tr>
<tr>
<td>Trail Head Parking Lois (Paved Asphalt with wheel stops)</td>
<td>1</td>
<td>LS</td>
<td>50,000.00</td>
<td>50,000.00</td>
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<tr>
<td>Trail Amenities</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trash Receptacles</td>
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<td><strong>Subtotal</strong></td>
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<td><strong>Contingency (10%)</strong></td>
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<td></td>
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</tr>
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<td><strong>Construction Subtotal</strong></td>
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<td>151,525.00</td>
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<td><strong>On-Site Inspection/ Construction Observation (10%)</strong></td>
<td></td>
<td></td>
<td>15,152.50</td>
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</tbody>
</table>

**This Opinion of Probable Cost is based on Trail Alignment Exhibits dated April 30, 2019, and is subject to change as the design of the corridor is further developed. (Add 3-5% Escalation per year thereafter)**

| Table 6: Phase 5 Design + Construction Total | 166,677.50 |
8.0 Implementation and Action Plan

8.3 Legal Feasibility

The implementation of this Master Plan’s recommendations is legally feasible based on the fact that the Township has already acquired most of the real estate interests that would be needed to install the planned public amenities. The Plum Run Preserve is owned by the Township in fee simple interest and the extension of the Plum Run Trail into the Darlington Ridge property is governed by an already-procured public trail easement. To render the extension of the Plum Run Trail into the Rockwell Field complex feasible, the Township must procure a public trail easement from West Chester University. Donation of the needed public trail easement would be preferred by the Township given the anticipated benefits of the trail to the student population and the fact that fee simple interest in the Rockwell Field facility is owned by the Commonwealth of Pennsylvania.

Additionally, depending on the location of the Birmingham Road mid-block crossing and route of the Plum Run Trail extension into the Birmingham Tract, a public trail easement may need to be acquired from the owner of Chester County parcel 51-7-133.1A. The current owner has indicated willingness to potentially donate an easement, if needed. It is likely that a small portion of the trail will need to go through this private property in order to avoid wetlands on the Birmingham Tract.

The only other easements that would be required for the full execution of the Master Plan would be two small sign easements for installation of the Strode’s Mill Historic District gateway entrance signs on private property. The Township’s inability to acquire these sign easements would be largely de minimis to the overall feasibility of the project. The recommendation would be for the Township to acquire the sign easements via donation given that the signage would increase the appeal of the properties within the Historic District. This Master Plan recommends the extension of natural hiking trails into the WCU Gordon Natural Area. While the Township would collaborate with WCU on the development and upkeep of these trails, it is recommended that they be installed as expansions to the existing Golden Ram Trail network and reside under the maintenance jurisdiction of WCU. No public trail easement would be required under such a scenario.

There are existing utility easements that cut through the Plum Run Preserve. The legal rights of the utility companies that benefit from these easements and the legal rights of the Township to make the recommended
improvements are compatible, so long as the Township does not physically impair or disrupt the utility operations. None of the planned improvements would conflict with existing utility infrastructure. Nonetheless, as a standard of best practice, the Township should communicate closely with the relevant utilities during site design/engineering and construction phases to ensure that utility operations are not impacted.

The installation of parking improvements that will fall under the Township’s implementation purview, specific to the Lenape and Birmingham Tracts, will both require permit approvals from the Pennsylvania Department of Transportation (PADOT). Preliminary meetings with PADOT staff have indicated that the planned configurations of the parking areas and ingress/egress points along Birmingham and Lenape Roads are feasible.

Implementation & Action Plan Recommendation 1: The Township should procure a public trail easement from West Chester University for the installation and perpetual maintenance of the Plum Run Trail extension onto the Rockwell Field complex. If necessary, the Township should also procure a public trail easement from the private owner of Chester County tax parcel 51-7-133.1A for the installation and perpetual maintenance of a small portion of the Plum Run Trail extension into the Birmingham Tract.

Implementation & Action Plan Recommendation 2: The Township should attempt to procure two additional sign easements on private property, via donation, for placement of Strode’s Mill Historic District gateway signs.
8.0 Implementation and Action Plan

**Implementation & Action Plan Recommendation 3:** Communicate and coordinate applicable site improvement work with appropriate utility operators when designing and installing public amenities that may concern existing utility right-of-way (both underground and aboveground).

**Implementation & Action Plan Recommendation 4:** The Township should plan to meet with Pennsylvania Department of Transportation staff (District 6-0) early in the design/engineering phase to review parking area designs for the Lenape and Birmingham Tracts. This will facilitate navigation of the PADOT permit process.

Figure 8.5: Township Owned Land in the Plum Run Corridor

![PLUM RUN CORRIDOR BRANDING](image)

**Corridor Branding Index**
- Plum Run Trail
- Strode’s Barn Heritage Center
- Plum Run Preserve
- Strode’s Mill Historic District
8.4 Environmental Feasibility

In order to fully comprehend the environmental complexities of the 1-mile project corridor, the consulting team conducted several site visits, field views and extensive geospatial data analysis. These investigations played an important role in informing the conceptual planning process that preceded finalization of this Master Plan. It is important to note that recommended alignments and configurations of various components of the project, including the trails, parking areas and stream crossings, were made based on detailed knowledge of the corridor’s environmental conditions and are meant to increase the feasibility of installation as compared to other configurations that were considered. It is the objective of the Master Plan to create as little environmental impact as possible, balancing public access needs with existing and, in some instances, sensitive natural features.

The project site is bounded in part by Lenape Road (SR 52) on the north and the Township boundary on the south. New Street marks the eastern boundary of the project area and Birmingham Road marks the western boundary in combination with the western terminus of the Strode’s Mill Historic District boundary. The consulting team gained preliminary and basic insight into the current environmental character of the project corridor through the review of information provided in published documents, reports and studies that preceded and contributed to the pursuit of this Master Plan, including but not limited to:

- the East Bradford Township Comprehensive Plan Update;
- the Brandywine Creek Greenway Strategic Action Plan;
- the Plum Run Watershed and Site Restoration Plans; and
- the Darlington Ridge Site Development Plan.

Overall Site Characteristics. The project site is a classic Chester County stream valley dominated by gently rolling topography with generally-rich soils that have been cut through over time by freshwater tributaries that feed into the Brandywine Creek in dendritic patterns. The corridor features pockets of steep slopes but few superficial stone outcroppings, except in areas that have been historically quarried. Wetlands are common within the floodplain at the lower elevations nearest the Plum Run. According to historic aerial imagery, the valley is more heavily wooded today than it was when the mill was still in operation, despite the large amount of residential development that has occurred within the last three decades.

Wetlands, Waterways and Floodplain. A review of the U.S. Fish and Wildlife Service’s (USFWS) National Wetland Inventory (NWI) identified wetlands mapped within the project area. In addition, the Brandywine Red Clay Alliance delineated wetlands along the Plum Run in the project area as part of their Plum Run streambank restoration project.
8.0 Implementation and Action Plan

The extent of these documented wetlands can be seen in Figure 4.3: Sheet 6 of 19 of the BRCA’s (Clauser Environmental, LLC dated 1/1/19) Plum Run Riparian Restoration Project. The Plum Run is the only waterway of note within the project corridor and it drains an area well over 100 acres, with its headwaters located upstream in the more densely urbanized West Chester Borough. Flow amounts during periods of intense precipitation are significant and the stream is subject to flash flooding. Floodplain covers over half of the Lenape Tract and almost half of the Birmingham Tract. Floodplain is less extensive on the Tigue Tract and is not an issue at all on the Rockwell Field complex.

It can be anticipated that the proposed improvements on the Tigue Tract, specifically the pedestrian bridges, the wetlands boardwalk, and portions of the Plum Run Trail and complimentary parking lot, will necessitate the need for the Township to secure, at the very least, two stream crossing (general) permits and an NPDES permit from the Pennsylvania Department of Environmental Protection (DEP). Erosion and sediment control will be of primary concern and plans will need to be approved by the DEP, likely in consultation with the Chester County Conservation District (CCCD).

The Township will most likely need to plan for stormwater management improvements and offsets considering the likelihood that new amenities may include over 1,000 square feet of introduced impervious surfacing to the site. It will undoubtedly be difficult to install meaningful stormwater management infrastructure within the 100-year flood plain, which is where most of the planned infrastructure has to be located on the Lenape Tract. The Township will need to prepare to explore alternatives to paved impervious surfacing on that tract if it comes down to that as a last resort for obtaining the required permits. Additionally, the planned parking lot on this tract may have to be very limited in size. Successfully acquiring these needed permits likely represents the most significant feasibility challenge of the Plum Run project.

The project plans and improvements will be required to comply with several Township ordinances, notably Flood Plain Ordinance 115-42 and Riparian Buffer Ordinance 115-45.3. Other Township ordinances will apply but it is not anticipated that the improvements planned for the Plum Run will fail to meet the requirements of these Township ordinances.
8.0 Implementation and Action Plan

**Threatened and Endangered Species.** While a Pennsylvania Natural Diversity Index (PNDI) search was not run for the Master Plan project area, the Conservation Explorer tool was reviewed (February 26, 2019). The project area is within the known range of a species of special concern under the Pennsylvania Fish and Boat Commission (PFBC) jurisdiction, and several federal species (the Small-whorled Pogonia, Bog Turtle, Bald Eagle, Indiana Bat, and the Northern Long-eared Bat). Coordination with the U.S. Fish and Wildlife Service (USFWS) on potential impacts to habitat associated with these species should occur during preliminary design. Of note is the fact that a Phase I Bog Turtle Habitat Survey was performed on the project area in relation to the Plum Run Streambank Restoration project and no bog turtles were documented.

The entire state of Pennsylvania is considered within the range of the Indiana Bat and the Northern Long-eared Bat. Depending on coordination with the USFWS, the agency may require a seasonal time-of-year restriction on tree removal work between November 15 and March 31. During preliminary design, an Assessment Summary for Indiana Bat and Northern Long-eared Bat may be necessary. These assessments evaluate potential habitat and identify potential roost trees in the project study area.

During preliminary design, coordination with the USFWS and state agencies will occur to discuss project impacts and to resolve any potential threatened or endangered species impacts identified by the PNDI database review.

**Historic Resources and Archaeology.** The Strode’s Mill Historic District is listed in the National Register of Historic Places (CRGIS Key No. 092563) and Strode’s Mill is individually listed on the National Register (CRGIS Key No. 001587). If the Township utilizes federal funding sources, or if a federal permit is required during the design or construction phases of the project, requirements of Section 106 of the National Historic Preservation Act (NHPA) will come into play. This will typically require the applicant (Township) to conduct an assessment on the impacts of the planned work (to historic resources) and could potentially require archeological investigation. Section 106 assessments may result in required alterations to the project or may require mitigation measures into the design. Section 106 requirements will not apply to the project if no federal funds are used and if no federal permits are required.

The Township’s Historical and Architectural Review Board (HARB) will be required to review alterations that are proposed to be made to any historic resources within the Strode’s Mill Historic District. This will most notably apply to improvements that are planned for the Strode’s Barn and

Figure 8.8: Young Snapping Turtles identified along Plum Run
8.0 Implementation and Action Plan

springhouse. In light of current conditions of these structures and the envisioned, publicly-supported improvements, it should not be overly burdensome to obtain the necessary approvals from the Township.

Potential Environmental and Cultural Resource Expenses. It is important that the Township is aware of potential costs that may be involved in obtaining potentially-required environmental and cultural resource permits and/or in conducting investigative analysis. The following list includes potential activities that may be required during the course of the Master Plan implementation, along with probable cost. These actions may or may not be required and costs provided are Probable Costs only:

*Table 7: Analysis of Potential Environmental and Cultural Resource Actions & Expenses*

<table>
<thead>
<tr>
<th>Category</th>
<th>Probable Cost</th>
<th>Anticipated Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wetland and Waterway</td>
<td>$10,000</td>
<td>• Commission floodplain and/or wetlands delineation</td>
</tr>
<tr>
<td>T&amp;E Species</td>
<td>$ 7,000</td>
<td>• Commission Indiana Bat and Northern Long-Eared Bat Assessment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Coordination with PFBC on species of concern</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Coordination with USFWS on small-whorled pogonia and Bald Eagle</td>
</tr>
<tr>
<td>Historic Structures</td>
<td>$20,000</td>
<td>• PHMC Project Review Form</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Section 106 Analysis and Determination of Effect Report Work</td>
</tr>
<tr>
<td>Archaeology (Phase IA)</td>
<td>$ 7,500</td>
<td>• Phase IA Archeology Survey: Note - the Phase IA may recommend additional studies; those studies are not included in the probable cost</td>
</tr>
<tr>
<td>NEPA Studies (If federal funding or PennDOT funding provided)</td>
<td>$ 5,500</td>
<td>• Scoping Field View; Categorical Exclusion</td>
</tr>
<tr>
<td>Environmental Permitting*</td>
<td>$20,000</td>
<td>• PADEP and CCCD Permitting Fees: Anticipates the need for general permits (2x) and an NPDES permit for impacts to wetlands, waterways, and for stormwater management purposes. Note: A joint permit between the PADEP and the ACOE may be required which would add additional costs.</td>
</tr>
<tr>
<td>Agency Coordination</td>
<td></td>
<td>SHPO, USFWS, PADEP, USACE, CCCD</td>
</tr>
<tr>
<td>Environmental Probable Cost **</td>
<td>$70,000</td>
<td>(Presuming that a Joint Permit is NOT Required)</td>
</tr>
</tbody>
</table>

*Probable Cost does not include the engineering tasks associated with Site or Land Development Plans, Erosion & Sedimentation Plan, Post Construction Stormwater Management, and Alternatives Analysis.

