Caln Township *Beaver Creek Trail Feasibility Study, 2019*

Beaver Creek Trail Feasibility Study

Caln Township – 253 Municipal Dr, Thorndale, PA 19372

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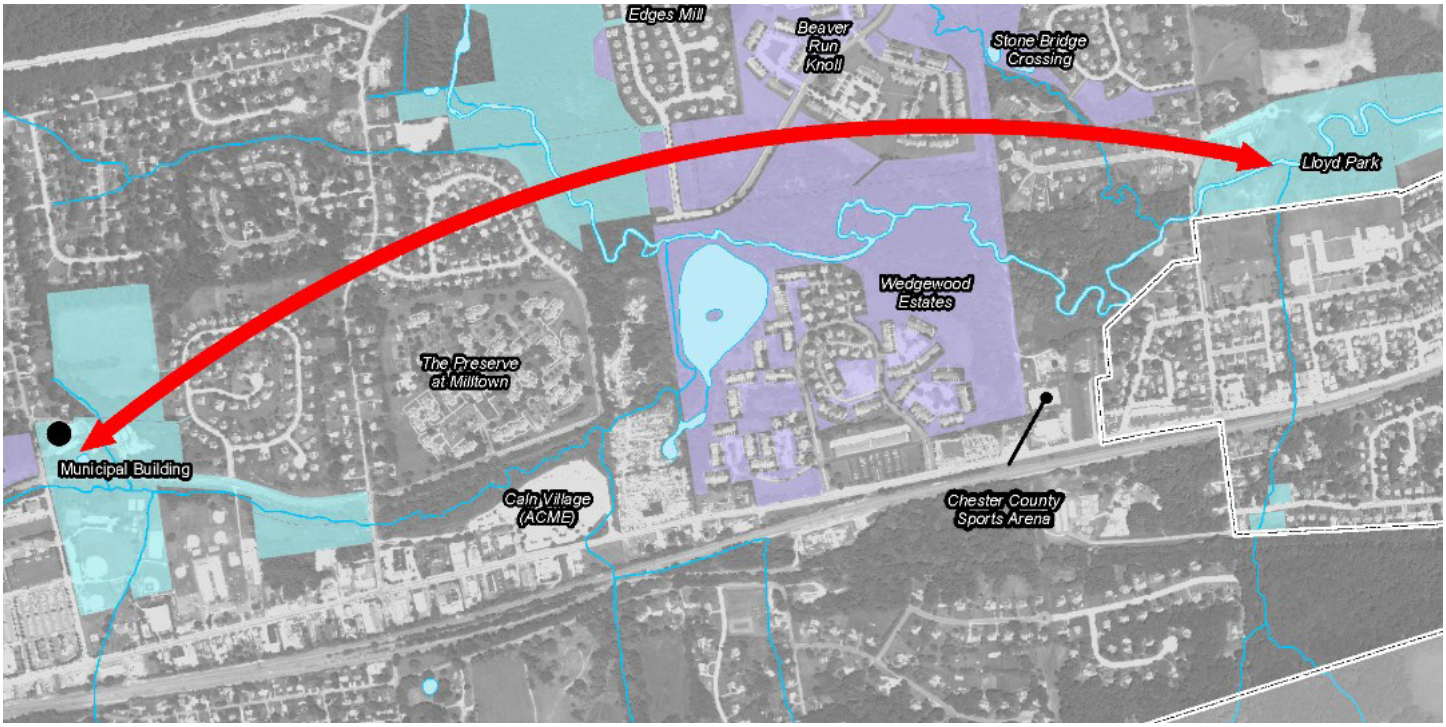
This project was financed in part by funding from the William Penn Foundation to the Brandywine Creek Greenway. The Chester County Planning Commission also contributed in-kind staff time for this project.

Chapter 1 | Background



The general project vicinity and concept for the Beaver Creek Trail.

Introduction

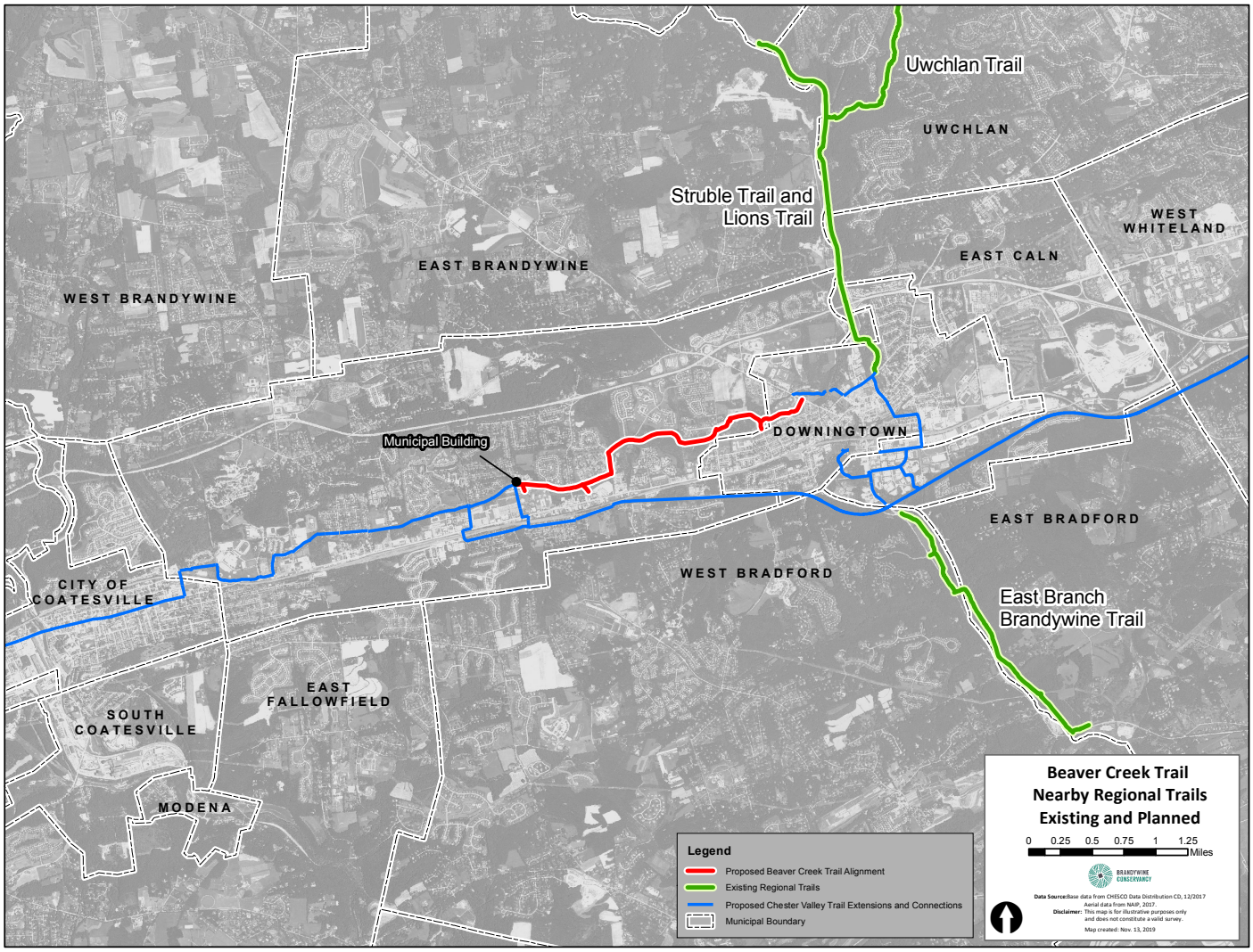
The Beaver Creek Trail is envisioned as an approximately three mile long community multi-use trail that will help to reduce automobile dependence for Caln Township residents, improve pedestrian and bicycle access to the existing parks and trails, better facilitate pedestrian and bicycle travel between Thorndale and Downingtown, and expand off-road recreational opportunities for people in the community. The goal of this study is to examine alternative trail routes that would connect the Caln Township municipal building to Lloyd Park and to recommend the preferred conceptual alignment (see Map 13 on p.26) Caln Township is an 8.915 mi² suburban community located in central Chester County and is adjacent to the City of Coatesville and the Borough of Downingtown. A Township of the first class, it has a five-member Board of Commissioners and a full-time Township manager. The population was 13,817 at the 2010 census.

The Chester County Planning Commission estimates that there are currently over 85,000 jobs and 58,000 residents, as well as professional buildings, corporate centers and shopping malls along the existing portion of the Chester Valley Trail, which contributes to its current popularity and use. With over 21,000 residents in Caln and Downingtown combined as of the 2010 census, a substantial number of residents alone would benefit from a new section of trail in addition to the other 58,000 residents who currently enjoy access to the trail.

Map 1 on the next page highlights all the municipally owned land in the Township boundaries in green. Four of the properties are parks with facilities that are open to the public: Ruth A. Dawkins Memorial Park, Caln Park West, Municipal Park, and Lloyd Park. Several municipally owned properties are not open to the public including the Kings Highway Open Space and Recreation Area and other woodland parcels that do not have names. The Township also owns Ingleside Golf Club.

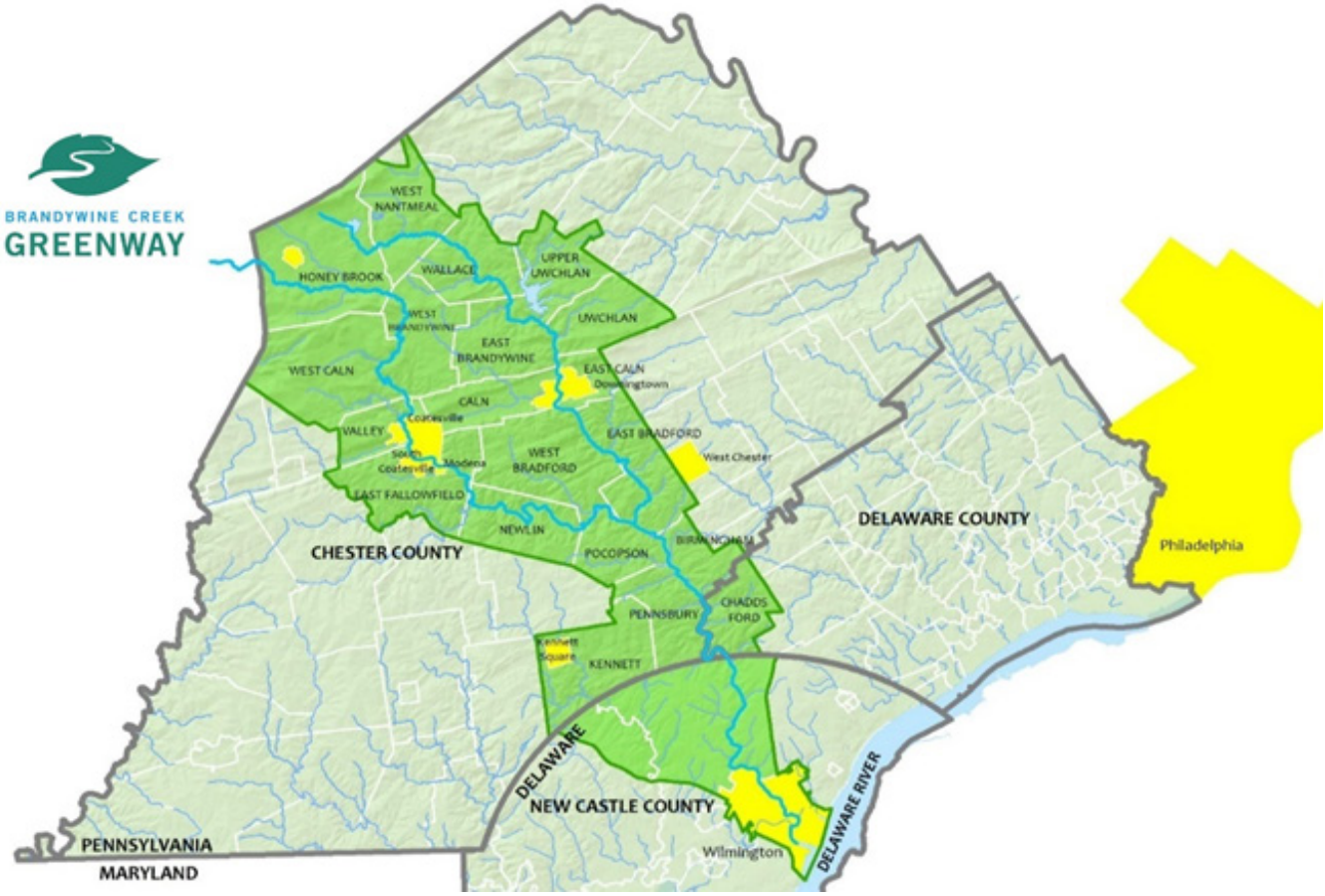
Map 1: Beaver Creek Trail Municipally Owned Land Caln

Caln Township's location affords it close proximity to regional trail connections, including the Struble Trail and the planned Chester Valley Trail West extension to Downingtown Borough from its current terminus in Exton. The Beaver Creek Trail will form a part of the Circuit Trails network as it connects to and expands the existing regional trail network. Map 2 below depicts nearby regional trails including the Struble Trail, East Branch Brandywine Trail, and the proposed Chester Valley Trail extension.