**Probable Cost is for purposes of projecting potential costs of the listed permitting requirements and/or required investigative analysis and consultation (w/the permitting authorities); only includes Phase IA Archeology Survey and does not include additional archeology studies. Costs do not include potential mitigation expenses.

Implementation and Action Plan Recommendation 5: The Township should plan to meet with Pennsylvania DEP staff early in the design/engineering phase to review the Township’s plans for the corridor and discuss preferred methods for installing stormwater management and mitigation for disturbances to environmental features. Early, frequent communication with the permitting authorities will facilitate the DEP permit process and increase the likelihood of obtain permits at minimal cost and time expense.
8.0 Implementation and Action Plan

8.5 Potential Funding Sources

State and Federal Funding

DCNR Community Conservation Partnership Program (C2P2) Grants
Administered by the Pennsylvania Department of Conservation and Natural Resources (DCNR) - Bureau of Recreation and Conservation, the C2P2 program has been authorized to foster and facilitate conservation and recreation-focused projects and programs in Pennsylvania. C2P2 grants are awarded to municipalities and authorized nonprofit organizations for recreation, park and conservation projects. These include the rehabilitation and new development of parks and recreation facilities (development projects); acquisition of land for active or passive park and conservation purposes (acquisition projects); and planning for feasibility studies, trails studies, conservation plans, site development planning, and comprehensive recreation, greenway and open space planning.

Most projects require a 50% match. Application deadlines for this program are historically in April of each year.

Additional Information: http://www.dcnr.pa.gov/Communities/Grants/Pages/default.aspx

DCED CFA Multimodal Transportation Fund (Commonwealth Financing Authority)
The Multimodal Transportation Fund provides grants to encourage economic development and ensure that a safe and reliable system of transportation is available to Municipalities, Councils of Government, Businesses, Economic Development Organizations, Public Transportation Agencies, and Ports-Rail/Freight. Funds may be used for the development, rehabilitation and enhancement of transportation assets to existing communities, including streetscapes, lighting, sidewalk enhancements, pedestrian safety, connectivity of transportation assets and transit-oriented development. Grants are available for projects with total costs of $100,000 or more but that do not exceed $3,000,000.

The application deadline for the program is July 31st of each calendar year. Normally, a minimum match of 30% is required.

Additional Information: https://dced.pa.gov/programs/multimodal-transportation-fund/

PA Multimodal Transportation Fund (MTF; PennDOT FHWA)
This program is intended to provide financial assistance to municipalities, councils of government, businesses, economic development organizations, public transportation agencies, rail freight, passenger rail, and ports in order to improve transportation assets that enhance communities, pedestrian safety, and transit revitalization. The Department of Transportation ("PennDOT") will administer activities directly initiated or undertaken by it related to grants for eligible multimodal programs in accordance with these guidelines. There are four types of project eligible programs for the funds. They are: (1) projects which coordinate local land use with transportation assets to enhance existing communities; (2) projects related to streetscapes, lighting, sidewalk enhancement and pedestrian safety; (3) projects improving connectivity or utilization of existing transportation assets; and (4) projects related to transit-oriented development. Examples of the four types of projects are included in the Program Guidelines. Grant requests must fall between $100,000 and $3,000,000 and applications are historically due in March. The standard minimum match for the MTF program is 30%.

Additional Information:
https://www.penndot.gov/ProjectAndPrograms/MultimodalProgram/pages/default.aspx
8.0 Implementation and Action Plan

DCED Greenways, Trails and Recreation Program (GTRP) Grants
The Marcellus Legacy Fund allocates funds to the Commonwealth Financing Authority (the “Authority”) for planning, acquisition, development, rehabilitation and repair of greenways, recreational trails, open space, parks and beautification projects using the Greenways, Trails and Recreation Program (GTRP). Projects which involve development, rehabilitation and improvements to public parks, recreation areas, greenways, trails and river conservation are eligible.

Grants cannot exceed $250,000 for any project. A 15% minimum match of the total project cost is required. Grant applications are historically due in June.

Additional Information at: https://dced.pa.gov/programs/greenways-trails-and-recreation-program-gtrp/

DEP Environmental Stewardship and Watershed Protection ACT
The Environmental Stewardship and Watershed Protection Act authorizes the Department of Environmental Protection (DEP) to allocate nearly $547 million in grants for acid mine drainage abatement, mine cleanup efforts, abandoned oil and gas well plugging and local watershed-based conservation projects. These projects can include: watershed assessments and development of watershed restoration or protection plans; implementation of watershed restoration or protection projects (stormwater management wetlands, riparian buffer fencing and planting, streambank restoration (especially FGM), agricultural BMPs); construction of mine drainage remediation systems; reclamation of previously mined lands; and demonstration/education projects and outreach activities.

Additional Information: https://www.dep.pa.gov/Citizens/GrantsLoansRebates/Growing-Greener/Pages/Watershed-Grants.aspx

DEP Land and Water Conservation Fund (LCWF)
Grants may support the acquisition of public municipal park, recreation, conservation and open space lands, as well as for the acquisition of natural and scenic resources, such as streams, floodplains, steep slopes, wetlands, forest lands, water resources, watersheds and botanical sites. Grants may also be utilized for any public outdoor recreation project. 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.

The applicant must own the site. The maximum grant request may not exceed $400,000.00 and requires a 50% minimum match with cash match prioritized above in-kind match. Applications are historically due between January and February.

Additional Information:
8.0 Implementation and Action Plan

**Federal Transportation Set-Aside (TASA) Funding** (see Regional Trails Program)

**Regional / Local Funding**

**Preservation Partnership Program (PPP)**
Nonprofit conservation organizations are eligible to submit grant applications for projects that construct new recreational trails, improve existing trails, construct trail-related amenities (i.e. trailheads, trail-side facilities, parking areas, and signs), and construct water quality improvements. Applicants may request up to 50% of the eligible construction costs with a $50,000 maximum for permanently preserved, publicly accessible trails and approved trail-related amenities. Projects that combine trail construction and land preservation will be viewed more favorably. Applicants may request up to 50% of eligible construction costs with a $25,000 maximum for water quality restoration, protection, or improvement projects on permanently preserved land. Projects on preserved farmland that are within 100 feet of surface water and are within a stream buffer overlay easement that promotes BMPs and conservation planning will receive priority consideration.

Additional Information: [https://www.chesco.org/1506/Conservancy-Grants](https://www.chesco.org/1506/Conservancy-Grants)

**Chester County Municipal Grants Program**
The Commissioners of Chester County Pennsylvania offer the Municipal Grant Program to preserve land while funding park, trail, and greenway acquisition and construction projects with maximum public benefits that attract substantial funding from other sources. All 73 municipalities and land-owning municipal recreation authorities in Chester County may apply for these grants. **Acquisition Grants** reimburse a maximum of 50% up to $500,000 of the appraised value to buy land, conservation easements, or trail easements. If an extraordinary conservation opportunity presents itself, the County will consider requests in excess of $500,000 on a case-by-case basis but only up to the 50% funding level. A lower percentage of County funds requested will result in more favorable consideration. **Development Grants** reimburse park facility and trail construction costs at a maximum of 50% up to $250,000 for parks of 20 or more contiguous acres, and a maximum of 25% up to $100,000 for parks less than 20 acres. Priority is given to park development projects that also preserve land.

Additional Information: [https://www.chesco.org/1505/Municipal-Grants](https://www.chesco.org/1505/Municipal-Grants)

**Regional Trails Program (RTP; DVRPC)**
The Regional Trails Program provides private funding to plan, engineer, or construct eligible trail projects in DVRPC’s 9-county region in Pennsylvania (includes Chester County). Limited funding for right-of-way acquisition is also available. Projects that progress the goals enumerated in the DVRPC’s long-range plan, Connections 2045, and that help complete the Circuit Trail system will be prioritized. Projects in Chester County that are awarded design and engineering funds through this program may be eligible for up to $1 million in federal Transportation Alternatives Set-Aside (TASA) funding. Individual RTP awards may not exceed $500,000. Applications are historically due in December.

Additional Information: [www.dvrpc.org/trails/RegionalTrailsProgram/](http://www.dvrpc.org/trails/RegionalTrailsProgram/)

**Philadelphia Electric Company (PECO) Green Region Grants**
This grant is eligible to municipal projects that improving open spaces. Funds may be used for habitat improvements such as installing or improving meadows, woodlands and riparian buffers. Activities may include the installation of capital improvements for passive recreation such as
Implementation and Action Plan

trails, boardwalks, kiosks and observation platforms, but not parking lots. Such expenses may include consultant fees for landscape architects, park designers, botanists, engineers, etc.

Grants will be for amounts up to $10,000 and may be used to pay for up to 50% of eligible activities. Matching funds must be in cash, not in-kind services. Applications are historically between October and December.

Additional Information:  https://natlands.org/what-we-do/growing-greener-communities/peco-green-region/

Foundation Grants and Other Private Funding

Kodak America Greenways Grants
The Kodak America Greenways Grant Program, a partnership project of the Eastman Kodak Company, the Conservation Fund and the National Geographic Society, provides small grants of $500 to $2,500 to groups and individuals planning and designing greenways throughout the United States. Grants can be used to cover planning, technical assistance, legal or other costs associated with greenway projects. Grants may not be used for academic research, general institutional support, lobbying, or political activities.
The deadline for submitting applications is June 1 of each calendar year.
Additional Information:  http://www.conservationfund.org

PeopleForBikes Community Grant Program
The PeopleForBikes Community Grant Program provides funding to non-profit organizations and municipalities with a focus on bicycling, active transportation, or community development. These projects include bike paths and rail-to-trails, as well as mountain biking trails, bike parks, BMX facilities, and large-scale bicycle initiatives.
Both spring and fall deadlines are available to applicants. Grants will be for amounts up to $10,000 and may be used to pay for up to 50% of eligible activities.
Additional Information:  http://www.peopleforbikes.org/pages/grant-guidelines

Recreational Equipment, Inc. (REI) Conservation and Recreation Grants
REI awards conservation grants to organizations for the protection and enhancement of natural resources for use in outdoor recreation. Small grants of up to $5,000 are offered to accomplish the following: the preservation of wildlands and open spaces; advocacy-oriented education for the general public about conservation issues; building the membership base of a conservation organization; and projects working to organize a trails constituency or to enhance the effectiveness of a trails organization’s work in trail advocacy at the state or local level.
Additional Information:  https://www.rei.com/stewardship/core-practices
Historic Preservation Grants

**PHMC Keystone Historic Preservation Construction Grants**

PHMC provides funding for construction activities through its Keystone Historic Preservation Construction Grants with revenue from the Commonwealth's Keystone Recreation, Park and Conservation Fund. Funding is available to nonprofit organizations and local governments for small construction projects for publicly accessible historic resources. The purpose of the grant is to support projects that rehabilitate, restore, or preserve historic resources listed in or eligible for listing in the National Register of Historic Places.

Projects require a 50% minimum match and must request between $5,000 and $100,000 in funding. Applications are historically due in March.