Map 2: Beaver Creek Trail Nearby Regional Trails Existing and Planned

Caln Township is also a part of the 29-member municipal partnership, Brandywine Creek Greenway, that shares a common vision for trails, conservation, and land preservation along the Brandywine Creek corridor. Map 3 below highlights the Chester County, Pennsylvania, Delaware County, Pennsylvania, New Castle County, Delaware, and the City of Wilmington, Delaware governmental members of the Brandywine Creek Greenway.



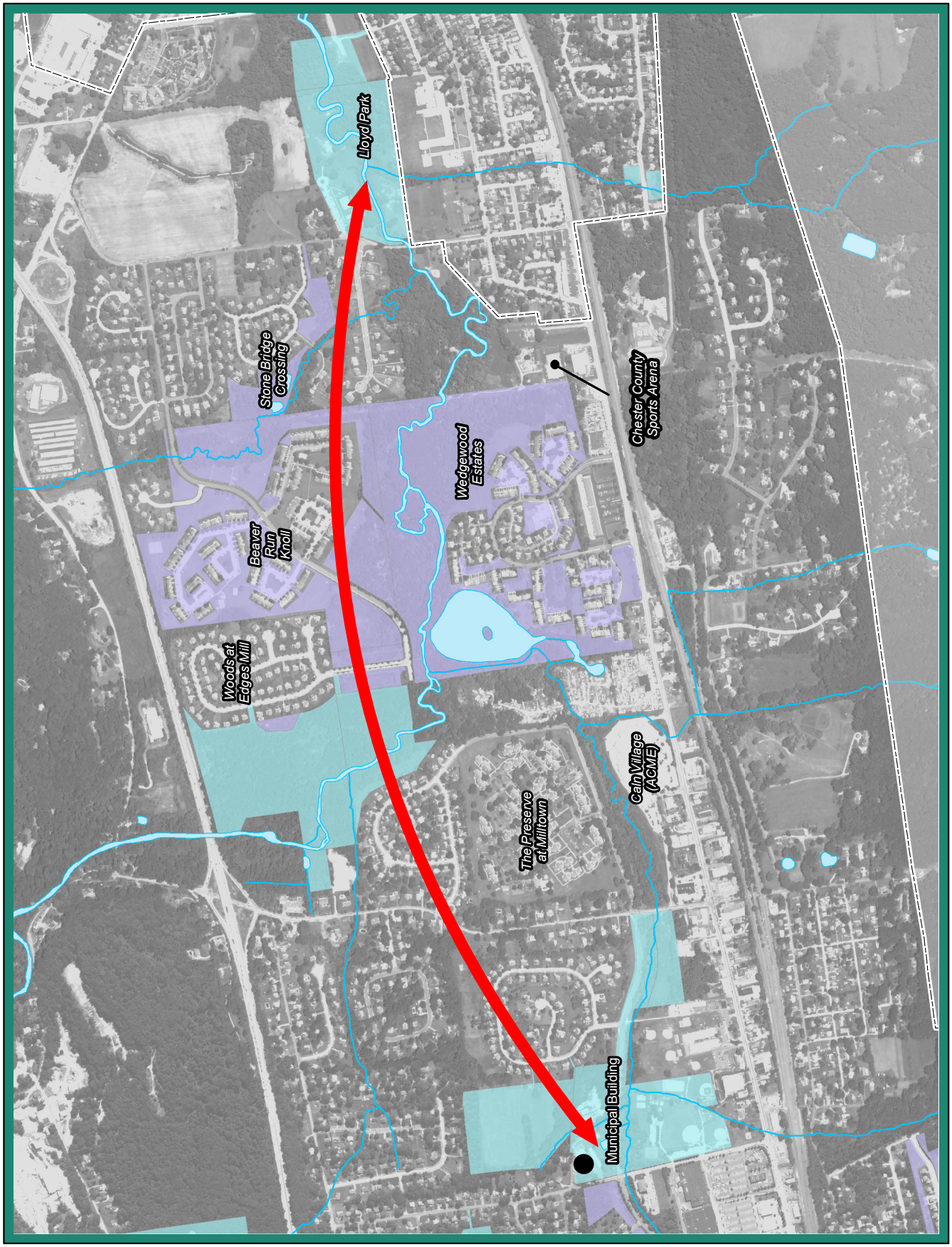
Map 3: Brandywine Creek Greenway Municipalities

The Township does have some existing walking paths and sidewalks. However, there currently are not any non-vehicular means to allow for multi-modal access to the Struble and Chester Valley Trails.

Beaver Creek Trail Concept

The general concept for the Beaver Creek Trail is a multi-use neighborhood connector trail connecting the Municipal Complex in the west to Lloyd Park in the east. Consisting of an eight to ten feet wide off-road path with a two feet wide buffer on either side, the trail is envisioned as an asphalt trail with boardwalks through wet areas as necessary. Map 4 on the next page illustrates the general vision and concept for the trail.

The Beaver Creek Trail would allow for future connection to an extension of the existing Chester Valley Trail called Chester Valley Trail West. This concept is consistent with the existing Chester Valley Trail which has an asphalt trail surface that is fully ADA accessible and that is generally constructed to a 10-12’ width with 2’ level shoulders on each side.



Map 4: Beaver Creek Trail Concept Map

Previous Plans

2018 Chester Valley Trail West Feasibility Study/Master Plan

This Beaver Creek Trail Feasibility Study builds upon the 2018 Chester Valley Trail West Feasibility Study/Master Plan completed by Chester County Planning Commission. The 2018 Chester Valley Trail West Feasibility Study/ Master Plan identifies Segment 1 of the proposed Chester Valley Trail West alignment as "the Beaver Creek Trail" and envisions the trail as a connector for recreational facilities in Downingtown Borough and Caln Township. The Beaver Creek Trail would connect the existing southern terminus of the Struble Trail in Downingtown to recreational facilities in the west such as the existing GO Carlson Boulevard walking path in Caln Township.

Municipal Planning Documents

Landscapes3 is Chester County's current Comprehensive Plan that presents a common vision for Chester County in 2045. The Beaver Creek Trail Feasibility Study is consistent with Landscapes3, particularly with Recommendation 7 under the Connect Goal. Recommendation 7, "create a countywide, interconnected trail network," calls for the County and its partners to "develop and implement a countywide trail network that includes expansion of the Circuit, Greater Philadelphia's regional multi-use trail network, and connecting local trails." Both the Struble and Chester Valley Trails are part of the countywide trail network and the Circuit Trails network (the Circuit Trail network is explained further in the next section). The Beaver Creek Trail would connect to the Struble Trail and could also serve as either a neighborhood connector into the Chester Valley Trail once it is extended into Caln or serve as the main alignment of the Chester Valley Trail through Caln Township if desired.

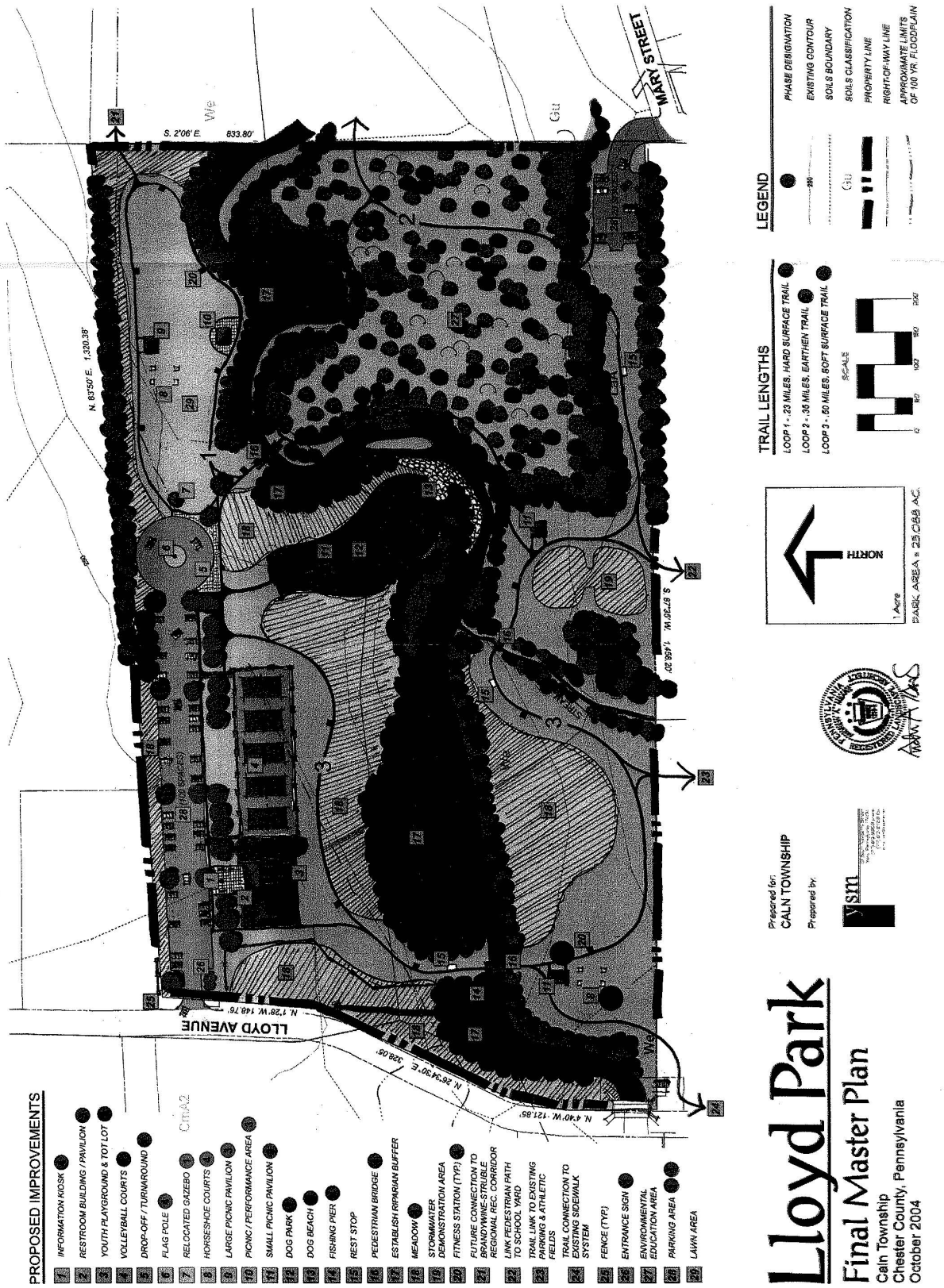
The 2017 Caln Township Comprehensive Plan's mission statement includes "expanding the network of parks and trails." Strategy T.5 of the Transportation Plan within the document has an objective to consider expanding the east-west trail system between Coatesville and Downingtown, linking to regional trails. This system would tie into the G.O. Carlson pathway. Strategy T.5 also calls for a sidewalk along the proposed extension of G.O. Carlson or an alternative alignment for the Beaver Creek Trail, a new bridge to accommodate pedestrians at the Beaver Creek crossing of Lloyd Avenue, and an east-west trail along the south side of the Beaver Creek from Lloyd Avenue into Downingtown.

The 2015 Caln Township Beaver Creek Staff Report envisioned a 1.5-mile multimodal Beaver Creek Trail from Park Drive to the Downingtown Borough line that would provide non-motorized traffic a safe, cost-efficient trail constructed in harmony with existing floodplains, wetlands and other environmentally sensitive areas. The staff report was prepared for a 2015 Pennsylvania Department of Community and Economic Development Greenways, Trails and Recreation Program Grant that was not awarded to the Township.

The long-term recommended actions of the 2013 Downingtown Borough Comprehensive Plan under Parks, Trails, and Open Space lists working with Caln Township to create a link between Downingtown and Caln Township's Lloyd Park.

The 2010 Caln Township Mobility and Connectivity Study encourages trail connections within Caln Township. The Road Network/ Connectivity Map within the study shows a proposed walkway/trail connection between Lloyd Park and Downingtown Borough and also shows a proposed walkway/trail connection between Lloyd Park and the segment of G.O. Carlson directly adjacent to the northwest of the park.

The 2005 Lloyd Park Master Plan proposed loop trails around Lloyd Park, two bridges over Beaver Creek within the park as well as a future connection to the east to Downingtown Borough and the Struble Trail. The trail connections as well as other proposed park facilities are on Map 5 on the next page.



Map 5: Lloyd Park Final Master Plan (prepared by ysm for the 2004 Lloyd Park Master Plan)

Regional Context and Connections

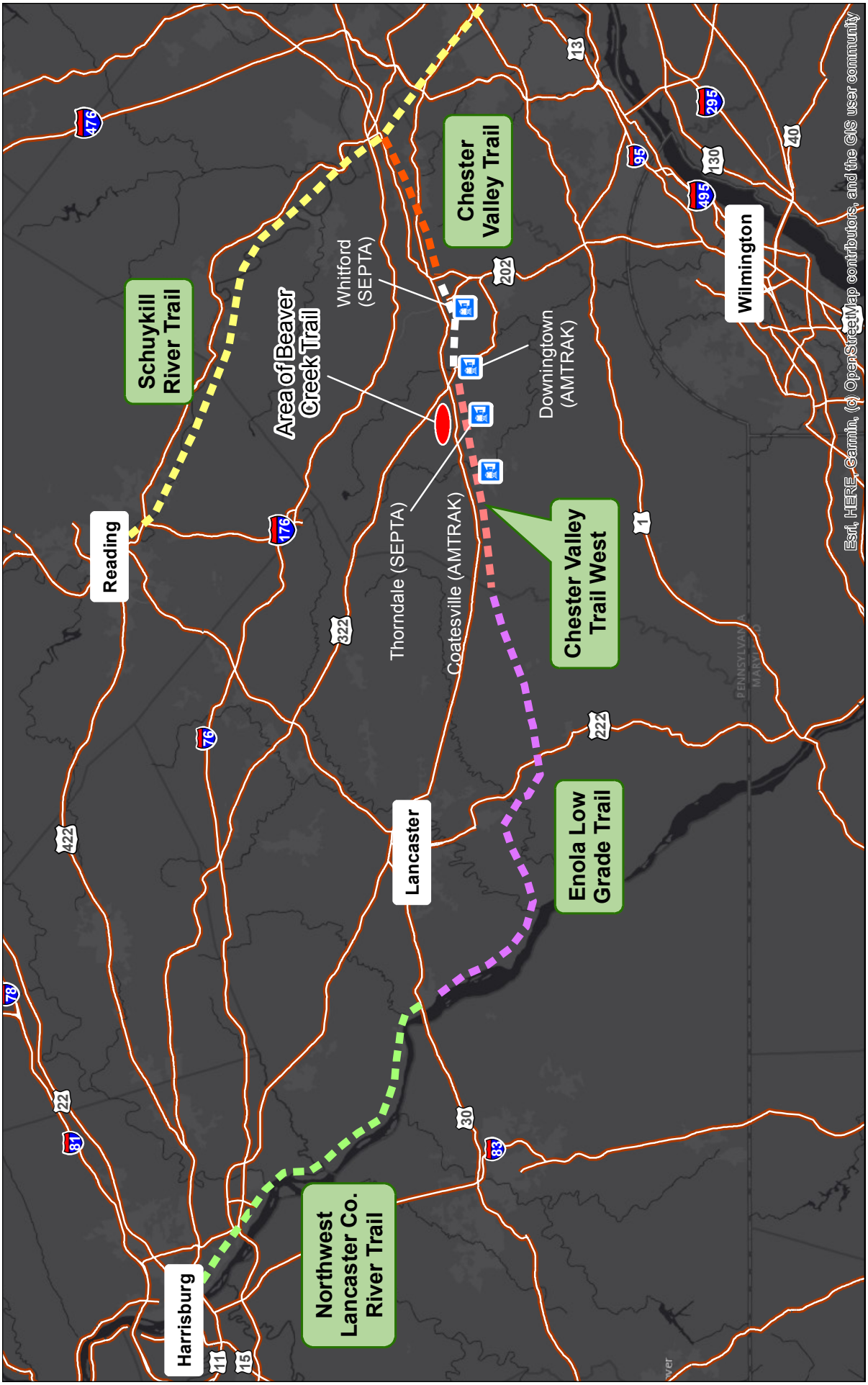
Circuit Trails

The Circuit Trails is a vast regional network of hundreds of miles of multi-use trails in the Greater Philadelphia area. Once complete, it will be an 800-mile off-road, 10 feet wide or greater, network of paved trail open to both bicyclists and pedestrians. As mentioned previously, both the Struble Trail and the Chester Valley Trail within Chester County are part of the Circuit as is the Brandywine Creek Greenway. The Beaver Creek Trail will form part of the Circuit Trails network.

Brandywine Creek Greenway

Caln Township is part of the Brandywine Creek Greenway, a regional planning initiative of the Brandywine Conservancy. It involves 27 municipal partners in Chester and Delaware counties in Pennsylvania, and recently expanded to include New Castle County and the City of Wilmington in Delaware. The vision is to create a 40-mile long conservation and recreation corridor along both branches of the Brandywine that stretches from the Christina River in the City of Wilmington to the Pennsylvania Highlands in Honey Brook Township. The Brandywine Creek and its network of parks and trails form the western limit of Circuit Trails, a regional trail network of the greater Philadelphia region. The Greenway boasts over 36,000 acres of protected open space, one National Historical Park, one state Scenic Byway, three major state parks, over 140 municipal parks, and 69 miles of trails and sidewalks situated throughout the corridor.

Map 6: Regional Context and Connections on the next page shows that Caln Township is fortunate to be located within a corridor of regional trail growth. By constructing the Beaver Creek Trail, Caln Township would provide access to the future extension of the Chester Valley Trail system, the Schuylkill River Trail, the Enola Low Grade Trail, and the Northwest Lancaster County River Trail. The Beaver Creek Trail would also improve pedestrian and bicycle access to the existing portion of the Struble Trail and its trailhead in Downingtown Borough.



Map 6: Regional Context and Connections

Process and Schedule

This feasibility study included a ten-month planning process to evaluate alternatives and develop a preferred alignment for the Beaver Creek Trail through Caln Township. The process began in February 2019 with existing conditions inventorying, mapping, and analysis that informed alignment evaluation, property owner engagement, and design treatments and guidelines. The feasibility study was completed in January 2020 with a presentation of the final report to the Caln Township Board of Commissioners.

Public Involvement

Caln Township hosted two public meetings at the Caln Township Building to share information about the project and solicit community feedback. Chester County Planning Commission staff participated in both the Study Advisory Committee Meetings and Public Meetings to provide coordination between proposed expansion with the County's Struble Trail and Chester Valley Trail. Township staff created a poster advertising each meeting and distributed it via social media channels and e-mail lists to Township residents. The meetings were advertised at community events, including at the Summer Series and the 13th Annual Caln Community Day events.

Landowners were engaged by a variety of methods. The Township invited many landowners in the study area to serve on the study committee. Five site visits were conducted, and three landowner meetings were held. Landowner communications were sent via e-mail and mail to landowners within the study area. A full summary of landowner outreach is available in Appendix I.

Approximately twenty people attended the first public meeting held on May 28, 2019. The Brandywine Conservancy presented the background and history of the project, discussed the goals and timelines of the project, shared inventory mapping, and solicited public input on how to connect the municipal building with Lloyd Park via a trail. The public that attended was also asked to share opportunities and constraints for trail access.

Approximately 25 people attended the second public meeting held on September 10, 2019. Brandywine Conservancy staff presented the draft conceptual alignment developed after initial community input, study advisory committee input, and input from property owner meetings and field work conducted over the summer of 2019. The presentation also included information about surface treatment and facility type options that could be used along the conceptual alignment. The attendees provided input on the conceptual alignment and voted on surface treatment and facility type options for each of the five segments within Caln Township.

In January 2020, the final report and recommended alignment was presented to the Board of Commissioners. All meeting materials and posters were posted to a project page on the Brandywine Creek Greenway website throughout the study period.

Caln Township

Beaver Creek Trail Feasibility Study

2019 Project Schedule

Tasks	February	March	April	May	June	July	August	September	October	November
Project Tasks										
1 Project Management										
2 Existing Conditions Inventory and Data Collection										
3 Bicycle and Pedestrian Facilities Concept Plan										
4 Design Treatments and Guidelines										
5 Alignment Evaluation and Property Owner Engagement										
6 Implementation Plan and Funding Strategy										
Public Participation										
Study Advisory Committee			4/9/2019				8/19/2019			11/21/2019
Public Meetings				5/28/2019				9/10/2019		
Property Owner Coordination and Meetings										
Online Community Engagement										
Deliverables										
Draft Report										
Final Report										

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Chapter 2 | Corridor Evaluation

The general project vicinity and concept for the Beaver Creek Trail.

Inventory Mapping

Inventory mapping was prepared during the data collection phase of this project. Maps were prepared analyzing existing land use, existing land cover, existing trail and sidewalks, and the water resources and topography of the study area. Gathering this information helped the study advisory committee, the public, and the consultant team identify and understand the resources, challenges, and opportunities within the proposed trail corridor so that the trail could be designed to mitigate any possible issues and capitalize on opportunities. All of the inventory maps are presented on pages 16 through 20.

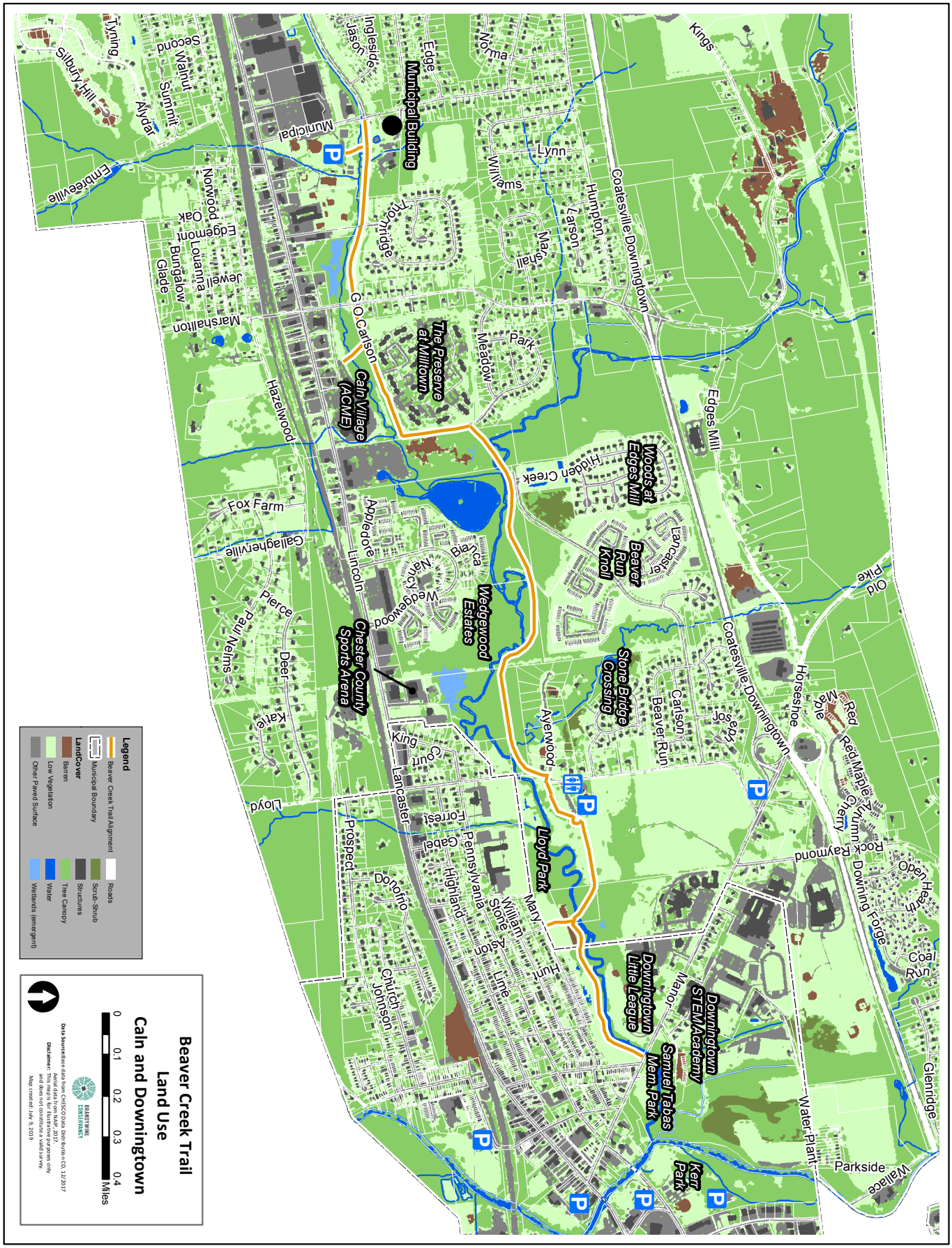
Map 7 on page 16 shows that existing land use is predominantly residential with significant water resources in Beaver Creek and its tributaries.

Map 8 on page 17 illustrates the opportunity to connect neighborhood sidewalks as well as the lack of a pedestrian connection between Thorndale and Downingtown Borough.