Additional Information: [https://www.phmc.pa.gov/Preservation/Grants-Funding/Pages/Construction-Projects.aspx](https://www.phmc.pa.gov/Preservation/Grants-Funding/Pages/Construction-Projects.aspx)

**Department of Community and Economic Development (DCED) - Pennsylvania Historic Preservation Tax Credit Program**

**Federal Historic Preservation Tax Incentives Program** through National Park Service-Rehabilitation Investment Tax Credits (RITC)

**National Trust Preservation Funds** and other Funds operated through National Trust such as:

- Battlefield Preservation Fund
- The Johanna Favrot Fund for Historic Preservation provides nonprofit organizations and public agencies grants ranging from $2,500 to $10,000 for projects that contribute to the preservation or the recapture of an authentic sense of place.
- The Cynthia Woods Mitchell Fund for Historic Interiors provides nonprofit organizations and public agencies grants ranging from $2,500 to $10,000 to assist in the preservation, restoration, and interpretation of historic interiors.
9.0 Public Participation Summary

Public input and participation played an important role in the development of this Master Plan. Ten volunteer members from various Township boards and committees (plus one non-voting staff liaison from the Chester County VPP program) were assembled to comprise the Task Force that guided the principal planning considerations of the project. The Task Force hosted two public open houses to directly interact with and solicit input from the broader community, including Township residents and non-residents alike. Sixty community members attended the two public open houses. The Task Force distributed a public survey/questionnaire, made available online and in hard copy, that provided an additional mechanism for public participation. Fifty-six community members responded to the public survey/questionnaire. Each of the six Task Force meetings held were open to the public. Nine community members at-large sat in on these meetings. Project staff met privately with several key stakeholders during the course of the project and documented received feedback. Over the course of the project, between the onset of planning (July 31, 2018) and the final submission of this Master Plan, an estimated 140 community members offered direct input into the recommendations of the Master Plan, including the three-member elected Board of Supervisors (BOS) who were represented on the Task Force by BOS Chair, Vince Pompo. Presentation of the final Master Plan was made before the public at the Regular Meeting of the BOS on May 14, 2019.

9.1 Plum Run Master Plan Task Force

East Bradford Township assembled a dedicated group of volunteers comprised of ten Township residents and one Chester County VPP Program liaison (non-voting) to sit on the Plum Run Master Plan Task Force (see Acknowledgements, page iii). The Township residents that comprised the Task Force were strategically selected to provide their expertise respective to either Township boards or committees on which they also serve (i.e. Parks & Recreation Board, Historical Commission) or because of their knowledge and affiliation with relevant companion planning efforts (i.e. Brandywine Creek Greenway Strategic Action Plan, Plum Run Watershed Restoration Plan). Township Supervisor Vince Pompo served as chair of the Task Force and acted as the project liaison to the elected Board of Supervisors.
The Task Force conducted six workshop-style meetings which included township staff and representatives of the consulting team. The Task Force meetings were open to the general public and were recorded in meeting minutes. Task Force Meetings were held at the East Bradford Township building location at 666 Copeland School Road in Wester Chester, Pennsylvania, and the list of meeting dates along with minutes are included in Appendix B. The Task Force also participated in an initial detailed site walk of the entire project corridor that was simultaneous to the initiation of the concept mapping process.

9.2 Public Meetings and Survey

The Task Force hosted two public meetings that were advertised across the Township’s electronic media (i.e. website, Facebook) and in the Daily Local News. These public meetings were conducted in an open-house format and included a brief formal presentation of conceptual plans and components that were being considered for the project area. These meetings took place in the East Bradford Township building. These meeting were attended by sixty community members that included both Township and non-Township residents, local business owners, and a few grassroots activists.

The public meetings offered participants the opportunity to provide direct input to the Task Force and provided access to the hard copy public survey/questionnaire that was also distributed electronically and available to residents from the Township website. The survey was made available to the community between October 23, 2018 and January 16, 2019 and a copy is included in Appendix B - Public Participation Documentation. The third and final public meeting was a formal presentation of the Master Plan, made by representatives of the consulting team before the Board of Supervisors at the Regular Meeting of the BOS on May 14, 2019.
9.0 Public Participation

9.3 Key Stakeholder Feedback

Township staff and representatives from the consulting team held several additional meetings with public and private stakeholders during the course of the project. Some meetings took place onsite to assess relevant site opportunities and constraints. Township staff and the consultants met with PennDOT District 6-0 personnel to review potential parking lot locations, road crossings and traffic calming concepts. Permit coordination and pedestrian study needs were discussed at this meeting as well.

The project team conducted a site walk with West Chester University (WCU) staff to discuss and coordinate options for a potential hiking trail connection through the Robert B. Gordon Natural Area for Environmental Studies (Gordon Natural Area) and integration of the paved, multi-use Plum Run Trail along the north side of Tigue Road that would extend from the Plum Run Preserve to the entrance of the Rockwell Field complex. Limited use of a portion of the WCU Farrell Stadium parking lot was discussed at this meeting as a potential means by which the Township could provide additional public (overflow) parking for the Plum Run Trail, if needed. WCU staff were open to this possibility, provided that restrictions could be put in place to ensure that parking for major athletic events, such as weekend football games, was not hindered.

The project team met with planning staff from the Brandywine Red Clay Alliance (BRCA) to review plans for the restoration of the Plum Run. The restoration plans, timeline and compatibility with conceptualized recreational uses of the corridor were reviewed. Permitting as well as soil and erosion controls were discussed at this meeting.

The project team proactively contacted individual adjoining property owners and offered an opportunity to meet in person to review concept plans for the project. Several meetings took place with individual adjacent owners in November and December of 2018. Phone interactions also occurred with various stakeholders throughout the course of the project. By and large, the meetings and conversations with individual property owners revealed broad support for the recreational and interpretive improvements proposed in the Master Plan. Natural resource restoration work was also highly favored. A few adjacent property owners noted concerns with privacy over one or two instances of the natural hiking trails being located short distances away from property boundaries. These concerns were communicated to the Task Force and adjustments were made accordingly.

Figure 9.4: Public meetings were well-attended and revealed broad support for proposed public enhancements along the Plum Run.
10. Background

Project Purpose

The purpose of the project is to produce a master plan that covers a 1-mile segment of the Plum Run corridor. The plan will incorporate accessible multi-modal trail features/ connectivity, natural resource preservation/enhancement, and historic resource interpretation/restoration. The Township’s goal is to develop a plan that is publicly supported, specific, and implementable. The corridor represents an arm of the Brandywine Creek Greenway network and would function as a conduit for public multi-modal connectivity between West Chester Borough and the Brandywine Creek Greenway Trail to other existing or planned systems such as the Chester Valley Trail.

The East Bradford Comprehensive Plan Update completed in 2016 lists the Plum Run corridor as a priority focus area. The corridor is the first phase in closing a critical gap between West Chester Borough and the Brandywine Creek Greenway Trail and the installation of a multi-use trail is a priority listed in the Township Trails Plan (see figure 2.25 and reference strategy B2).

Project Background

On August 9th, 2016 East Bradford Township published the update to its Comprehensive Plan. Resident input directed that the Lenape Road (Route 52) corridor, paralleling the Plum Run, be recognized as a priority focus area in immediately pursuing efforts to enhance the safety of the corridor for those seeking non-vehicular passage for recreation and other purposes. Increasing public parklands in the southern end of the Township was a complimentary objective endorsed by the community residents. Long before the comprehensive plan was updated, however, the Township and its partners were taking meaningful steps towards protecting and restoring the significant resources along Lenape Road, including the Plum Run, a freshwater tributary to the Brandywine Creek, and the historic elements and features of the Strode’s Mill Historic District.

Beginning in 2010, the Township partnered with the Brandywine Red Clay Alliance (BRCA), formerly known as the Brandywine Valley Association, to complete five major stream restoration projects along the Plum Run. Then, in 2015, a collection of residents formed the 501(c)3 non-profit, Friends of Strode’s Mill, and worked with the Township to acquire the 7-acre Strode’s Barn property that housed the dilapidated remains of the historic Strode’s Sausage and Scrapple plant and barn. These projects were re-validated in the comprehensive plan update but the major evolution that manifested itself through the update process was the citizenry’s call for enhanced public appeal, safety and recreational use and access to the corridor. What transpired since then has been a most extraordinary series of developments.
10. Background

coming together at one time, which have demonstrated the need for a cohesive master plan for the visioning of a 1-mile section of the Plum Run corridor that spans from the Strode’s Mill Historic District to the West Chester University campus.

In 2015, the Chester County Planning Commission worked with the Township to publish the East Bradford-centric Sconnelltown & Strode’s Mill Strategic Landscapes Plan advocating for the placement of a major Battle of the Brandywine heritage center on Township property at the Strode’s Barn. Subsequently in 2017, after more than a year of negotiations, the Township signed into a settlement agreement with Toll Brothers for the development of the 87-acre Tigue Farm which resulted in a plan wherein 29 acres of preserved open space along the Plum Run, to include multi-use trails, would become public lands under the ownership of East Bradford Township. Concurrently, the Township unsuccessfully applied for a restoration grant from the Pennsylvania Historical & Museum Commission seeking funds to restore the roof on the historic Strode’s Barn. A primary reason the funds were not granted was for the fact that the Township lacked a unifying plan for the barn and its surroundings. These actions coincided with the Township’s negotiations to acquire an additional 8 acres of land within the Strode’s Mill Historic District. With so much happening at once, and there being a unique opportunity and need to conceive of a public vision for the Plum Run corridor, the Township applied for and received a master planning grant from the Chester County Vision Partnership Program (VPP) in the Fall of 2017.

Procuring the VPP grant from Chester County was the first step in the official formation of this master plan. The Township then administered a competitive Request for Proposal and interview process in the Spring of 2018 whereafter Laird Recreation & Land Planning, LLC was hired as the planning consultant to lead the Township through its master planning process. It has been the Township’s intent from the beginning that this Master Plan (phase one of two) result in a conceptual vision and implementation strategy for a dynamic 1-mile section of the Plum Run Corridor (WCU campus to the Strode’s Mill Historic District). The entire vision is to include public improvements for recreational access, historic rehabilitation, natural resource enhancement, and cultural/historic interpretation.
Appendix A - List of Heritage Themes

Heritage Themes

As part of the Plum Run Corridor Master Plan, the below “History Through the Centuries” was developed describing the Strode’s Mill Historic District and surrounding vicinity. The historical events and themes described below are anticipated to be used on the interpretive panels and signage plan developed at a later date for the Plum Run Corridor.

This information was developed using the 2015 “The British Left Hook - Preparing for Battle: Sconnelltown & Strode’s Mill Strategic Landscapes Plan” prepared by the Chester County Planning Commission and John Milner Associates, Inc. This plan can be found at the following website: http://www.chesco.org/DocumentCenter/View/34241/SSM-Strategic-Landscapes-Plan?bidId

The National Register Nomination form for the Strode’s Mill Historic District, prepared by the Brandywine Conservancy, was also consulted and is available online at the following website: https://www.dot7.state.pa.us/CRGIS_Attachments/SiteResource/H092563_01H.pdf

In addition, the members of East Bradford Township Historical Commission reviewed the above and provided comment.

A vision for the Heritage Center is based on the following:

- History of the property/site/village
- Role the area played in the Revolutionary War
- Site’s relevance with regards to the Plum Run Greenway initiative
- Site’s relevance with regard to the Brandywine Valley Scenic Byway.
- Visitors may stop for 15 to 30 minutes to learn about a particular aspect of the battle

Historical Events and Themes by Century

I. Pre-Colonial
   a. Strode’s Mill area not yet established.
   b. Area inhabited and used by the Lenni-Lenape, likely drawn by the natural resources such as Plum Run and rocky outcroppings.

2. 18th Century
   a. Strode Farm- southeast of the intersection of Route 52 and Birmingham Road. This intersection is the location of one of the County’s earliest milling sites Strode’s Mill.
      i. John Willis, George Carter, and Samuel Scott erected a grist mill on a tributary of the Brandywine Creek on Willis’s land around 1721.
      ii. George Entriken was the miller and owned what is today known as Strode’s Mill from 1735-1772 when he sold it to Emmor Jefferis. George owned property to the north and east of the mill
Appendix A - List of Heritage Themes

in 1735 that he purchased from John Willis, currently known as the Tigue Farmstead.

iii. Emmor Jefferis owned the corn and grist mill property at time of the battle, as well as Chesterdale Farm, south of the mill.

iv. Richard Strode, a Sconnelltown blacksmith, owned the farm and two tenant properties within close proximity of the mill, which he purchased in 1784. His brother Joseph also owned an adjacent farm and worked in the mill prior to Richard’s purchase of the site. By the end of the century Richard also established a small store to serve area residents.

b. Revolutionary War - Today, as it did in 1777, Birmingham Road provides access for visitors to key battlefield viewing corridors and interpretive sites related to General’s Howe and Cornwallis 9-hour flanking march. Visitors to this site can learn about the layout of a rural historic crossroads village, how the British prepared for active combat, and the battle’s military strategy.

i. General Cornwallis ordered Ewald and his advance guard to halt and rest at the site of the Phillip Paxson Farm, Darlington Farm and Reculver Farm as 9,000 troops struggled up the steep road as we still do today through the defile, which stood between Jefferis’ Ford and the small hamlet of Sconnelltown perch on the Bradford Heights. Here they were approximately a half mile away from Osborne Hill where the first shot was fired in the Battle of the Brandywine.

ii. British advance and tactical military flanking strategy (including superior British field intelligence). British halt, rest and prepare a mile wide flank across the lands of Entriken Farmstead, south to Jefferies Farmstead along current Lenape road area.

iii. American’s inability to gather reliable field intelligence of the British flank, even with active field patrols. This is the story of how General Howe and Cornwallis were able to successfully navigate 9,000 troops plus a ‘baggage train’ of supplies on a 9-hour, approximately 14-mile circuitous march from Kennett Square, north, through difficult terrain that included two unguarded Creek fordings to outflank the American Army.

iv. Register of Damages-Restitution requested only by Strode family in the immediate area.

v. Additional topics of interest to be explored: Battle impact on local Quaker civilians, Loyalists and the Chester County Militia.

1. Also include discussion on Hessians role in war

2. Also include discussion on women’s role in war. Women travelled with the army’s to act as nurses, seamstresses, and/or laundering services and were typically in the “baggage train”

3. Soldiers packs and what they carried with them

vi. Joseph Townsend Account
Appendix A - List of Heritage Themes

3. 19th Century
   a. Development of Strode’s Mill as a crossroads village:
      i. Construction of the blacksmith/wheelwright shop and general store.
      ii. Continuation of agricultural industry of the mill and outlying farms that utilized the mill for their crops.
      iii. Cider production added to Strode’s Mill to complement its grist and saw mill operations.
      iv. The end of the century brought a renewed focus on agriculture and industry with the rise of dairy and the pork/scrapple industry at Strode’s Barn; the Strode’s subscribers and were marketing their pork/scrapple/sausage at Reading Terminal Market in Philadelphia as one of the earliest vendors.
   b. Education at Strode’s Mill
      i. Development of the Joseph C. Strode East Bradford Boarding School for Boys
   c. Serpentine Stone
      i. Serpentine stone, which is a distinctive green color, was used to construct several of the buildings within the village.
         1. The buildings and additions that are constructed with serpentine stone circa 1780’s (Joseph Strode House/East Bradford Boarding School for Boys) and 1875 (extant core of the Strode Barn/Slaughterhouse). Serpentine stone was used for a very short time in the late 1700’s as it was found to be weak and prone to erosion.
         2. A small serpentine vein and quarry is located on the Strode farm and was a possible source for the stone.
            a. Several other serpentine quarries were in operation during the 18th and 19th centuries in Chester County. Chester County lies partially within a 60 square mile area of a geological serpentine formation that is close to the surface and one of the few known to exist in the United States.
   4. 20th Century
      a. Continued focus on agriculture and the pork/scrapple/sausage industry at Strode’s Barn.
         i. The business, and much of the land, remained in the Strode family until the business was sold in 1983 to a company in Lebanon County, PA.
      b. 18th and 19th century landscape surrounding Strode’s Mill is maintained throughout the 20th century due to the topography and dominance of the Strode family for over two centuries keeping new development out of the original configuration of the village.
Appendix A - List of Heritage Themes

5. 21st Century
   a. Open Rural Lands – The persevering stewardship of property owners and local entities in the area has enabled not only the 18th century battlefield landscape, including historic buildings and open lands, but also the 19th and 20th century landscapes focused on education, agriculture and industry and endure to this day. Preservation has occurred through ongoing and committed open space land conservation and historic resource protection efforts.
      i. Examples of historic resource preservation and sensitive adaptive reuse can be seen in the conversion of Strode’s Mill. First, it was converted to the birthplace of People’s Theater and Light, a private residence and woodcarving shop and as it stands today, an art gallery. This has largely preserved the building as it appeared in the 18th and 19th centuries.
      ii. Open space land conservation efforts have also played a key role in keeping modern development at bay and the 18th century landscape visible.
### Summary of Meetings

<table>
<thead>
<tr>
<th>Date</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>July 31, 2018</strong></td>
<td>Task Force Meeting #1 - Project Overview, Grant Contract and Scope of Work Review, Notice to Proceed</td>
</tr>
<tr>
<td><strong>August 13, 2018</strong></td>
<td>Initial Site Walk of the Corridor with the Task Force Committee</td>
</tr>
<tr>
<td><strong>August 29, 2018</strong></td>
<td>Task Force Meeting #2 – Review of initial Base Map, Inventory &amp; Analysis, Potential Trail Amenities, Features, and Trail Surfaces</td>
</tr>
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<td><strong>October 11, 2018</strong></td>
<td>Task Force Meeting #3 – Final Review of Draft Maps for Public Meeting #1, Plan Public Meeting #1 Format</td>
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<td>Meeting with PennDOT District 6-0</td>
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<td>Task Force Meeting #5 - Summary of Key Land Owners / Stakeholder feedback, Strode’s Barn Concept Renderings Considerations</td>
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<td><strong>February 28, 2019</strong></td>
<td>Draft Master Plan Submitted to Township staff for initial review</td>
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<td>Draft Master Plan Submitted to Task Force for review (Review, edit, revisions)</td>
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<td><strong>May 14, 2019</strong></td>
<td>Presentation of Final Master Plan to East Bradford Township Board of Supervisors, Public Meeting #3</td>
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The Initial Briefing Meeting of the East Bradford Township Plum Run Task Force was held on July 31, 2018 at 6 pm in the McCardle Meeting Room of the Township Building, 666 Copeland School Road, West Chester, Chester County, PA 19380-1822.

Task Force members present:
- Mr. Vincent M. Pompo, Esq. (Supervisor), Chair
- Ms. Kathryn Deaville (Planning Commission)
- Ms. Elizabeth Bertheaud (Historical Commission)
- Mr. P. Andrew Schaum, Esq. (Trails Committee)
- Mr. Ken Cavanaugh (Traffic Committee)
- Ms. Sheila Fleming (Brandywine Conservancy)
- Mr. Bob Struble (Brandywine Red Clay Alliance)
- Mr. Jim Haigney (Brandywine Valley Scenic Byway Commission)
- Mr. Mark W. Hoopes (Strode’s Barn Study Committee)
- Ms. Jeannine Speirs (Chester County Planning Commission – Grant Management) [Non-Voting]

Task Force members absent:
- Mr. John Spangler (Parks & Recreation Board)

Staff/Professionals present:
- Rich Phifer, Director of Property & Recreation, Task Force Main Contact
- Tenley Adams, Property & Recreation Assistant, Task Force Secretary
- Jim Laird, Laird Recreation & Land Planning, LLC., Project Manager
- Angelika Laird, Laird Recreation & Land Planning, LLC., Project Manager

Others in attendance:
- None

CALL TO ORDER: The meeting was called to order at 6:05 p.m.

PUBLIC COMMENT: None

INTRODUCTIONS
The members of the Plum Run Task Force introduced themselves.

CHAIRMAN’S INTRODUCTION
Mr. Pompo said that the Vision Partnership Program Grant enables the Township to put together a formal master plan for the Plum Run corridor that will enhance future grant applications for the Strode’s Barn and also the areas around the Plum Run.

OVERVIEW
Mr. Phifer reviewed the project and project area, showing the Task Force the approximate 1-mile segment of the Plum Run corridor that this study will concentrate on; from the western property line of the West Chester University’s Gordon Nature Area, southwesterly to the end of the Township property that abuts the Chesterdale Farm Open Space.

GRANT CONTRACT
Ms. Speirs discussed the scope of work as detailed in the contract between East Bradford Township, Laird Recreation and Chester County. The total amount of the Grant is $20,000 with $12,000 being funded by Chester County and $8,000 being funded by East Bradford Township. The Task Force Chairman is Vince Pompo and the point of contact for the Township is Rich Phifer. All bills will be submitted to Chester County for sign off before being paid by the Township. After the planning guide is completed and adopted the Township will submit for reimbursement of the bills previously paid.
SCOPE OF WORK REVIEW
Mr. Laird reviewed the scope of work that will take place over the next number of months, which will include Task Force meetings, a site visit and public meetings. Information will be sent out electronically between meetings and the Task Force can review and make comment as needed.

The following dates have been selected for meetings:

Site Visit – Monday, August 13th – 9:15 am
Task Force Meeting #2 – Wednesday, August 29th – 6 pm
Task Force Meeting #3 – Thursday, October 11th 6 pm
1st Public Meeting – Tuesday, October 23rd – 5:30 pm to 7:30 pm
Task Force Meeting #4 – Thursday, November 15th – 6 pm
2nd Public Meeting – Thursday, December 13th – 5:30 pm to 7:30 pm
Task Force Meeting #5 – Wednesday, January 16th – 6 pm
3rd Public Meeting – TBD

The meeting adjourned at 8:10 pm.

Respectfully submitted,
Tenley F. Adams
Secretary
The 2nd Meeting of the East Bradford Township Plum Run Task Force was held on August 29, 2018 at 6:00 pm in the McCardle Meeting Room of the Township Building, 666 Copeland School Road, West Chester, Chester County, PA 19380-1822.

Task Force members present:
Vincent M. Pompo, Esq. (Supervisor), Chairman
Ms. Kathryn Deaville (Planning Commission)
Ms. Elizabeth Bertheaud (Historical Commission)
P. Andrew Schaum, Esq. (Trails Committee)
Mr. Ken Cavanaugh (Traffic Committee)
Mr. John Spangler (Parks & Recreation Committee)
Mr. Bob Struble (Brandywine Red Clay Alliance)
Mr. Jim Haigney (Brandywine Valley Scenic Byway Commission)
Mr. Mark W. Hoopes (Strode’s Barn Study Committee)
Ms. Jeannine Speirs (Chester County Planning Commission – Grant Management) [Non-Voting]

Task Force members absent:
Ms. Sheila Fleming (Brandywine Conservancy)

Staff/Professionals present:
Rich Phifer, Director of Property & Recreation, Task Force Main Contact
Tenley Adams, Property & Recreation Assistant, Task Force Secretary
Jim Laird, Laird Recreation & Land Planning, LLC., Project Manager
Colleen Meiswich, A. D. Marble

Others in attendance:
Members of the “Friends of Strode’s Barn”
3 people from the general public

CALL TO ORDER: The meeting was called to order at 6:00 p.m.

PUBLIC COMMENT: None

MINUTES
Mr. Struble motioned to approve the minutes of the July 31, 2018 meeting, Mr. Schaum seconded the motion with all in favor.

PLUM RUN BASE MAP REVIEW
Mr. Phifer reviewed the base map elements with the Task Force members. To make the map easier to understand, a transparent layer will be added to the properties surrounding the area under review. Mr. Struble commented that bog turtles have not been found in the area when the study was done for the Plum Run Stream Bank Restoration that he is working on in conjunction with the Brandywine Red Clay Alliance. Mr. Laird suggested that a second trail can be mapped as an alternate trail for the future.

Equestrian usage was suggested as a possible usage on the trail. This was discussed in depth and Mr. Spangler motioned that for development of the concept plans, the equine use will not be factored into the design, but if the demand arises in the future and is deemed suitable, it could be revisited at that time. The motion was seconded by Mr. Cavanaugh with all in favor.

Parking was discussed, in addition to the parking that will be installed along Tigue Road at the meadow, it was suggested that parking could be at the pump station (which would be very limited); another location for public parking would be on the west side of Birmingham Road just south of Mr. Schaum’s property. It was also suggested that just north of the Strode’s Barn, entering from Lenape Road, there might be suitable access for the barn site in particular. Mr. Cavanaugh said he can check with PennDOT to see if this would be a possibility. It was also suggested that the parking area for the
Strode’s Mill Gallery could be an option, but upgrades to the intersection of Birmingham Road and Lenape Road would have to be completed to meet the PennDOT standards for a pedestrian crossing.

The trail surface was discussed. That portion of the trail through the Tigue property that is part of the settlement agreement for the Darlington Ridge subdivision with Toll Brothers, will be 6 ft wide and paved. It was suggested that the section from the Tigue property to the Strode’s Barn also be paved. The balance of the trail could be of a different surface type.

Trail Amenities, such as benches, trash cans and doggy bag stations should be added, with additional planting as necessary to enhance the trail. A port-a-potty should be considered.

The Task Force advocated for managing open fields as native meadowland, converting any field space currently used to till and grow crops.

Interpretive signage for along the trail and at the Strode’s Barn was discussed and should include information on the natural resources, stream bank restoration, meadow management, historic dam, Strode’s Barn, Strode’s Mill Historic District, and the Battle of the Brandywine. The style should be consistent with what is being used in other municipalities for Battle interpretation. A courtyard area could be created at the Strode’s Barn for some of the signage, but should be designed sensitively in order to minimize vandalism and provide visible exposure for safety.