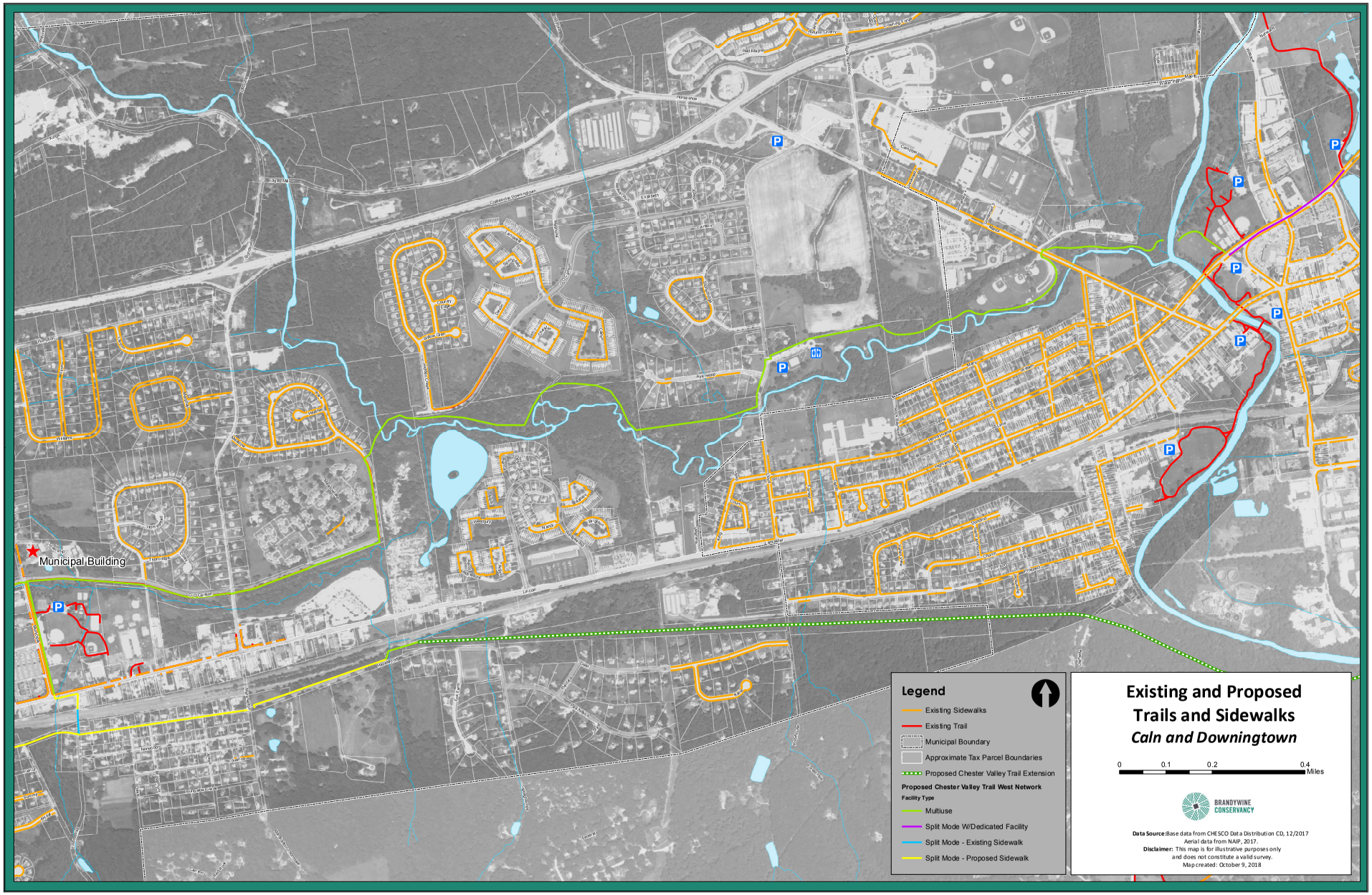
Map 9 on page 18 demonstrates that Caln Township mostly has tree canopy and low vegetation land cover.

Map 10 on page 19 shows that the Township is highly constrained by the water resources as well as some areas of significant slope. This means that trail development within the Township will likely be more expensive because of permitting considerations and the likely necessity of boardwalk to help avoid some wet and sensitive areas.

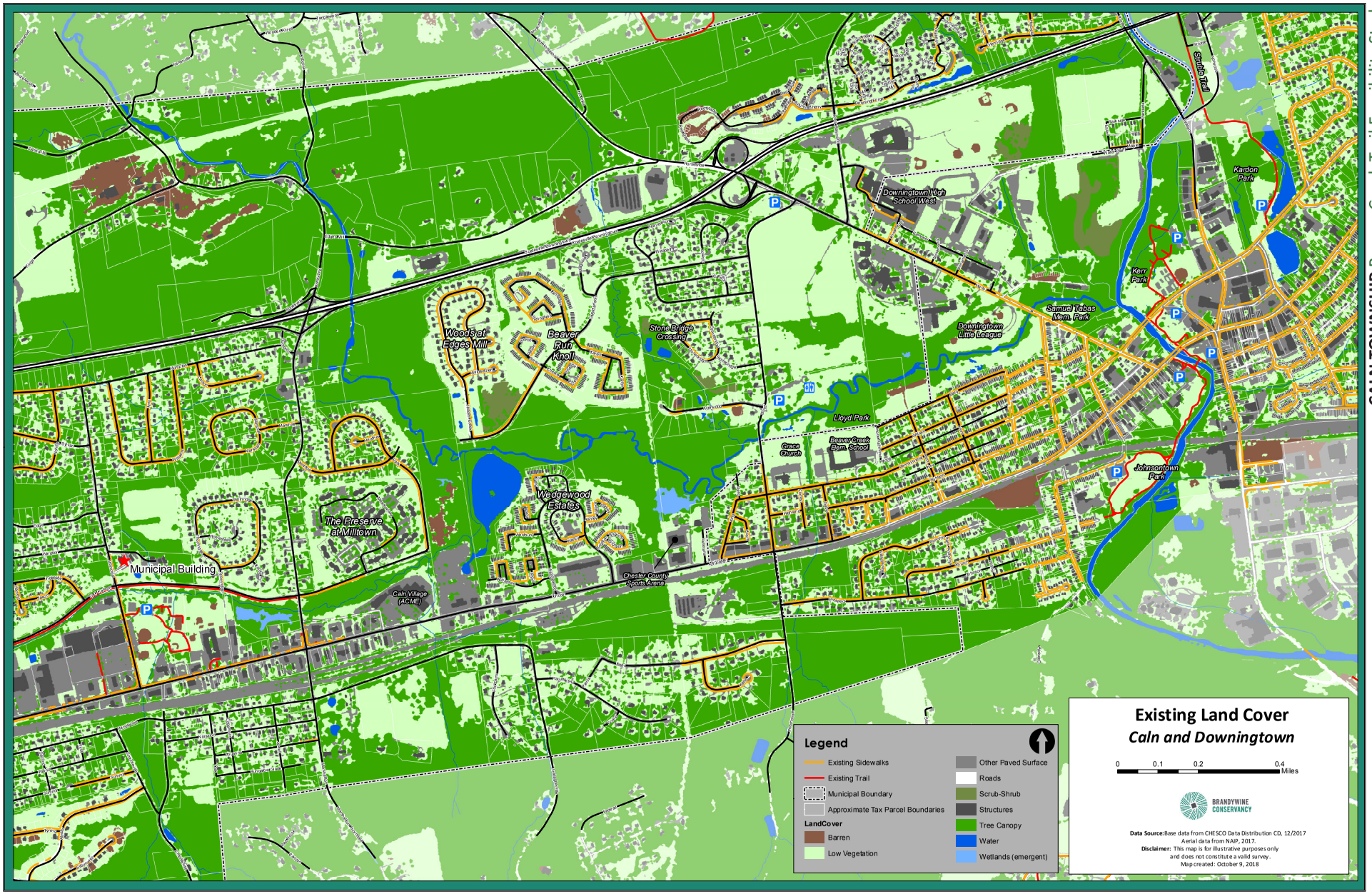
Map 11 on page 20 illustrates the sewer lines as well as the gas pipelines that run through the Township.



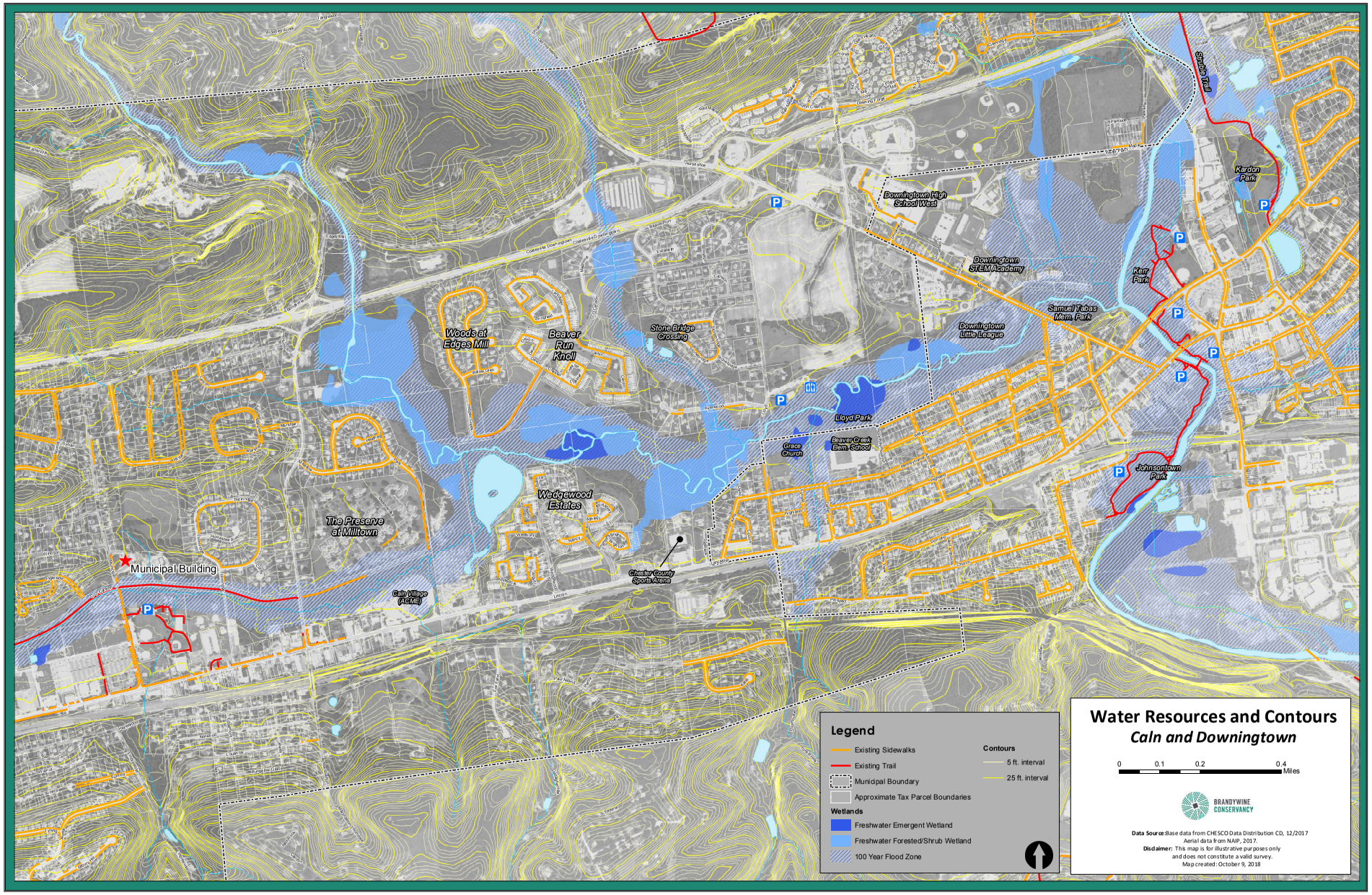
Map 7:Beaver Creek Trail Land Use Caln and Downingtown



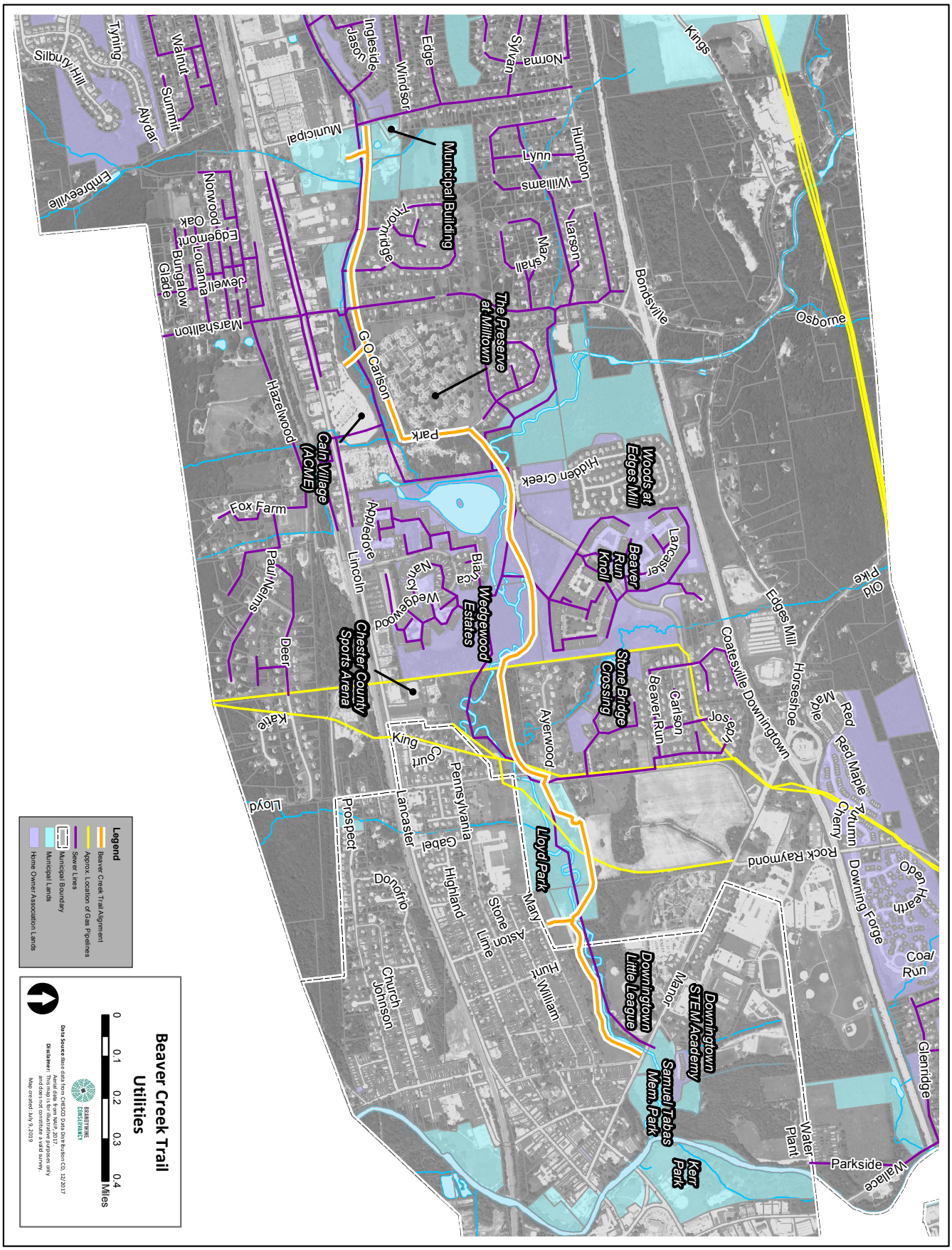
Map 8: Existing and Proposed Trails and Sidewalks Caln and Downingtown



Map 9: Existing Land Cover Caln and Downingtown



Map 10: Water Resources and Contours Caln and Downingtown



Map 11: Beaver Creek Trail Utilities

Corridor Analysis

Along the envisioned trail route, there are existing sidewalks and side paths in some locations, a trail easement, and other locations that have no existing facilities. Based on the current conditions, the corridor was divided into six segments. For segments where there were alignment options, the options were evaluated based upon the inventory mapping and feedback from property owners, the study advisory committee, and other public input. As mentioned in Chapter 1, the overall concept for the Beaver Creek Trail is a neighborhood connector trail that:

- Is approximately ten feet wide where possible and eight feet wide otherwise.
- Asphalt or boardwalk surface, as appropriate.
- Has at least a 2' landscaped (grass) buffer between the path and adjacent roadways.
- Is off-road as much as possible.
- Includes spurs that connect trail users to neighborhood destinations such as a shopping center, housing development, or park.
- Highlights and protects the natural beauty and resources of the Beaver Creek corridor.

Alternative Alignment Considerations

Map 12, entitled Beaver Creek Trail Alternative Alignment Consideration, on page 23 illustrates alternative alignments suggested by the study advisory committee, public, and landowners during the planning process. The following narrative refers to the considerations, opportunities, and challenges for each of the alternate alignments that were eventually rejected. The areas referred to in the narrative below are also depicted on the Beaver Creek Trail Alternative Alignment Consideration Map on page 23.

GO Carlson:

A trail connection along the existing right-of-way of G.O. Carlson Boulevard to Lloyd Avenue was considered during the preliminary discussions of the trail alignment. While G.O. Carlson has low traffic volumes and offers a wide cart way, residents were not in favor of this alignment as it was less scenic. In addition, this alignment involved a potentially hazardous crossing of Lloyd Avenue. Finally, this alignment is approximately 50% longer than the preferred alignment.

Little League:

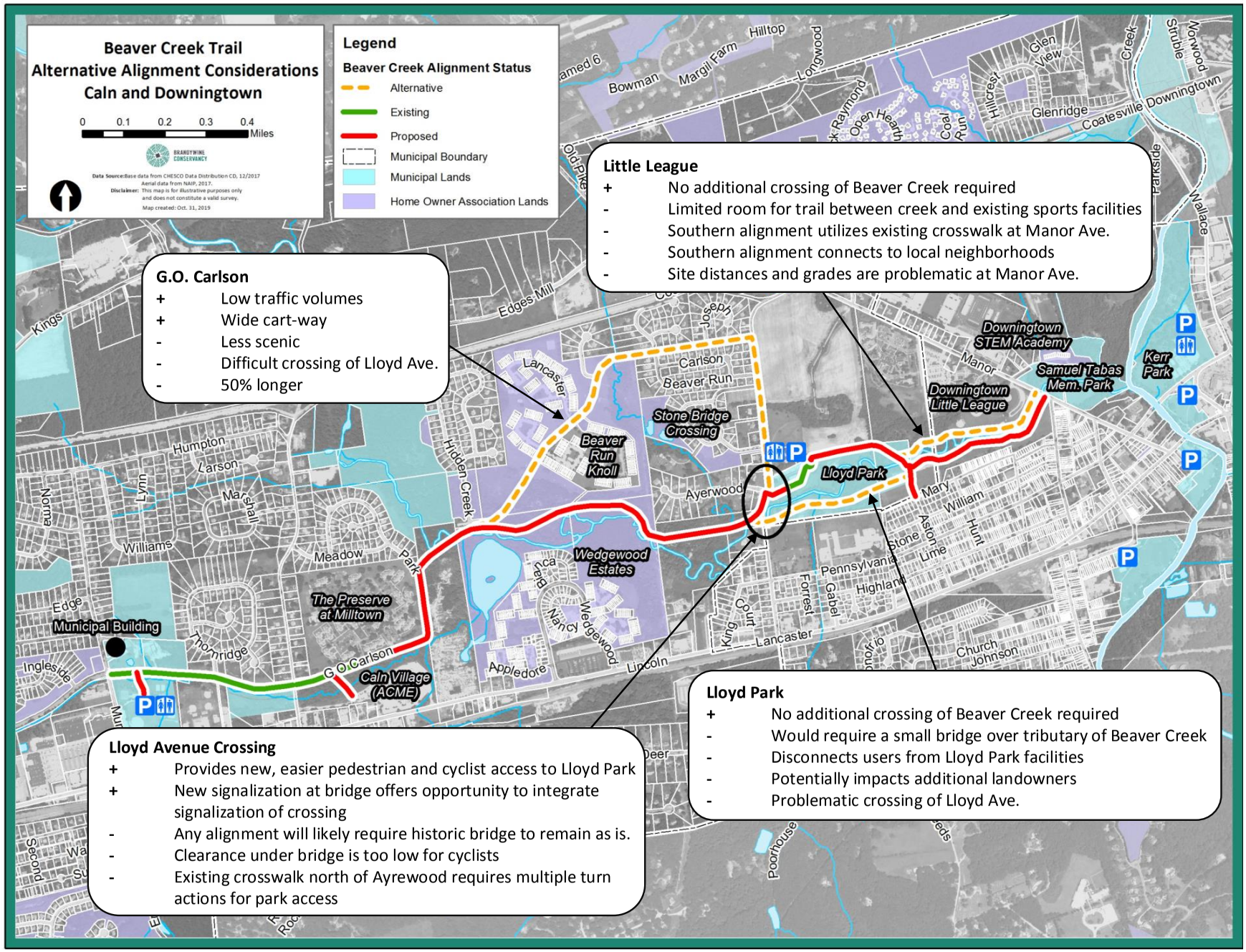
Originally, an alignment north of Beaver Creek through the Downingtown Little League fields was considered. However, upon conducting field assessments of the alignment, it was clear that there was insufficient room between the creek and the existing ball fields within the trail easement area to provide for a multi-use trail. Site distances and grades at the intersection of the trail easement area and Manor Ave. are also concerns with an alignment on the north side of Beaver Creek. A southern alignment along Beaver Creek in this area would provide additional opportunity for pedestrian connections to the trail and Lloyd Park from existing sidewalks in neighborhoods to the south. A southern alignment would take advantage of an existing pedestrian crossing of Manor Rd. at Stuart Ave. However, a southern alignment will require an additional crossing of Beaver Creek at the eastern end of Lloyd Park.

Lloyd Park:

A southern route through Lloyd Park was identified as a possible alternative route east from Lloyd Ave. While this route would eliminate a need for a larger bridge across Beaver Creek in the park, a smaller bridge would be required to cross a tributary of Beaver Creek. This route also disconnects users of Lloyd Park from the waterfront along Beaver Creek. Finally, this route raises additional complications associated with crossing Lloyd Ave. in the vicinity of the bridge which may impact additional private landowners due to sight distances and the length of the approach to the Lloyd Avenue bridge.

Lloyd Avenue Crossing:

Multiple scenarios were considered for the crossing of Lloyd Avenue. The existing bridge is considered historic, so any alignment will likely require the bridge to remain as is. Early on in alignment discussions, consideration was given to going under the bridge, but insufficient clearance exists for cyclists. Consideration was also given to using the existing crosswalk north of Ayerwood Drive. However, this crossing would require multiple turns in close proximity which would be a challenge for cyclists as they enter or exit Lloyd Park. A new crosswalk on the southern side of Ayerwood was the preferred solution. This alignment would allow for a new pedestrian and cyclist entrance to Lloyd Park that would be easy to navigate and could be coordinated with the new vehicular signaling proposed at the Lloyd Avenue bridge.

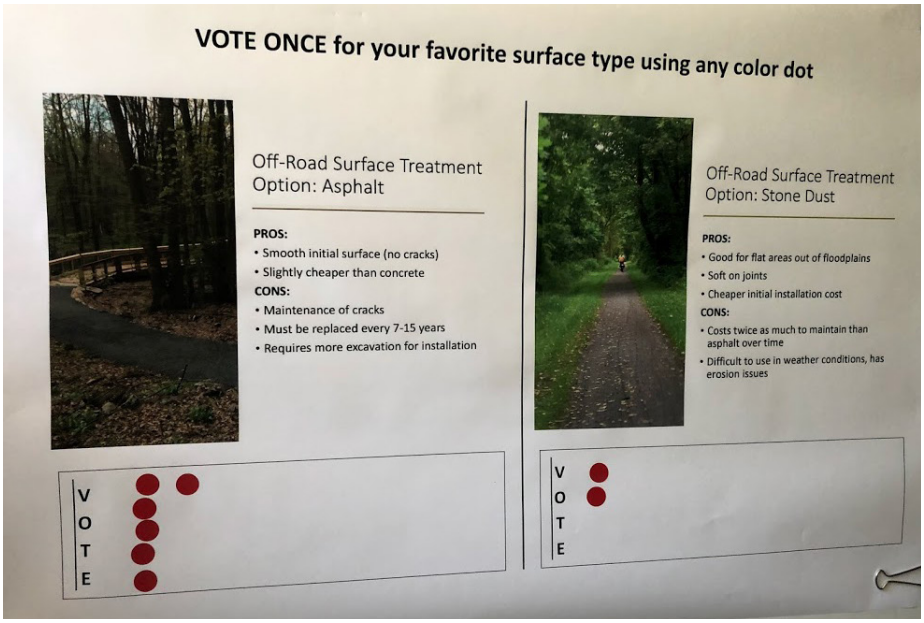


Map 12: Beaver Creek Trail Alternative Alignment Considerations Caln and Downingtown

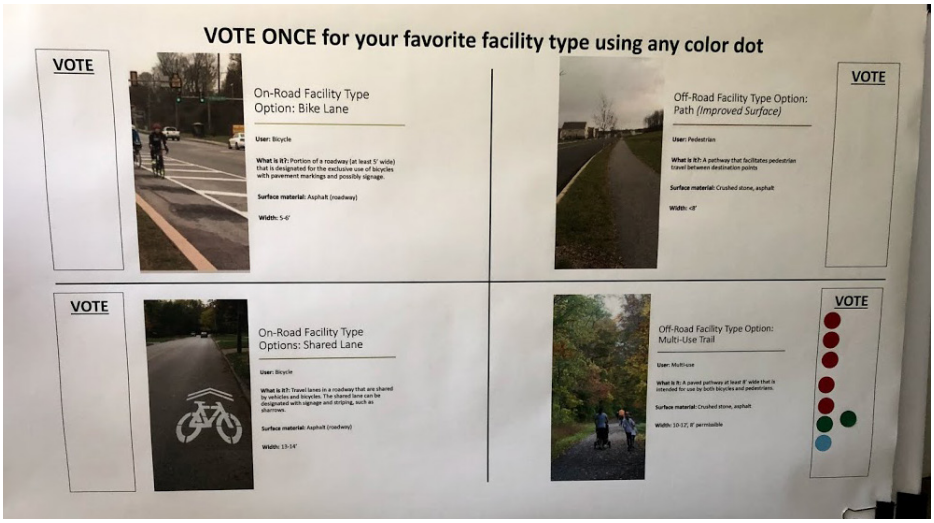
Below is a summary of public input received at the May 2019 Public Meeting that also contributed to the alignment options considered for this trail:

- Attendees most interested in a nature trail along Beaver Creek
- Concern about safety crossing Lloyd Avenue given its existing issues
- Support for a neighborhood trail that would be more easily accessed than the Struble Trail
- Concern about community safety with introducing a trail that could be near residences
- Would like to see pedestrian connection from the trail along G.O. Carlson to the Caln Village Shopping Center on Route 30

As can be seen in photographs of the voting boards from the May 2019 Public Meeting below, most people that voted during the meeting preferred an asphalt trail surface and a multi-use trail facility.



A photograph of a voting board to determine the preferred trail surface.