The Strode’s Barn exterior was discussed. Roofing options such as standing seam metal or shake shingle and exterior finish of stucco whitewash or pointed stone were considered options. Mr. Phifer passed around pictures of the barn that were taken in the late 1800’s which show a stucco whitewash finish, but the roofing and first story exteriors are not easily discernible. The Task Force suggested that one product of the Master Plan could be to request and commission an architectural “forensic” investigation to help determine which portions of the original stone structure preceded others and what the original aesthetic treatment could have included.

On motion of Mr. Haigney and seconded by Mr. Schaum, with all in favor, the meeting adjourned at 8:15pm.

Upcoming Task Force meetings:

Task Force Meeting #3 – Thursday, October 11th 6 pm
1st Public Meeting – Tuesday, October 23rd – 5:30 pm to 7:30 pm
Task Force Meeting #4 – Thursday, November 15th – 6 pm
2nd Public Meeting – Thursday, December 13th – 5:30 pm to 7:30 pm
Task Force Meeting #5 – Wednesday, January 16th – 6 pm
3rd Public Meeting – TBD

The meeting adjourned at 8:10 pm.

Respectfully submitted,
Tenley F. Adams
Secretary
The 3rd Meeting of the East Bradford Township Plum Run Task Force was held on October 11, 2018 at 6:00 pm in the McCardle Meeting Room of the Township Building, 666 Copeland School Road, West Chester, Chester County, PA 19380-1822.

Task Force members present:
- Ms. Kathryn Deaville (Planning Commission)
- Ms. Elizabeth Bertheaud (Historical Commission)
- P. Andrew Schaum, Esq. (Trails Committee)
- Mr. Ken Cavanaugh (Traffic Committee)
- Mr. John Spangler (Parks & Recreation Board)
- Ms. Sheila Fleming (Brandywine Conservancy)
- Mr. Bob Struble (Brandywine Red Clay Alliance)
- Mr. Jim Haigney (Brandywine Valley Scenic Byway Commission)
- Mr. Mark W. Hoopes (Strode's Barn Study Committee)
- Ms. Jeannine Speirs (Chester County Planning Commission – Grant Management) [Non-Voting]

Task Force members absent:
- Vincent M. Pompo, Esq. (Supervisor), Chairman

Staff/Professionals present:
- Rich Phifer, Director of Property & Recreation, Task Force Main Contact
- Tenley Adams, Property & Recreation Assistant, Task Force Secretary
- Jim Laird, Laird Recreation & Land Planning, LLC., Project Manager
- Colleen Meiswich, A. D. Marble

Others in attendance:
- 2 people from the general public: Mr. Paul Davidson & Mr. Josh Lasensky from Chesterdale Farm Lane.

CALL TO ORDER: The meeting was called to order at 6:00 p.m.

PUBLIC COMMENT: None

MINUTES
Mr. Cavanaugh motioned to approve the minutes of the August 29, 2018 meeting, Ms. Bertheaud seconded the motion with all in favor.

PLUM RUN DRAFT MAPS REVIEW
Mr. Phifer reviewed the Draft Maps with the Task Force members. Four maps have been created to show the Plum Run Corridor; one map shows the entire Corridor area that is under review, the additional maps break the area into three sections – East, Central & West sections.

The following suggestions were made:
It was suggested that the trails shown on the East Section map should be coded – color or number – so that they can be distinguished during the public review.

Parking areas – Mr. Schaum motioned that the four parking areas shown on the draft maps should be labeled as “Options” in the Map Legend and that an additional parking area should be shown on the west side of Birmingham Road across from Riflery Drive, the motion was seconded by Mr. Struble and passed with all in favor.

A connector trail along the sewer line easement that would connect the east and west tracts owned by East Bradford Township was discussed. Upon further review it was decided not to add this trail to the map but to potentially address its feasibility and benefit in the final written master plan.

The main trail segment that follows Tigue Road and traverses Darlington Ridge, with the intention to connect to the Strode’s Barn, should be treated uniformly, meaning consistent surface treatment (asphalt paved) and width (8-foot wide).
The courtyard of the Strode Barn can function as an Outdoor Heritage Center and can feature interpretive panels that address the local culture, history and natural resources, functioning also as a heritage gateway for the Brandywine Battlefield experience.

The Task Force addressed options and concepts for restoring the exterior façade of the Strode’s Barn, adaptive re-use of the interiors, and replication of the recognizable logo/sign of the former Strode’s Sausage and Scrapple factory. These will be important components of the project where public input is solicited.

FORMAT OF THE PUBLIC MEETINGS
The Task Force intends for there to be a semi-formal, 15-minute presentation in the middle of the public open house meeting to provide an overview of the project and its purpose to those who are present. Individual stations showing maps, trails, interpretive panels will be set up in order to engage the public and discuss individual concepts interpersonally with participants. Handouts with information and that allow for comments should be provided to the attendees. All comments should be anonymous. They should also have the ability to mail in the comments or supply them online.

Some of the suggested questions:
Who is the user and how would you use the park.
Questions on the Heritage Area should be included, as to what should be on the panels.

PUBLIC COMMENT
Mr. Davidson and Mr. Lasensky of the Chesterdale Farm subdivision asked where the trail is to go from here. Mr. Phifer explained that ultimately the trail would continue south to the Brandywine and connect to the Brandywine Creek Greenway trail system. The current goal is the master plan for the approximate 1-mile section shown on the maps and it would probably be several years before planning would occur on the next segment of the corridor.

Ms. Speirs announced that the Marshallton Heritage Center will have its Grand Opening on Thursday, October 18th at 11am. Everyone is invited to attend.

On motion of Mr. Schaum and seconded by Ms. Bertheaud with all in favor, the meeting adjourned at 8:15pm.

Upcoming Task Force meetings:

1st Public Meeting – Tuesday, October 23rd – 5:30 pm to 7:30 pm
Task Force Meeting #4 – Thursday, November 15th – 6 pm
2nd Public Meeting – Thursday, December 13th – 5:30 pm to 7:30 pm
Task Force Meeting #5 – Wednesday, January 16th – 6 pm
3rd Public Meeting – TBD

Respectfully submitted,
Tenley F. Adams
Secretary
East Bradford Township
Plum Run Task Force
Meeting Minutes
December 3, 2018

The 4th Meeting of the East Bradford Township Plum Run Task Force was held on December 3, 2018 at 6:00 pm in the McCardle Meeting Room of the Township Building, 666 Copeland School Road, West Chester, Chester County, PA 19380-1822. This meeting was rescheduled from November 15th, 2018 because of snow.

Task Force members present:
  Vincent M. Pompo, Esq. (Supervisor), Chairman
  Ms. Kathryn Deaville (Planning Commission)
  Ms. Elizabeth Bertheaud (Historical Commission)
  P. Andrew Schaum, Esq. (Trails Committee)
  Mr. John Spangler (Parks & Recreation Board)
  Ms. Sheila Fleming (Brandywine Conservancy)
  Mr. Jim Haigney (Brandywine Valley Scenic Byway Commission)
  Ms. Jeannine Speirs (Chester County Planning Commission – Grant Management) [Non-Voting]

Task Force members absent:
  Mr. Ken Cavanaugh (Traffic Committee)
  Mr. Bob Struble (Brandywine Red Clay Alliance)
  Mr. Mark W. Hoopes (Strode’s Barn Study Committee)

Staff/Professionals present:
  Rich Phifer, Director of Property & Recreation, Task Force Main Contact
  Tenley Adams, Property & Recreation Assistant, Task Force Secretary
  Jim Laird, Laird Recreation & Land Planning, LLC., Project Manager
  Colleen Meiswich, A. D. Marble
  Russ Stevenson, A.D. Marble

Others in attendance:
  None

CALL TO ORDER: The meeting was called to order at 6:00 p.m.

PUBLIC COMMENT: None

MINUTES
Mr. Schaum motioned to approve the minutes of the October 10, 2018 meeting, Mr. Haigney seconded the motion with all in favor.

SUMMARY OF PUBLIC SURVEY RESPONSES
Mr. Laird went over the responses that have been received so far. The Township will blast the survey out to the email addresses for the electronic newsletter and the ABC’s so that it reaches as many people as possible. Survey responses will continue to be accepted until the final Task Force Meeting on January 16th, 2019.

HERITAGE INTERPRETATION DISCUSSION
The Task Force would like to see the interpretative area have some type of central feature in the courtyard (statue, gazebo/ pergola, millstone, tree). Reinforcement and repair of the stone walls to create a more defined courtyard were discussed. The Task Force would like to have added to the heritage theme list the subject of locally quarried serpentine stone utilized in the construction of the Strode’s Barn and several nearby structures.

Signage locations were discussed for the trail corridor. Signs should be located at easily accessible points along the trail for ease of maintenance and for purposes of obtaining maximum viewership. Educational signage on the importance and function of riparian buffers and the stream restoration work that will/has been done along Plum Run should be included.
The employment of a Cell phone interpretive tour for the greenway corridor and other Township parks/trails was discussed as something to look into based on successful models utilized at other historic locations.

The Task Force briefly discussed the need to recommend tract and trail names for the project as a means to both identify the public properties and to assist in branding the corridor. Mr. Schaum suggested that the land owned by the Township could be designated the “Plum Run Preserve”. Suggestions for the trail name included “Plum Run Greenway Trail”, “Plum Run Heritage Trail”, or “Plum Run Valley Trail”

**STRODE BARN RESTORATION / RE-USE DISCUSSION**

It was suggested by the Task Force that trying to reproduce the recognizable Strode’s Scrapple & Sausage logo directly onto the historic Strode’s Barn could be viewed negatively by the PHMC and have a detrimental impact on Township attempts to procure future grant funds for the structure’s restoration. Mr. Stevenson validated this concern and suggested that in considering the Strode’s Barn vision, the Township would need to determine whether or not the goal is to Preserve, Rehabilitate, Restore, or Reconstruct the historic barn. Mr. Stevenson then outlined the technical differences between these four approaches based on definitions adopted by the National Park Service and he recommended to the Task Force that Rehabilitate would be the option he would recommend.

The Task Force reaffirmed support for the recommendation to conduct an architectural analysis on the Strode’s Barn site, following completion of the Master Plan, that would provide the forensic evidence sought by the Township to effectively determine the restoration strategy and goal for the historic structure. Mr. Phifer clarified that if the Task Force decides to recommend the architectural analysis on the Strode’s Barn, in hopes of determining a correct strategy for the barn’s future disposition, that such an analysis would not take place until after the Master Plan is finalized and the Task Force disbanded. Such as would be the case, the responsibility to complete the architectural analysis and subsequently determine a final vision for the barn would likely fall upon the Township’s Strode’s Barn Study Committee.

**DRAFT MAP REVISIONS/EDITS**

The Task Force reviewed the draft maps and trail concepts of the corridor in consultation with the public comments and feedback that have been submitted to date. Several small revisions to trail alignments were suggested. Ms. Fleming asked if the additional proposed parking lot along Birmingham Road across from Rillery Drive could be added as discussed previously. The portrayal of the sewer line easement on the maps should be altered such that it is more visibly differentiated from the roads. Mr. Phifer updated the Task Force on the meeting held with and input received from West Chester University. The University is interested in having the public trail system connect to the Gordon Nature Area and the parties feel it would be most feasible to extend the multi-use trail onto the northern side of Tigue Road, through the University property to S. New Street. These updates should be added to the draft maps for presentation at the upcoming public meeting.

**FORMAT OF THE 2nd PUBLIC MEETING**

The second public meeting should be similar to the first with a semi-formal, 15-minute presentation in the middle of the public open house meeting to provide an overview of the project and its purpose to those who are present. Individual stations showing maps, trails, and interpretative panel themes will be set up in order to engage the public and discuss individual concepts interpersonal with participants. The public survey will continue to be available for attendees to complete.

**PUBLIC COMMENT**

None

On motion of Ms. Fleming and seconded by Mr. Haigney with all in favor, the meeting adjourned at 8:05pm.

**Upcoming Task Force meetings:**

2nd Public Meeting – Thursday, December 13th – 5:30 pm to 7:30 pm  
Task Force Meeting #5 – Wednesday, January 16th – 6 pm  
3rd Public Meeting (Formal Presentation to Board of Supervisors) – TBD

Respectfully submitted,  
Tenley F. Adams  
Secretary
East Bradford Township
Plum Run Task Force
Meeting Minutes
January 16, 2019

The 5th Meeting of the East Bradford Township Plum Run Task Force was held on January 16, 2019 at 6:00 pm in the McCardle Meeting Room of the Township Building, 666 Copeland School Road, West Chester, Chester County, PA 19380-1822.