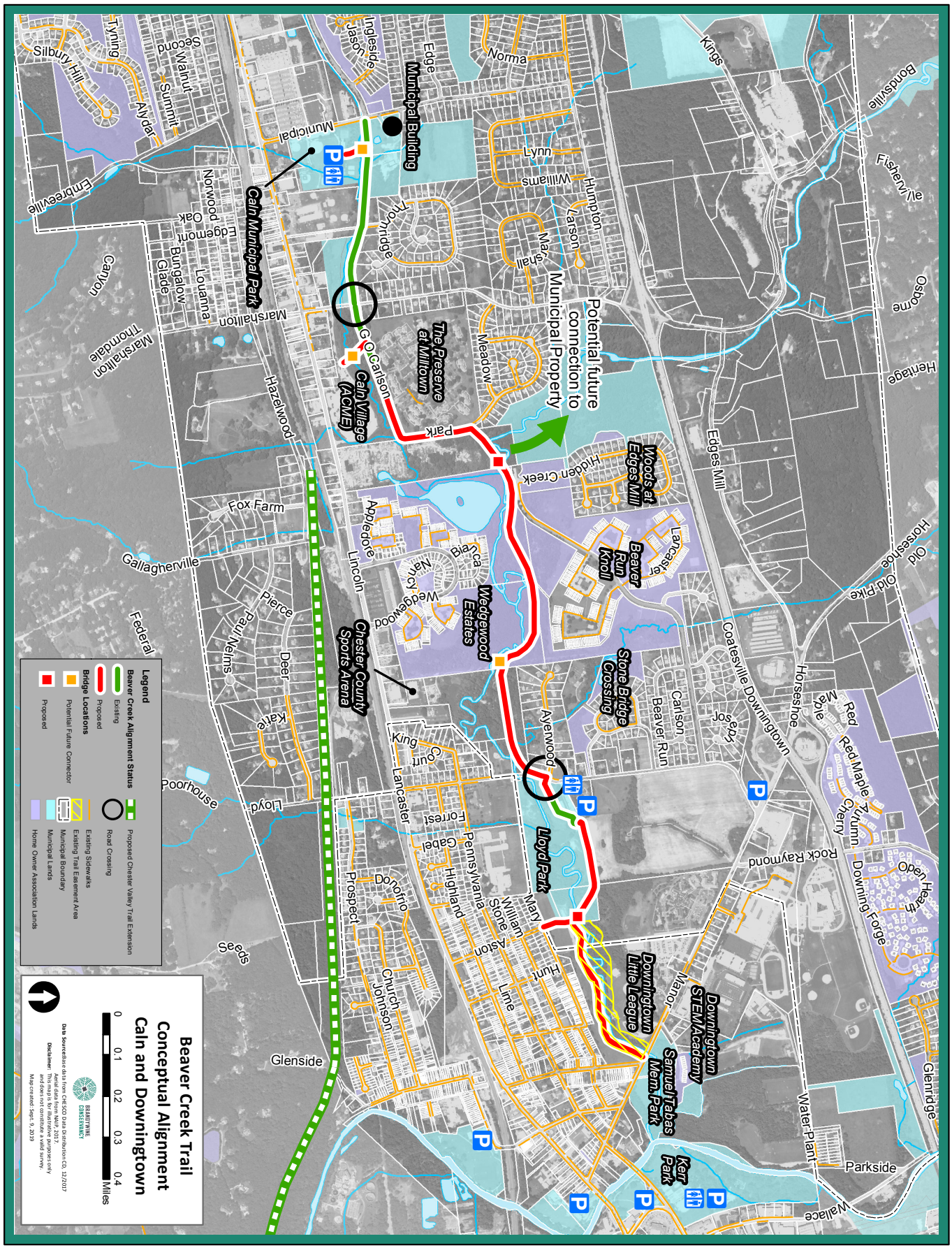
A photograph of a voting board to determine the preferred facility type for the trail.

Chapter 3 | Bicycle and Pedestrian Recommended Alignment

The general project vicinity and concept for the Beaver Creek Trail.

Conceptual Alignment

The conceptual alignment for the Beaver Creek Trail (Map 13 on the next page) was developed after a seven-month process involving analysis, field research, landowner outreach, and public input. As can be seen in the map, the conceptual alignment involves two shorter proposed trail segments to connect trail users to the Caln Municipal Park and the Caln Village Shopping Center via pedestrian bridges.

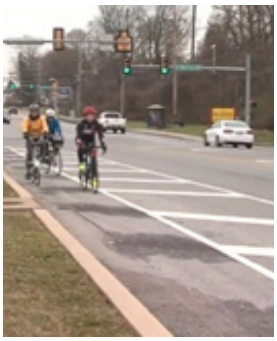
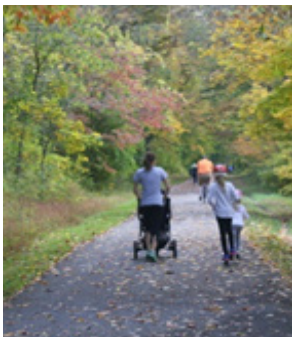


Map 13: Beaver Creek Trail Conceptual Alignment Caln and Downingtown

Design Options

The design options table below depicts the on-road and off-road design options considered by the consultants, members of the study advisory committee, and the public. While there are more on and off-road design options that could be used for a trail, the ideas depicted are the most context sensitive for the type of trail and uses envisioned by Caln Township. After all four design options were originally considered, the study advisory committee and the public present at the May 2019 Public Meeting overwhelmingly preferred a paved multi-use trail because they liked the idea of a trail with a continuous surface and width and also felt that it best suited the needs of the community and the anticipated trail use.

Design Options Considered for Beaver Creek Trail

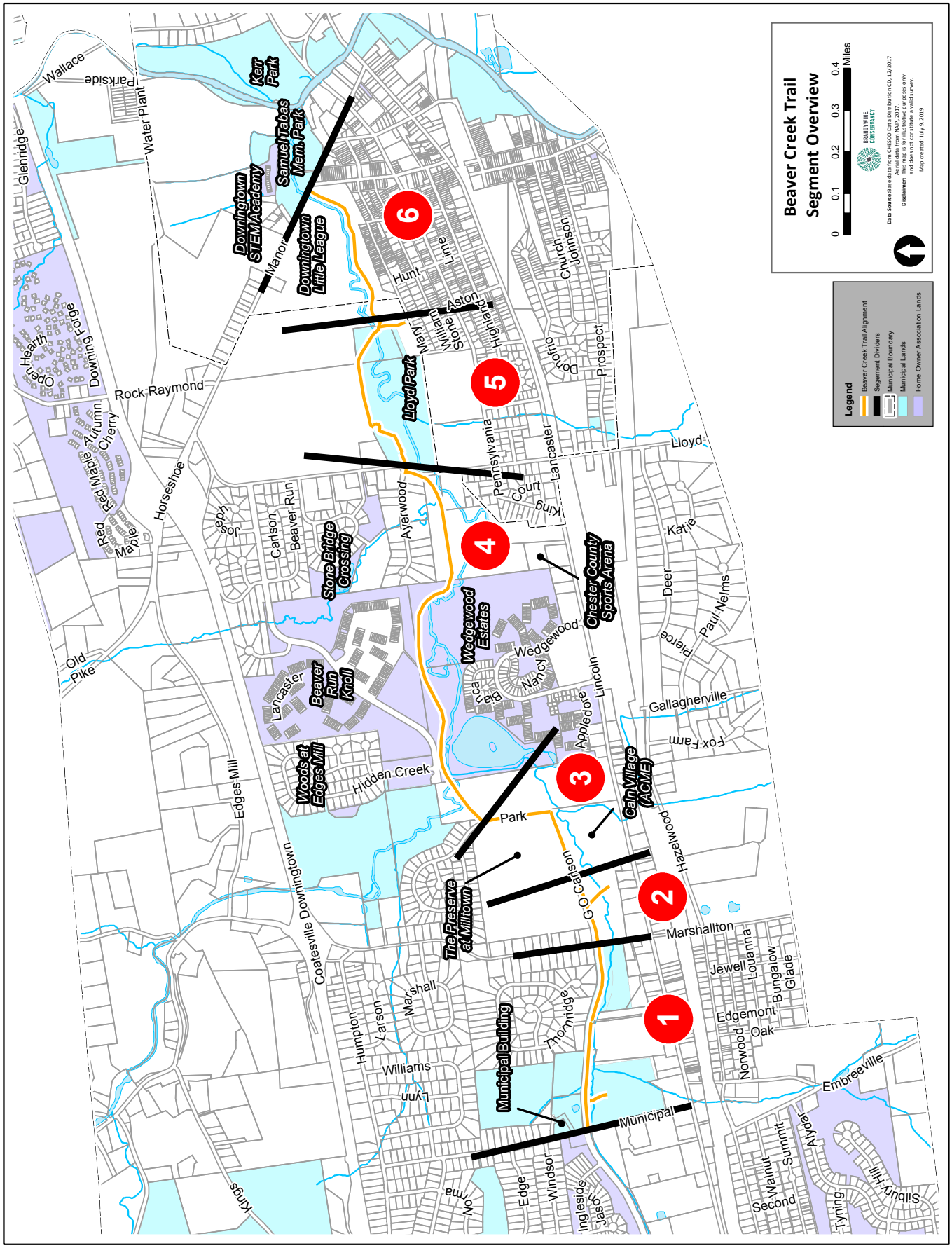
	On-road		Off-road	
User	Bicycle		Pedestrian	Multi-Use
Description	Travel lanes in a roadway that are shared by vehicles and bicycles. The shared lane can be designated with signage and striping, such as sharrows.	Portion of a roadway (at least 5’ wide) that is designated for the exclusive use of bicycles with pavement markings and possibly signage.	A pathway that facilitates pedestrian travel between destination points.	A paved pathway at least 8’ wide that is intended for use by both bicycles and pedestrians.
Surface materials	Asphalt (roadway)	Asphalt (roadway)	Crushed stone, asphalt	Crushed stone, asphalt
Width	13-14’	5-6’	< 8’	10-12’, 8’ permissible
Example				

Segment Field Inventory, Maps, and Descriptions

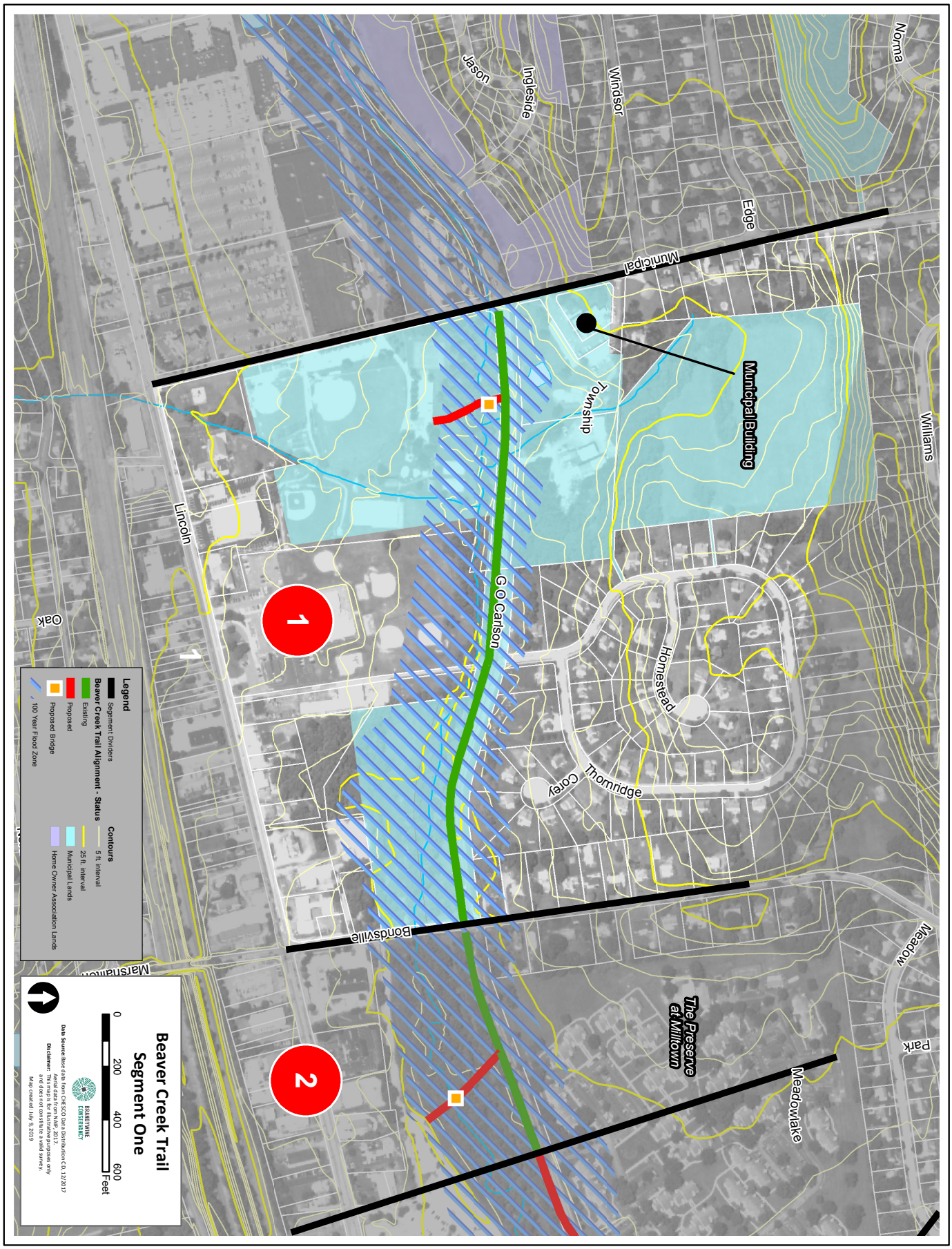
Segments

The Beaver Creek Trail route was divided into six segments to simplify planning, design, and implementation for this project. In the following section, a segment overview map is presented that shows how the conceptual alignment is divided into the six segments. Then, a segment map and segment inventory for each segment are presented in numerical order, going from east to west along the Beaver Creek Trail alignment. Two segments include road intersections and therefore have an additional inventory page with information about the road intersection.

After all the segments are presented, a summary chart on page 44 lists each segment and the current and proposed conditions along that portion of future trail. Further information regarding implementation and funding for each segment is in Chapter 4: Implementation.



Map 14: Beaver Creek Trail Segment Overview



Map 15: Beaver Creek Trail Segment One

Segment 1 Inventory

Length: 0.5 miles/ 2,664 feet

Location: G.O. Carlson Boulevard between Municipal Drive and Bondsville Road

Impacted Landowners: 1

Status: Proposed trail (existing side path)

Proposed Facility Type: Asphalt multi-use trail, pedestrian bridge and connector trail into Caln Municipal Park

Public Input

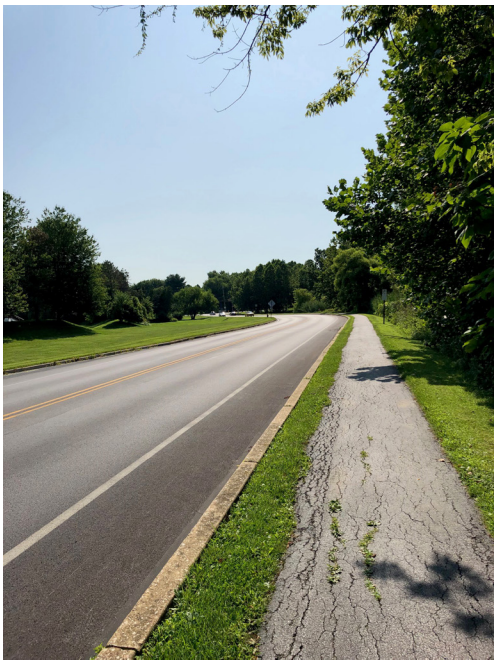
- This is a frequently used and much-enjoyed side path
- There have been issues with flooding along G.O. Carlson Boulevard that have been recently mitigated; future trail construction will need to be sensitive to exacerbating flood risk.
- Road diet to allow the widening of the existing trail is desirable

Existing Conditions

- A +/- 4' wide side path currently exists along the south side of G.O. Carlson Boulevard between Municipal Drive and Bondsville Road with a grass shoulder between the roadway (less than 1')
- There is a pedestrian crossing at Municipal Drive and at Bondsville Road
- There are currently two 12' wide travel lanes with +/-4' shoulders on each side

Proposed Improvements

- Road diet to narrow existing lanes. This would involve reprofiling the roadway: these costs are not included in the estimate of probable cost below.
- Expand the existing asphalt trail to 10' width with a 2' wide shoulder between the roadway and the trail
- Construct a new pedestrian bridge and connector trail to allow access to municipal park from the trail (shown as the orange square and red spur respectively in Map 15 on page 30)



Above: A Google Maps image of the Municipal Drive and G.O. Carlson Boulevard intersection, facing east.
At right: The existing macadam sidepath along G.O. Carlson Boulevard.

Segment 1 Inventory continued, Bondsville Road Intersection

Proposed Facility Type: Asphalt multi-use trail road crossing

Public Input

- Traffic backs up at this intersection during peak travel times
- This intersection is presently dangerous for pedestrians who conflict with the right turning movement
- Improved pedestrian access and signalization at this intersection would be a welcomed improvement
- A pedestrian link south on Bondsville Road towards the shopping centers on Route 30 would be helpful

Existing conditions

- Pedestrian push button
- Faded crosswalk striping that connects G.O. Carlson Boulevard paved side path to the G.O. Carlson Boulevard sidewalk
- Bondsville Road is a PennDOT road

Proposed Improvements

- Two new ADA-accessible ramps
- Widened pavement markings for conversion of the existing sidewalk crossing into a trail crossing
- 2 post-mounted trail crossing signs

Segment 1 Next Steps

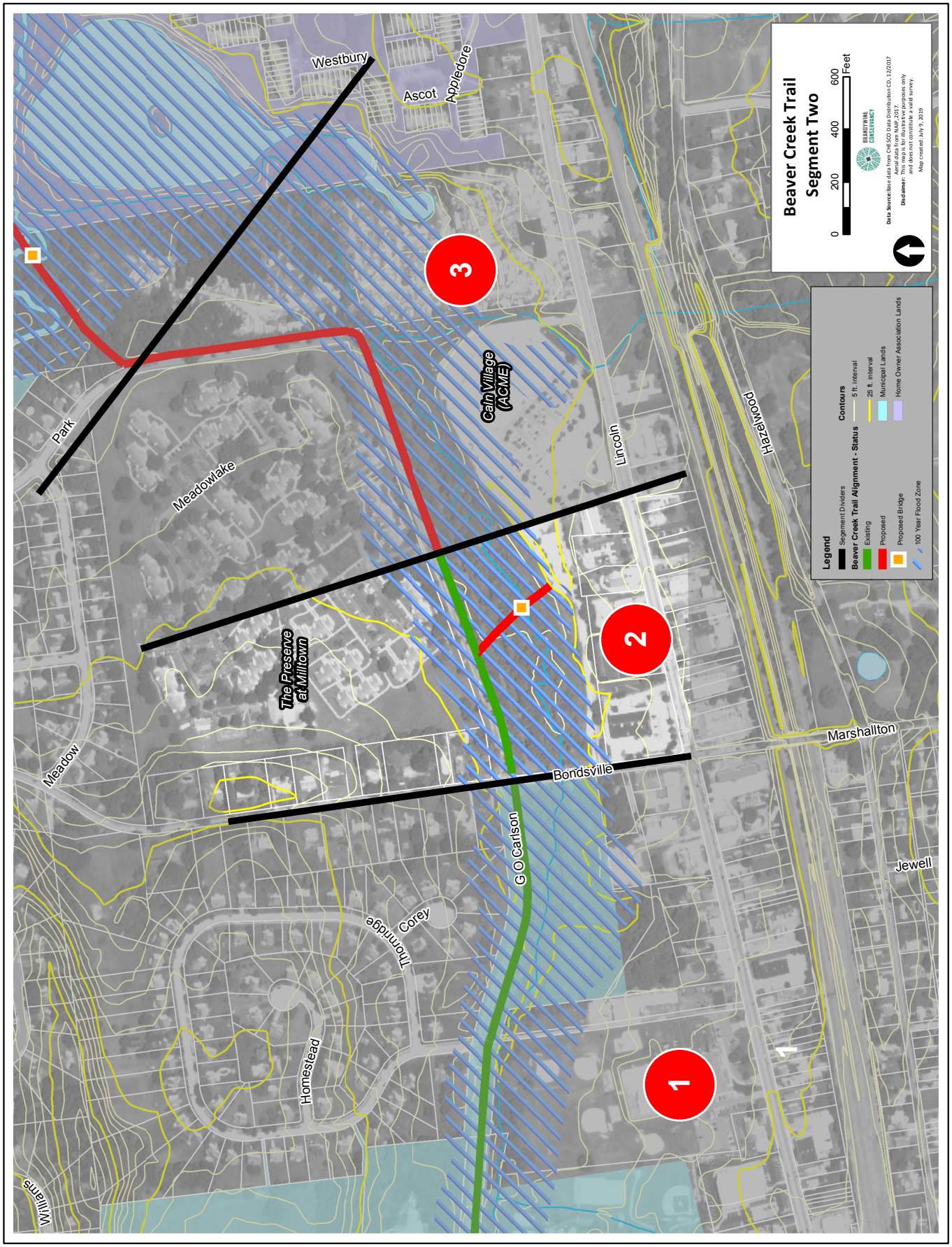
- Survey to determine exact boundary lines, preliminary design and engineering
- Landowner coordination

Estimate of Total Probable Cost for Segment 1, including Bondsville Road Intersection and Pedestrian Bridge into Municipal Park: $1,131,164

Above: The pedestrian curb ramp at the intersection of G.O. Carlson Boulevard and Bondsville Road.

Above: The existing pedestrian crossing connecting the existing G.O. Carlson paved sidepath to the existing sidewalk east of the Bondsville Road intersection.

Above: The existing pedestrian push button at the crosswalk over Bondsville Road at G.O. Carlson Boulevard.



Map 16: Beaver Creek Trail Segment Two

Segment 2 Inventory

Length: 0.24 miles/ 1,265 feet

Location: G.O. Carlson Boulevard between Bondsville Road and Meadowlake Drive

Impacted Landowners: 2

Status: Proposed

Proposed Facility Type: Asphalt multi-use trail, connector trail, and pedestrian bridge to Caln Village Shopping Center

Public Input

- This section of road is less busy, but an off-road multi-use trail is preferred
- A pedestrian link into the Caln Village Shopping Center from this segment would be helpful

Existing Conditions

- Concrete sidewalk that connects to pedestrian crossing at Bondsville Road with +/-2' grass shoulder
- Pedestrian crossing push button

Proposed Improvements

- Complete a road diet and convert the existing concrete sidewalk into a 10' wide asphalt trail with a 2' buffer. This would involve reprofiling the roadway: these costs are not included in the estimate of probable cost below.
- Construct a pedestrian bridge and connector trail (shown as an orange box and red spur respectively on Map 16 on page 33) to allow for access to the Caln Village Shopping Center

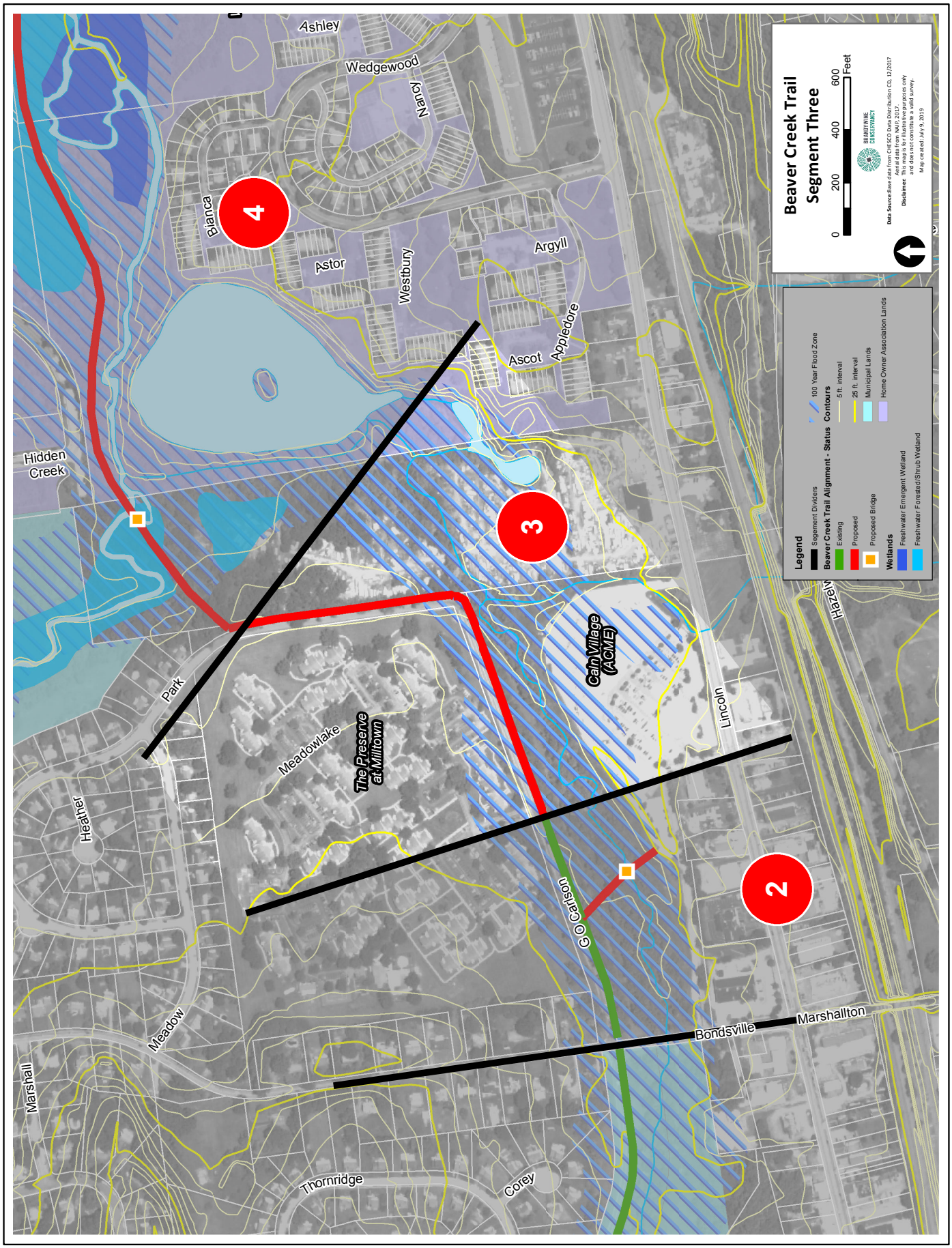
Next Steps

- Survey to determine exact boundary lines, preliminary design and engineering, landowner coordination

Estimate of probable cost for Segment 2, including pedestrian bridge and connector trail: $537,963

Above: The existing sidewalk terminates at Meadowlake Drive where there is a pedestrian crossing.