Task Force members present:
- Ms. Kathryn Deaville (Planning Commission)
- P. Andrew Schaum, Esq. (Trails Committee)
- Mr. John Spangler (Parks & Recreation Board)
- Mr. Ken Cavanaugh (Traffic Committee)
- Ms. Sheila Fleming (Brandywine Conservancy)
- Mr. Mark W. Hoopes (Strode’s Barn Study Committee)
- Mr. Jim Haigney (Brandywine Valley Scenic Byway Commission)
- Ms. Jeannine Speirs (Chester County Planning Commission – Grant Management) [Non-Voting]

Task Force members absent:
- Vincent M. Pompo, Esq. (Supervisor), Chairman
- Ms. Elizabeth Bertheaud (Historical Commission)
- Mr. Bob Struble (Brandywine Red Clay Alliance)

Staff/Professionals present:
- Rich Phifer, Director of Property & Recreation, Task Force Main Contact
- Tenley Adams, Property & Recreation Assistant, Task Force Secretary
- Mandie Cantlin, Township Manager
- Jim Laird, Laird Recreation & Land Planning, LLC., Project Manager

Others in attendance:
- Geralyn Duke
- Joe Tankle
- John Marshall
- Dara Gans

CALL TO ORDER: The meeting was called to order at 6:00 p.m.

PUBLIC COMMENT: None

MINUTES
Mr. Schaum asked that on page 2 of the December 3, 2018 meeting minutes, under Strode Barn Restoration/Re-use Discussion, a line be added that Mr. Stevenson of A. D. Marble made the recommendation to the Task Force to rehabilitate the Strode’s Barn based on the four options presented. With that change made, Mr. Schaum motioned to except the minutes of the December 3, 2018 meeting and Mr. Haigney seconded the motion with all in favor.

SUMMARY OF KEY LANDOWNER/STAKEHOLDER FEEDBACK
Mr. Phifer met with a representative from West Chester University and they are very interested in a connector multi-use trail from the University south campus' Rockwell Field to the paved trail on the township property. It would mean that the township would have to secure an easement over the University land and would be responsible for installing the trail connector and maintaining it. Under the right conditions they may also be open to the natural-surface trail connectors into the Gordon Natural Area.

Mr. Phifer said that the Campbell’s, who live on Tigue Road, would prefer privacy vegetation screening along their property line with the township property. The Tankles, who also live on Tigue Road, have expressed satisfaction with the trail alignments as shown on the draft maps and plans.

Mr. Phifer said that he had a meeting this day with PennDOT about the proposed parking areas along Lenape and Birmingham Roads and the mid-block pedestrian crossing on Birmingham Road. Mr. Phifer said that it is believed that the parking areas are feasible in their conceptual locations. The mid-block trail crossing will require a pedestrian study and possibly the lowering of the speed limit on Birmingham Road. Regarding traffic calming, road medians strategically
placed within the Strode’s Mill historic district were elements that PennDOT said could be pursued, similar to the median now installed on Strasburg Road through Marshallton.

The parking area shown next to the pump station was discussed and on motion of Mr. Haigney and seconded by Mr. Spangler with all in favor, the parking area shown next to the pump station will be removed from the site maps because of site constraints. The parking areas shown on the west side of Birmingham Road, on Lenape Road and on Tigue Road will remain on the maps.

Mr. Phifer had met with the Township Public Works Department to discuss maintenance of the trail system and open areas. Concerns were raised about some of the natural trails being close to the creek or in the flood zone. It was decided that the trails will stay on the maps as shown and will be reviewed for suitability after stream restoration work by the Brandywine Red Clay Alliance is completed along the creek.

STRODE’S BARN CONCEPT RENDERING CONSIDERATIONS
The Task Force was in favor of artist renderings rather than photo renderings. Two renderings will be created, one showing the barn from the intersection of Birmingham Road and Lenape Road including the cross walk and also the old Strode’s Scrapple Sign, which would be freestanding at the same approximate location as it had been prior to the addition coming down. It should show low walls on the Lenape and Birmingham Road sides to be around 42 inches high with a cap. The second rendering would be from Birmingham Road looking into the Heritage Area and showing the low walls on the north and west side of the interpretive area with buttresses as supports. The placement of the interpretive signage and the central feature in the courtyard and the back of the barn would also be shown.

FINAL CONSIDERATIONS
Mr. Phifer asked for recommendations on the name of the Heritage Center and also the property and trail names. The Task Force was in agreement that the Heritage Center be called the Strode’s Barn Heritage Center; the trail be called the Plum Run Trail and the property/open space be called the Plum Run Preserve.

Signage for the Heritage Center should be consistent with other Brandywine Battlefield Trail Signage.

IMPLEMENTATION STRATEGY
It was agreed that the trail from the Strode’s Barn to the paved trail that is part of the settlement agreement with the Toll Brothers’ Darlington Ridge Development and on to the West Chester University Rockwell Field facility will be the first priority for completion. The natural trails can be created with the help of volunteers as manpower allows.

The plan is to have the final draft Master Plan ready by the end of February and distributed to the members for review. An additional Task Force meeting will be held March 13th at 6pm, for final review and recommendation to the Board of Supervisors. The final Master Plan will be presented to the Board of Supervisors on Tuesday, April 9th, 2019 for consideration and approval by the Supervisors.

PUBLIC COMMENT
Ms. Gans commented that the wall along Birmingham Road should be high enough so that people are comfortable and able to enjoy the Heritage Center without the fear of vehicles. The cap on the wall should be such that skateboarders won’t be using the wall. Mr. Marshall thanked the Task Force for their time at creating the Master Plan.

On motion of Ms. Deaville and seconded by Ms. Fleming with all in favor, the meeting adjourned at 8:05pm.

Task Force Meeting #6 – Wednesday, March 13th – 6 pm
3rd Public Meeting with Formal Presentation to Board of Supervisors, Tuesday, April 9th, 2019.

Respectfully submitted,
Tenley F. Adams
Secretary
East Bradford Township  
Plum Run Task Force  
Meeting Minutes  
April 18, 2019

The 6th Meeting of the East Bradford Township Plum Run Task Force was held on Thursday, April 18, 2019 at 6:00 pm in the McCardle Meeting Room of the Township Building, 666 Copeland School Road, West Chester, Chester County, PA 19380-1822.

Task Force members present:
- Ms. Elizabeth Bertheaud (Historical Commission)
- Mr. Ken Cavanaugh (Traffic Committee)
- Ms. Kathryn Deaville (Planning Commission)
- Ms. Sheila Fleming (Brandywine Conservancy)
- Mr. Jim Haigney (Brandywine Valley Scenic Byway Commission)
- Mr. Mark W. Hoopes (Strode’s Barn Study Committee)
- P. Andrew Schaum, Esq. (Trails Committee)
- Mr. Mark W. Hoopes (Strode’s Barn Study Committee)
- Ms. Jeannine Speirs (Chester County Planning Commission – Grant Management) [Non-Voting]

Task Force members absent:
- Vincent M. Pompo, Esq. (Supervisor), Chairman
- Mr. John Spangler (Parks & Recreation Board)

Staff/Professionals present:
- Rich Phifer, Director of Property & Recreation, Task Force Main Contact
- Tenley Adams, Property & Recreation Assistant, Task Force Secretary
- Jim Laird, Laird Recreation & Land Planning, LLC., Project Manager

Others in attendance:
- John Snook, Supervisor

CALL TO ORDER: The meeting was called to order at 6:00 p.m.

PUBLIC COMMENT: None

MINUTES
Mr. Schaum motioned to accept the minutes from the January 16, 2019 meeting and Mr. Haigney seconded the motion which passed unanimously with all voting in favor.

REVIEW OF MASTER PLAN RECOMMENDATIONS
Mr. Phifer reviewed “Appendix D – Recommendations” of the Plum Run Master Plan with the Task Force. The following revisions were made by the Task Force:

Pertinent to Section 1: Strode’s Barn Heritage Center Recommendations
Recommendation 1: Revise this recommendation to read, “Commission an architectural ‘forensic’ analysis of the Strode’s Barn to guide the Township’s approach to restoration/rehabilitation of the structure. The ultimate restoration/rehabilitation strategy should strive to conform to the appropriate Secretary of the Interior’s Standards for the Treatment of Historic Properties.”
Recommendation 5: Revise the last sentence of this recommendation to read, “All surfaces, slopes and transitions on the Plum Run Trail and at the Strode’s Barn Heritage Center should strive to be ADA compliant.”
Recommendation 6: Revise the last sentence of this recommendation by adding, “and the Brandywine Battlefield Task Force” after “East Bradford Historical Commission”.
Recommendation 7: Revise this recommendation to read, “Incorporate stormwater management and adequate drainage infrastructure into the design and construction of the Strode’s Barn Heritage Center site in accordance with applicable BMPs.”

Pertinent to Section 2: Recreation Recommendations
Recommendation 3: Revise this recommendation by replacing the word “jurisdiction” with “administration”.

Pertinent to Section 3: Road and Vehicle Access Recommendations
Recommendation 2: Revise this recommendation to read, “East Bradford Township should prepare and submit to PennDOT a formal application for Request of Speed Limit Reduction on Birmingham and Lenape Roads within the Strode’s Mill Historic District.”
Recommendation 5: Revise the second sentence of this recommendation by deleting “to 35 MPH”.


Pertinent to Section 4: Natural Resources Recommendations
Recommendation 6: Revise this recommendation by inserting the word “witness” in front of the word “tree” in the first sentence.
Recommendation 7: Revise this recommendation to read, “The Township should apply a ‘No Spray Zone’ policy along the road frontage of the Birmingham Tract of the Plum Run Preserve and should install protective fencing a distance away from the witness tree, which could provide a place to mount a ‘No Spray Zone’ sign.”

Pertinent to Section 5: Cultural Landscape & Historic Resources Recommendations
Recommendation 2: Revise this recommendation to read, “Include the Strode’s Barn spring house in the scope of work of the commissioned architectural ‘forensic’ analysis to determine the most appropriate rehabilitative treatment for the structure. The ultimate restoration/rehabilitation of the spring house should conform to the appropriate Secretary of the Interior’s Standards for the Treatment of Historic Properties.”
Recommendation 4: Revise this recommendation by adding “and stabilize” after the word “preserve”.
Recommendation 5: Revise this recommendation by replacing the words “Strode Oak” with “witness”.
Recommendation 7: Revise the last section of this recommendation to read, “…and the context of the battle and preceding troop movements as they relate to the area surrounding the Strode’s Mill Historic District (reference Appendix A – List of Heritage Themes).”

REVIEW OF ANTICIPATED FUTURE EXPENSES
Mr. Phifer reviewed Section 8 of the draft Master Plan (Implementation and Action Plan) with the Task Force. He said that in addition to the Task Force’s review, the cost estimates will be reviewed by the Township Engineer for comment/input. Mr. Phifer also stated that the cost estimates are based on the prospect of the Township commissioning private contractors to perform all design, engineering and installation/construction, whereas certain items in the plan could realistically be performed by the Township’s Public Works department at a reduced cost.

FINAL TASK FORCE INPUT
Ms. Speirs will review and make additional comments pertaining to Sections 1 and 5 of the Draft Plan.

PUBLIC COMMENT
None

On motion of Ms. Bertheaud and seconded by Mr. Cavanaugh with all in favor, the Plum Run Task Force recommends the Final Draft Plan with the recommended edits be forwarded to the Board of Supervisors for consideration and approval.

The meeting adjourned at 8:05pm.

The 3rd Public Meeting with Formal Presentation of the Plum Run Master Plan to the Board of Supervisors will take place on Tuesday, May 14th, 2019 at 7:00 pm in the Township Building.

Respectfully submitted,
Tenley F. Adams
Secretary
Plum Run Greenway Master Plan
Public Survey Questionnaire

The Plum Run Greenway Master Plan is an effort resulting from recommendations out of the 2016 Township Comprehensive Plan update. The goal of this master plan is to synthesize the Township vision for the Plum Run Greenway, to include features such as multi-use trails, habitat enhancement, historic restoration and heritage interpretation and education. The master plan is a necessary step that will assist the Township in fundraising and developing the products that will be called for in the plan. Participants of this survey who have not attended the October 23 open house public meeting are advised to first review draft master plan documents for the Plum Run Greenway that are available online at the Township website: www.eastbradford.org.

THANK YOU for participating in this Survey. Please provide the responses that best represent your thoughts:

A little about yourself:
Which municipality/township are you a resident of? ____________________________
Please indicate your age:
0-17 years 18-24 years 25-34 years 35-44 years 45-64 years 65+ years

Greenway Access:
The draft master plan proposes a main 8-foot wide, paved (asphalt) shared-use path (similar to the Brandywine and Chester Valley Trails) on a portion of the site. Which activities would you do while using a paved, shared-use path (check all that apply)?

_____ Hike/ Walk/ Run/ Jog/ Dog Walk
_____ Fishing and/or Birding
_____ Bicycle
_____ In-line Skate/ Roller Blading
_____ Horseback Riding (typically along the trail’s grass shoulders)
_____ I wouldn’t use a paved, shared-use path

Other (explain): ___________________________________________________________

For which primary purposes would you use the proposed shared-use path (check all that apply)?

_____ Recreational Pleasure / Leisure
_____ Health and Fitness Training
_____ Alternative Transportation (commuting to work, school, college, shopping, etc.)
_____ As a connection to other parks and/or trail systems

Would you like the shared-use path to provide access/connectivity to unpaved paths? The unpaved paths would be narrower than 8-foot wide and could be of grass or natural surfacing. Yes / No
If yes, which activities would you do on the unpaved paths? (check all that apply)

_____ Hike/ Walk/ Run/ Jog/ Dog Walk
_____ Fishing and/or birding
_____ Bicycle
_____ Horseback Riding
_____ I wouldn’t use unpaved paths

Other (explain): ___________________________________________________________

How would you be most likely to get to the greenway on a normal basis (check one)?

_____ Arrival by personal automobile
_____ Arrival on foot
_____ Arrival by bike
_____ Arrival by public transportation

Other means (explain): _____________________________________________________

What amenities would you like to see along the greenway trails/paths (check all that apply)?

_____ Benches  _____ Trash Cans  _____ Doggie Bag Pots
_____ Picnic Tables  _____ Port-a-pots / compost toilets  _____ Trail Mile Markers
_____ Workout Stations  _____ Shade and Native Vegetation
Plum Run Greenway Master Plan
Public Survey Questionnaire

What types of trails/paths are most preferable to you (check all that apply)?

_______ Paved asphalt multi-use paths
_______ Natural dirt surface hiking trails
_______ Mown grass meadow trails
_______ Crushed stone gravel trails
Other (explain): ____________________________________________

Local Heritage:
The draft master plan proposes the installation of several types of heritage interpretation exhibits along the greenway corridor and at the Strode’s Barn. Which potential subjects of interpretation most interest you (check all that apply)?

_______ Natural Resources (Environment, Vegetation, Wildlife, Stream/Riparian Restoration)
_______ Historic Resources (Strode’s Mill/Barn, Strode’s Mill historic village, and other Architectural & Archeological Features)
_______ Cultural Resources (Lenni Lenape, Pre-Colonial through modern landscape and culture)
_______ Brandywine Battlefield Resources (Colonial era and American Revolution)
Other (explain):

The draft plan will propose several themes and subjects for heritage interpretation panels. Is there a specific theme or subject that you want to see interpreted via signage along the trail or at the Strode’s Barn?

Idea, subject or theme: __________________________________________

Strode’s Barn Reuse:
The draft master plan will likely propose that the Strode’s Barn exterior facades be restored. Are there particular features of the barn that you prefer to see restored and in a certain way?
(For instance: stucco or repointing of stone, exterior landscaping treatment, roof materials, door treatments)

Please describe: ____________________________

How do you envision using the interior space of the Strode’s Barn as a public space?
(for example: educational learning classroom, heritage interpretation area)

Please describe: ____________________________

Do you want to see the vintage Strode’s Scrapple and Sausage logo replicated somewhere on the site of the Strode’s Barn property?  Yes / No
If yes, how would you prefer the logo be replicated (select one):
_______ Painted directly onto the exterior of one of the historic barn walls
_______ Replicated on a separate sign erected near the location where the original logo appeared
_______ Replicated on a small scale by working the logo into one of the interpretive panels
Other (explain): ____________________________

Other:
Please let us know if there is anything else you would like the Task Force to know as feedback to the draft elements for the Plum Run Master Plan. You may also use the space below to elaborate further on any of your responses from above that require more space:

Thank you very much for your valuable input!

Please deliver this form either in person or via mail to:

East Bradford Township
666 Copeland School Road
West Chester, PA 19380
Attn: Rich Phifer

You may also scan your completed form and mail it electronically to: rphifer@eastbradford.org
Please submit this form no later than Friday, November 9, 2018 at 12:00 PM (Noon)

Next Open House Public Meeting for the Plum Run Greenway Master Plan:
Thursday, December 13, 2018 from 5:30 to 7:30 PM in the East Bradford Township Building
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1.0 Strode’s Barn Heritage Center Recommendations

**Strode’s Barn Heritage Center Recommendation 1:** Commission an architectural ‘forensic’ analysis to determine the character to which the exterior components of the Strode’s Barn should be rehabilitated. Materials used in the restoration or rehabilitation of doors/windows, the roof, and in treatment of the stone should conform to the Secretary of the Interior Standards.

**Strode’s Barn Heritage Center Recommendation 2:** Construct the outdoor heritage center over the footprint of the Strode’s Scrapple plant in accordance with the layout plans and features depicted on the ‘Outdoor Heritage Center Plan’ map, to include:

- Removal of structural backfill support material and construction of supporting stone buttress walls;
- Reconstruction of foundation walls along Birmingham and Lenape Roads (utilizing salvaged stone stockpile supply). Walls should be high enough for safety (eliminate fall zones) but should not block views of the historic Strode’s Mill from the courtyard;
- Integrate bench seating around the central feature of the courtyard;
- Orient the courtyard around a central feature (options: monument, statue, fountain, outdoor artwork, etc.);
- Interpretive panels positioned along the sides of the courtyard.

**Strode’s Barn Heritage Center Recommendation 3:** Replicate the Strode’s Scrapple logo on a separated panel placed as near to the original location of the logo as possible, oriented towards Lenape Road but sized smaller than its original scale.

**Strode’s Barn Heritage Center Recommendation 4:** Secure, clean and ventilate (“mothball”) the Strode’s Barn exterior, including the roof, and the interior. The Township may use the interior for small storage purposes in the near-term while assessing feasible long-term uses. To accomplish this, exterior windows and doors will need to be rehabilitated for access and to take advantage of the natural light source.

**Strode’s Barn Heritage Center Recommendation 5:** Install an ADA compliant surfacing at the Strode’s Barn Heritage Center that suits the historic character of the site and integrates the spring house with the barn complex. All surfaces, slopes and transitions on the Plum Run Trail and the Heritage Center should strive to be ADA compliant.

**Strode’s Barn Heritage Center Recommendation 6:** Plan, design and install heritage interpretation at the Strode’s Barn Heritage Center in accordance with the list of themes and detailed information provided in Appendix A: List of Heritage Themes and through additional consultation with the East Bradford Historical Commission and the Brandywine Battlefield Task Force’s Historic Resources Subcommittee.

**Strode’s Barn Heritage Center Recommendation 7:** Incorporate stormwater management and adequate drainage infrastructure into the design and construction of the Strode’s Barn Heritage Center, in accordance with applicable BMPs.

**Strode’s Barn Heritage Center Recommendation 8:** Incorporate native plantings into the design and construction of the Strode’s Barn Heritage Center, including trees, shrubs and perennial flowers, with the objective of creating an attractive yet low maintenance vegetation regime for the property that also
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provides benefit to native wildlife. Strategically incorporate the thinning or removal of low quality or invasive vegetation at the site to compliment planned public use and access, being sure to maintain the existing tree canopy.

**Strode’s Barn Heritage Center Recommendation 9:** Plan to incorporate the Strode’s Barn Heritage Center into the Township’s volunteer stewardship program in an effort to support the installation and establishment of new native vegetation plantings at the site.

### 2.0 Recreation Recommendations

**Recreation Recommendation 1:** Construct an 8-foot wide paved (asphalt) multi-use trail to serve as the primary access ‘spine’ through the corridor that will connect the primary destination points, being principally the Strode’s Barn Heritage Center, the Strode’s Mill Historic District, and the West Chester University campus leading into West Chester Borough.

**Recreation Recommendation 2:** Collaborate with Toll Brothers before and throughout Darlington Ridge site construction to ensure that the public, 8-foot wide paved multi-use trail will be graded to comply with universal access specifications and AASHTO guidelines for multi-use trails.

**Recreation Recommendation 3:** The Township should acquire a public trail easement for installation of the multi-use trail on land under WCU jurisdiction along the north side of Tigue Road at Rockwell Field and should collaborate with WCU in finalizing pre-construction trail alignment and road crossing locations that impact the Rockwell Field and Gordon Nature Area properties.

**Recreation Recommendation 4:** Construct an 8-foot wide, multi-use compacted gravel trail to serve as the primary access route into the interior of the Plum Run Preserve’s Tigue Tract.

**Recreation Recommendation 5:** Construct and maintain natural hiking trails within the Lenape and Tigue Tracts of the Plum Run Preserve, using the locations and alignments suggested on the corridor maps as initial guides that will need to be scrutinized in the field during design and prior to construction. The natural hiking trails should connect into the planned multi-use trails.

**Recreation Recommendation 6:** Utilize volunteer manpower to construct and maintain the compacted earth, natural hiking trails by incorporating the Plum Run Preserve into the Township’s volunteer Adopt-a-Trail program and by engaging the Township’s 100-member volunteer corps.

**Recreation Recommendation 7:** Collaborate with and assist WCU in connecting the existing natural surface trail on the Gordon Nature Area (the Golden Ram Trail) to the natural hiking trails planned for the Plum Run Preserve if suggested alignments are proven feasible by in-field analysis.

**Recreation Recommendation 8:** Strategically install ADA accessible benches (2x), quarter-mile marker posts (4x), dog pots (4x), and interpretive panels (7x) alongside the 8-foot wide paved, multi-use trail (the Plum Run Trail) between the planned trailhead on Birmingham Road and the trail connection tie-in to the WCU trail at the Rockwell Field entrance, in accordance with the phased-in construction recommendations.

**Recreation Recommendation 9:** Install trailside vegetation buffers on the Tigue Tract of the Plum Run Preserve alongside the Plum Run Trail parallel to Tigue Road and the natural hiking trail flanking the western property line.
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Recreation Recommendation 10: Plan and install 4 trailheads at entrances to the Plum Run Trail between the Birmingham Tract of the Plum Run Preserve and the Rockwell Field entrance on the WCU campus in accordance with the phased-in construction recommendations.

Recreation Recommendation 11: Each trailhead should include an information kiosk that conforms in style and design to the standard Township park kiosk located at East Bradford Park and along the East Branch Brandywine Trail. Utilize Eagle Scout volunteer services to construct and install these kiosks under Township guidance.

Recreation Recommendation 12: Continue collaboration with Toll Brothers to ensure successful construction and completion of the neighborhood connection between the Plum Run Trail and the paved Darlington Ridge HOA trail (private).

Recreation Recommendation 13: Work with WCU to obtain the public trail easement through the Gordon Nature Area and Rockwell Field facility that is necessary to construct and connect the Plum Run Trail to the existing Golden Ram Trail.

Recreation Recommendation 14: The Township should proceed to finalize bridge typology, size and location specifications for the two larger bridges based on the determinations of the next-phase engineering and design process, using the specifications recommended in this section as a guide.

Recreation Recommendation 15: The Township should proceed to install the two larger bridges according to the phased-in approach recommendations. The necessity of the bridge leading from the Strode’s Barn Heritage Center to the sewer pump station is contingent upon the Township’s ability to further extend the Plum Run Trail to points west of the Strode’s Mill Historic District.

Recreation Recommendation 16: Coordinate with PennDOT to determine whether an appropriate bridge is available through the Cultural Resources Management Program (https://www.paprojectpath.org/penndot-crm/bridges/bridges-for-sale), what funding may be available from the Federal Highways Administration to assist the Township with potential relocation and rehabilitation costs, and the feasibility of this alternative approach to the Bridge #1 crossing.

Recreation Recommendation 17: Construct and install small foot bridges to serve the natural hiking trail system utilizing lumber that can be procured in-house and labor that can be provided by volunteers or as a staff project. Sequence this work based on the phased-in approach recommendations.

Recreation Recommendation 18: The Township should proceed to finalize boardwalk typology, size and location specifications for the wetlands crossing based on the determinations of the next-phase engineering and design process, using the specifications recommended in this section as a guide.

Recreation Recommendation 19: Upon adoption of the first phase master plan for the Plum Run Corridor, East Bradford Township should pursue funding for the planning and implementation of Phase II to connect the corridor to the Brandywine Creek Greenway and Philadelphia Circuit Trail Network. Additionally, the Township should continue planning and completing gaps in the East Branch Brandywine Trail corridor to enable off-road linkages to the Chester Valley Trail.

3.0 Road and Vehicle Access Recommendations

Road and Vehicle Access Recommendation 1: East Bradford Township should commission a Traffic and Pedestrian Study in cooperation with PennDOT District 6-0 to evaluate the current pedestrian and vehicular conditions and limitations of Birmingham and Lenape Roads within the general confines of the Strode’s Mill Historic District.
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Road and Vehicle Access Recommendation 2: East Bradford Township should prepare and submit a formal Application for Request of Speed Limit Reduction on both Birmingham (currently 40 MPH) and Lenape (currently 45 MPH) Roads within the Strode’s Mill Historic District.

Road and Vehicle Access Recommendation 3: East Bradford Township should prepare and submit a formal Application for Request for installation of traffic calming devices, including but not limited to median islands, textured surface transitions, and appropriate signage that will be effective in slowing vehicular traffic and reducing noise pollution within the Strode’s Mill Historic District.

Road and Vehicle Access Recommendation 4: East Bradford Township should commission a Pedestrian Study in cooperation with PennDOT District 6-0 to evaluate the Lenape Road/Birmingham Road intersection for the purpose of establishing a well-marked, highly-visible pedestrian crossing with an integrated push-button pedestrian phase (timed) crossing signal.

Road and Vehicle Access Recommendation 5: East Bradford Township should collaborate with PennDOT District 6-0 on the planned installation of a mid-block crossing of Birmingham Road. This would need to occur simultaneously with the lowering of the posted speed limit. The crosswalk is recommended to be designed as a raised speed table with compatible warning surface treatments and cautionary signage. No illuminated or flashing signals are recommended due to the intent to preserve the character and viewshed of the Strode’s Mill Historic District.

Road and Vehicle Access Recommendation 6: East Bradford Township should install two mid-block crossings on Tigue Road, to be identical to the crossing that Toll Brothers will install on Tigue Road. These crossings will feature a raised speed table, detectable warning surfacing, and cautionary approach signage.

Road and Vehicle Access Recommendation 7: The Township should install a ten to twenty-space public parking lot on the Lenape Tract of the Plum Run Preserve that, together with the six-space lot being installed by Toll Brothers on the Tigue Tract, should be planned for early-phase execution. The Township should plan to install a six to ten-space parking lot on the Birmingham Tract as a latter phase priority, once public demands warrant and/or the feasibility of extending the Plum Run Trail further west has been addressed.

Road and Vehicle Access Recommendation 8: If public demand for additional trail parking warrants, the Township should pursue the negotiation of cooperative agreements with West Chester University for limited use of portions of the Farrell Stadium parking lot (as a first priority), and then with the owner of the Strode’s Mill property for limited use of the private parking lot that serves the mill (as a second priority).

Road and Vehicle Access Recommendation 9: The Township should coordinate with PennDOT to prepare a formal request that the Birmingham Road bridge be replaced with a structure that can provide increased drainage capacity to help reduce the flooding of Birmingham Road and the Lenape Tract.

Road and Vehicle Access Recommendation 10: It is recommended that the Township and PennDOT pursue all of the recommended roadway improvements, traffic and pedestrian studies, and traffic calming measures as one joint comprehensive project for the entire Strode’s Mill Historic District that includes enhancements to the management of stormwater runoff along Birmingham Road.
Appendix D – Recommendations

4.0 Natural Resources Recommendations

Natural Resources Recommendation 1: The Township should collaborate closely with the BRCA and help facilitate the stream restoration work planned for the Plum Run on the Lenape and Tigue Tracts. This work is likely to begin in 2019 and is therefore represented as an early-stage activity in the Master Plan implementation strategy. The Township should prepare to maintain the native riparian plantings following completion of the restoration work and should incorporate this activity into its staff and volunteer stewardship activities.

Natural Resources Recommendation 2: The Township should proceed to enhance the native riparian buffer zone on the Tigue Tract through the planting and maintenance of young trees. The Township should pursue installation and management of native wildflower and grass meadowland on the dry, open areas of the Tigue and Birmingham Tracts.

Natural Resources Recommendation 3: The Township should utilize staff, volunteer and partner resources to combat the spread of invasive plants, such as vines and phragmites.

Natural Resources Recommendation 4: The Township should incorporate the Plum Run Preserve lands into the Brandywine Valley Archery Club deer management program in order to help quell the resident whitetail deer herd. Portions of the Preserve have been incorporated into the program already.

Natural Resources Recommendation 5: The Township should utilize volunteer Eagle Scout opportunities to install small-scale habitat devices into the Plum Run Preserve, such as bird boxes, bat boxes and bee boxes.

Natural Resources Recommendation 6: The Township should plan to invest in specialized care of the Witness tree by a certified professional arborist. The tree should be inspected at least once every two years and pruned based on arborist recommendations for the health of the tree.

Natural Resources Recommendation 7: The Township should apply a ‘No Spray Zone’ policy along Birmingham Tract road frontage and install protective fencing a distance away from the Witness tree, which would also provide a place to mount the ‘No Spray Zone’ sign.

Natural Resources Recommendation 8: The Township should plan to design and install four natural resource interpretive panels along the Plum Run Trail, in the locations recommended on the Potential Signage Locations Map, that will act as powerful tools to help educate and foster public stewardship of the Plum Run corridor’s natural resources.

5.0 Cultural Landscape & Historic Resources Recommendations

Cultural Landscape & Historic Resources Recommendation 1:
The Township should work with the Friends of Strode’s Mill and other private/non-profit partners to plan a preservation strategy for the Strode’s Mill that may include its future purchase for use as an indoor space that supports the Strode’s Barn Heritage Center and other educational and preservation purposes relevant to the Strode’s Mill Historic District.

Cultural Landscape & Historic Resources Recommendation 2: Include the Strode’s Barn spring house in the scope of work of the commissioned architectural ‘forensic’ analysis to determine the most appropriate rehabilitative treatment. Materials used in the rehabilitation of doors/windows, the roof, and in treatment of the stone should conform to The Secretary of Interior Standards.
Appendix D – Recommendations

**Cultural Landscape & Historic Resources Recommendation 3:** Secure, thoroughly clean and ventilate (“mothball”) the interior of the Strode’s Barn spring house and utilize this covered space for small equipment and tool storage to support maintenance of the Plum Run Trail and the Heritage Center.

**Cultural Landscape & Historic Resources Recommendation 4:** Stabilize what remains of the historic Strode’s Mill dam and install a trailside interpretive panel in view of the dam that details its historical importance for educational purposes.

**Cultural Landscape & Historic Resources Recommendation 5:** The Township should routinely monitor and maintain the Witness Tree on the Birmingham Tract and install a trailside interpretive panel in view of the tree that details its historical significance for educational purposes. The public should be kept at a distance from the tree to respect the adjacent private property and for safety purposes. The Township should install period appropriate fencing to help restrict access.

**Cultural Landscape & Historic Resources Recommendation 6:** The Township should utilize Appendix A: List of Heritage Themes, the Potential Interpretive Signage Locations Map, and recommendations for interpretive signage within Section 7 of this Master Plan to design and install an array of educationally interesting and visually attractive interpretive panels that provide insight and information on the surrounding cultural landscape and historic resources of the Plum Run corridor.

**Cultural Landscape & Historic Resources Recommendation 7:** Design and install Battle of the Brandywine-specific interpretive signage at the Strode’s Barn Heritage Center utilizing the ‘Preparing for Battle’ document as the primary guiding resource for the inclusion of specific information relating to maps, documented witness accounts, the context of the battle and preceding troop movements as they relate to the area surrounding the Strode’s Mill Historic District, and the modern battlefield evolution into a ‘Living Cultural Landscape’ that represent a target for local stewardship and conservation.

### 6.0 Utilities Recommendations

**Utilities Recommendation 1:** Extend electricity to the Strode’s Barn Heritage Center (via buried electric lines) and strategically install site lighting to help secure the Heritage Center and aesthetically enhance the historic barn after dark.

**Utilities Recommendation 2:** No new site lighting should be installed along the Plum Run Trail or at trailheads or parking lots in order to preserve the rural and historic aesthetic of the corridor as well as to minimize impacts on wildlife and natural resources.

**Utilities Recommendation 3:** The Township should begin advocating (while working with PECO and Verizon as necessary) for the planned future burying of all electric lines within the Strode’s Mill Historic District, primarily focusing on the intersection of Lenape and Birmingham Roads.

**Utilities Recommendation 4:** Utilize the sewer line easement running through the Tigue Tract as a separator between the riparian buffer area (trees planted no less than 20 feet from the sewer line easement) and the managed meadow area, installing the compacted gravel multi-use trail next to but not overtop the sewer line easement area.

**Utilities Recommendation 5:** The Township should collaborate with AQUA to install a secured access gate at the entrance of the sewer pump station on Birmingham Road to ensure that public use does not interfere with the utility company’s ability to access the pump station.

### 7.0 Corridor Signage Recommendations

**Corridor Signage Recommendation 1:** Designate and brand the main, paved trail through the Plum Run corridor as the ‘Plum Run Trail’.
Corridor Signage Recommendation 2: Designate and brand the complex of preserved land owned by the Township and accessible to the public as the ‘Plum Run Preserve’, allocating tract names for each of the three separated blocks. These tracts shall be referred to as the ‘Birmingham Tract’, the ‘Lenape Tract’ and the ‘Tigue Tract’ of the Plum Run Preserve.

Corridor Signage Recommendation 3: Designate and brand the interpretive hub of the corridor, to be located at the site of the Strode’s Barn, as the ‘Strode’s Barn Heritage Center’.

Corridor Signage Recommendation 4: More aggressively brand and promote the ‘Strode’s Mill Historic District’ by incorporating this existing entity into the Township’s overall Plum Run corridor signage strategy (i.e. gateway signs, information kiosk maps, interpretive panel displays).

Corridor Signage Recommendation 5: Design and install gateway signage for the Strode’s Barn Heritage Center and the Strode’s Mill Historic District according to the recommended locations referenced in the Potential Signage Locations map and in conformity to the signage template standards utilized by Birmingham Township (at the Sandy Hollow Brandywine Battlefield Trail site) and recommended in the Brandywine Battlefield Gateway Sign System publication.

Corridor Signage Recommendation 6: The Township should pursue the donation of signage easements at the two additional roadside entrances into the Strode’s Mill Historic District and should subsequently install identical gateway entry signage at those locations.

Corridor Signage Recommendation 7: Design and install corridor entry signage for the Plum Run Preserve and the Plum Run Trail entry points, in accordance with the recommended locations referenced in the Potential Signage Locations map and in conformance with the standard East Bradford Township park and trail entry sign template and style.

Corridor Signage Recommendation 8: Work with volunteer Eagle Scout prospects to construct and install visitor information kiosks at the Plum Run Trailheads, in accordance with the recommended locations referenced in the Potential Signage Locations map and in conformance with the standard East Bradford Township park visitor information kiosk template and style.

Corridor Signage Recommendation 9: The Township should install appropriate trail navigation signage along the Plum Run Trail at its discretion and according to the anticipated needs of the public.

Corridor Signage Recommendation 10: The Township should design and install interpretive panels for the Plum Run corridor in accordance with the recommended locations referenced on the Potential Signage Locations map. Panel sizes, configurations, styles and aesthetic treatments should be based on site constraints, the desired aesthetic appeal, and subject matter requirements.

8.0 Implementation and Action Plan Recommendations

Implementation & Action Plan Recommendation 1: The Township should procure a public trail easement from West Chester University for the installation and perpetual maintenance of the Plum Run Trail extension onto the Rockwell Field complex. If necessary, the Township should also procure a public trail easement from the private owner of Chester County tax parcel 51-7-133.1A for the installation and perpetual maintenance of a small portion of the Plum Run Trail extension into the Birmingham Tract.

Implementation & Action Plan Recommendation 2: The Township should attempt to procure two additional sign easements on private property, via donation, for placement of Strode’s Mill Historic District gateway signs.
Appendix D – Recommendations

**Implementation & Action Plan Recommendation 3:** Communicate and coordinate applicable site improvement work with appropriate utility operators when designing and installing public amenities that may concern existing utility right-of-way (both underground and aboveground).

**Implementation & Action Plan Recommendation 4:** The Township should plan to meet with Pennsylvania Department of Transportation staff (District 6-0) early in the design/engineering phase to review parking area designs for the Lenape and Birmingham Tracts. This will facilitate navigation of the PADOT permit process.

**Implementation and Action Plan Recommendation 5:** The Township should plan to meet with Pennsylvania DEP staff early in the design/engineering phase to review the Township’s plans for the corridor and discuss preferred methods for installing stormwater management and mitigation for disturbances to environmental features. Early, frequent communication with the permitting authorities will facilitate the DEP permit process and increase the likelihood of obtain permits at minimal cost and time expense.