Above: The existing sidewalk along G.O. Carlson Boulevard leading to the entrance to Meadowlake Drive.



Map 17: Beaver Creek Trail Segment Three

Segment 3 Inventory

Length: 0.33 miles/1,759 feet

Location: G.O. Carlson Blvd to Park Dr

Impacted Landowners: 2

Status: Proposed

Proposed Facility Type: Asphalt multi-use trail

Public Input

- This section of road is lightly traveled, but an off-road trail is desired for safety and continuity of the facility

Existing Conditions

- Roadway and grass shoulder with a concrete curb along Park Drive
- Roadway and grass shoulder with striping within the roadway along G.O. Carlson Boulevard

Proposed Improvements

- Create a new multi-use trail in the grassy areas adjacent to the roadway (where no facilities currently exist)

Next Steps

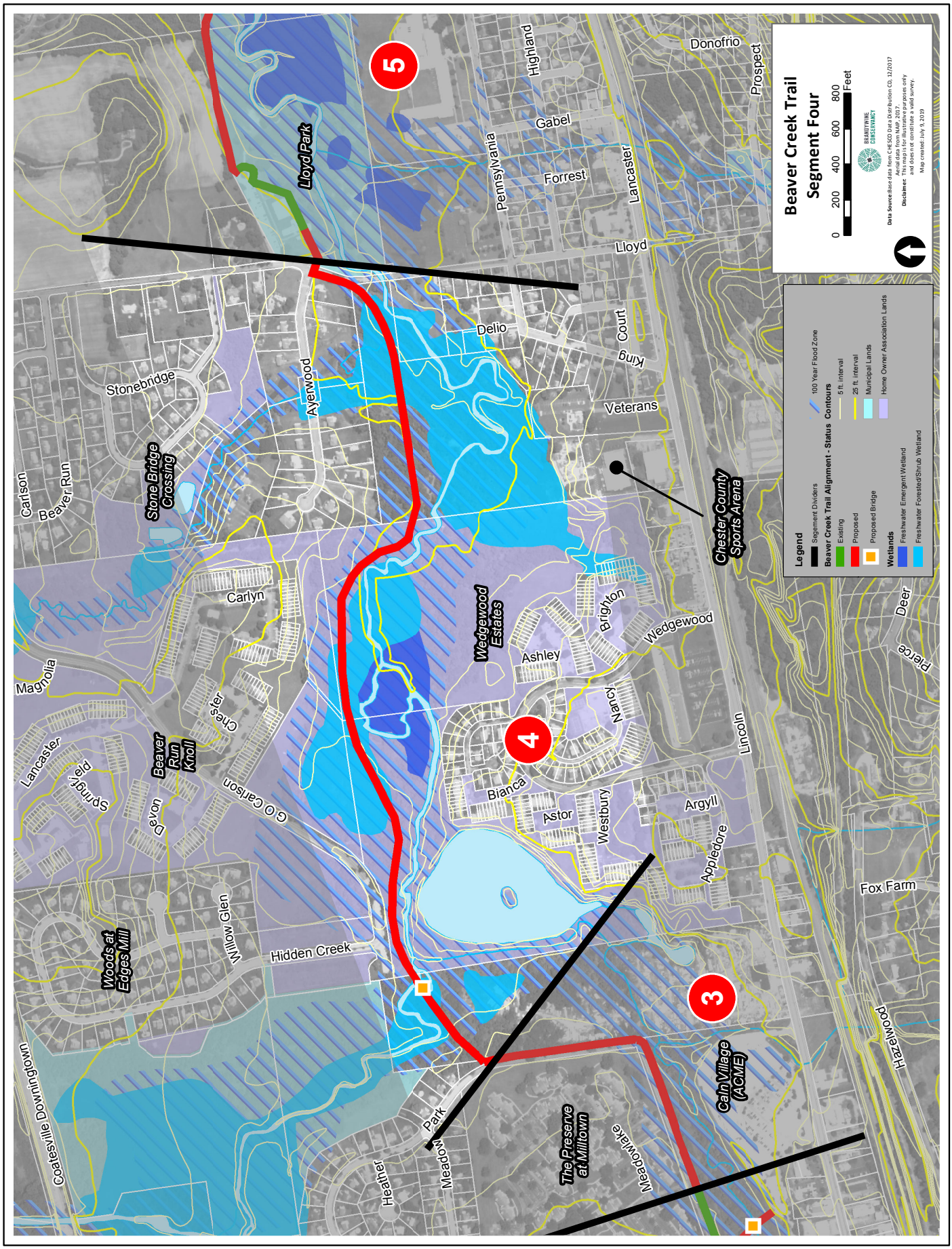
- Landowner coordination
- Survey to determine exact boundary lines, preliminary design and engineering

Estimate of probable cost for Segment 3: $632,303

Above: The existing conditions looking east on G.O. Carlson Boulevard toward Park Drive.

Above: The existing conditions looking north on Park Drive just after the intersection of Park Drive and G.O. Carlson Boulevard.

Above: The existing conditions along G.O. Carlson Boulevard looking west toward Bondsville Road.



Map 18: Beaver Creek Trail Segment Four

Segment 4 Inventory

Length: 0.99 miles/ 5,215 feet

Location: Park Drive to Lloyd Avenue along Beaver Creek

Impacted Landowners: 3

Status: Proposed

Proposed Facility Type: Bridge over creek, 10' wide multi-use boardwalk where necessary, 10' wide asphalt trail where feasible

Public Input

- People would love to be able to walk on a trail that goes through nature
- Concerns about safety with the trail being in the woods and trespassing issues
- Wedgwood HOA is concerned about trespassing on their property, particularly safety issues at their lake and also with proximity to the trail negatively affecting property values

Existing Conditions

- Woods, riparian corridor
- Caln Township sewer easement
- Some informal, private natural surface trails located on private property

Proposed Improvements

- Bridge over Beaver Creek and 10' wide multi-use trail that is asphalt and boardwalk where necessary due to environmental constraints

Next Steps- Trail and Bridge

- Landowner coordination
- Survey to determine exact boundary lines, preliminary design and engineering

At left: A view of the privately-owned woodland that Segment 4 traverses.

Segment 4 Inventory continued, Lloyd Avenue Crossing

Impacted Landowners: 3

Status: Proposed

Proposed Facility Type: Asphalt

Public Input

- Would like trail crossing at the one-lane vehicular bridge over Beaver Creek and a push button that could be sequenced as part of the proposed traffic light
- Traffic backs up and is dangerous along Lloyd Avenue
- Lloyd Park is a well-used park

Existing Conditions

- Existing crosswalk out of Lloyd Park entrance to sidewalk on west side of Lloyd Avenue
- Tight corridor with stacking area required for the one lane bridge (Chester County-owned)
- Lloyd Avenue is Township-owned

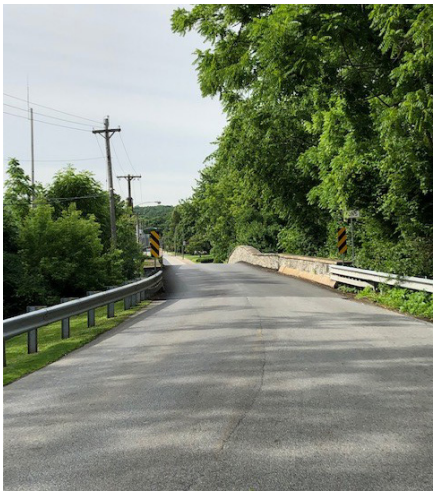
Proposed Improvements

- Trail crossing on the northern side of the Lloyd Avenue one-lane historic bridge
- New pavement markings, pedestrian push buttons, rapid flashing beacons, and post mounted trail crossing signs

Next Steps-Lloyd Avenue Crossing

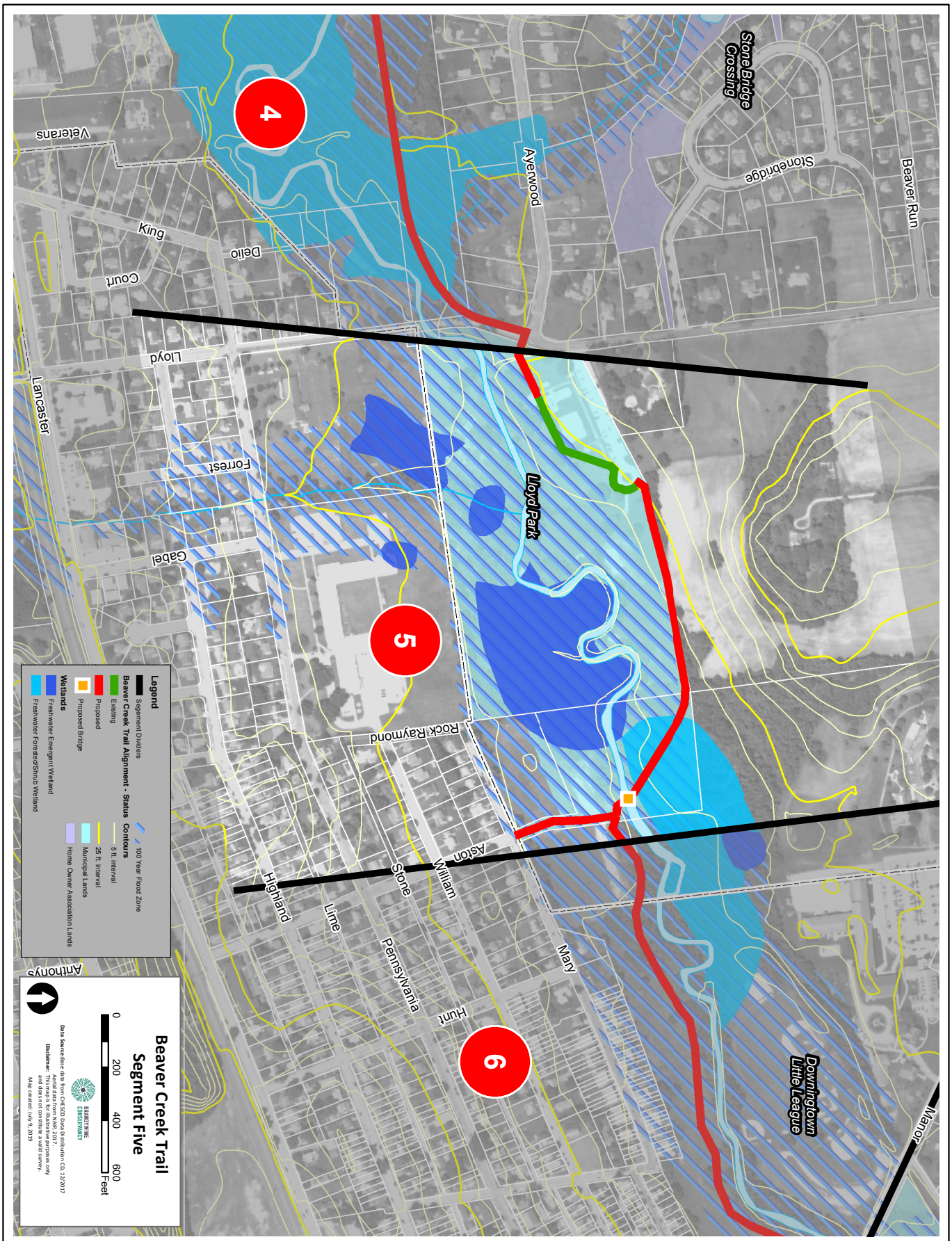
- Design and engineering in coordination with Township engineer and the traffic signal project to control traffic over the Lloyd Avenue one-lane historic bridge

Estimate of probable cost for Segment 4 including trail, boardwalk, bridge over Beaver Creek, and Lloyd Avenue trail crossing: $4,501,427*
**This probable cost estimate assumes construction of a trail that is 70% asphalt and 30% boardwalk and also includes Lloyd Avenue trail crossing upgrades such as two rectangular rapid flashing beacons which contribute to the high price of this trail segment.*



At left: Looking south on Lloyd Avenue toward Route 30. The one-lane historic bridge is pictured.

At right: The view of Lloyd Avenue from Lloyd Park looking southwest at Lloyd Avenue.



Map 19: Beaver Creek Trail Segment Five

Segment 5 Inventory

Length: 0.49 miles/ 2,528 feet

Location: Lloyd Park to Driveway to Mary Street

Impacted Landowners: 1

Status: Proposed

Proposed Facility Type: 10' wide asphalt multi-use trail

Public Input

- Lloyd Park is heavily used, especially by dogs and their owners
- Some flooding issues and persistent wet areas in the park
- A pedestrian connection to Downingtown Borough is desired

Existing Conditions

- Some existing paved pathway in park
- Dog park with a fence to the parking lot and the rest of the active area of the park
- Woods, riparian corridor
- Existing driveway to Aston and Mary Streets in Downingtown Borough at St. Joseph's fields that connects to existing sidewalks in Downingtown

Proposed Improvements

- Widen existing pathway in Lloyd Park to 10'wide multi-use trail
- Construct 10' wide asphalt multi-use trail, bridge over Beaver Creek and trail connection down to Mary Street along the driveway to St. Joseph's fields

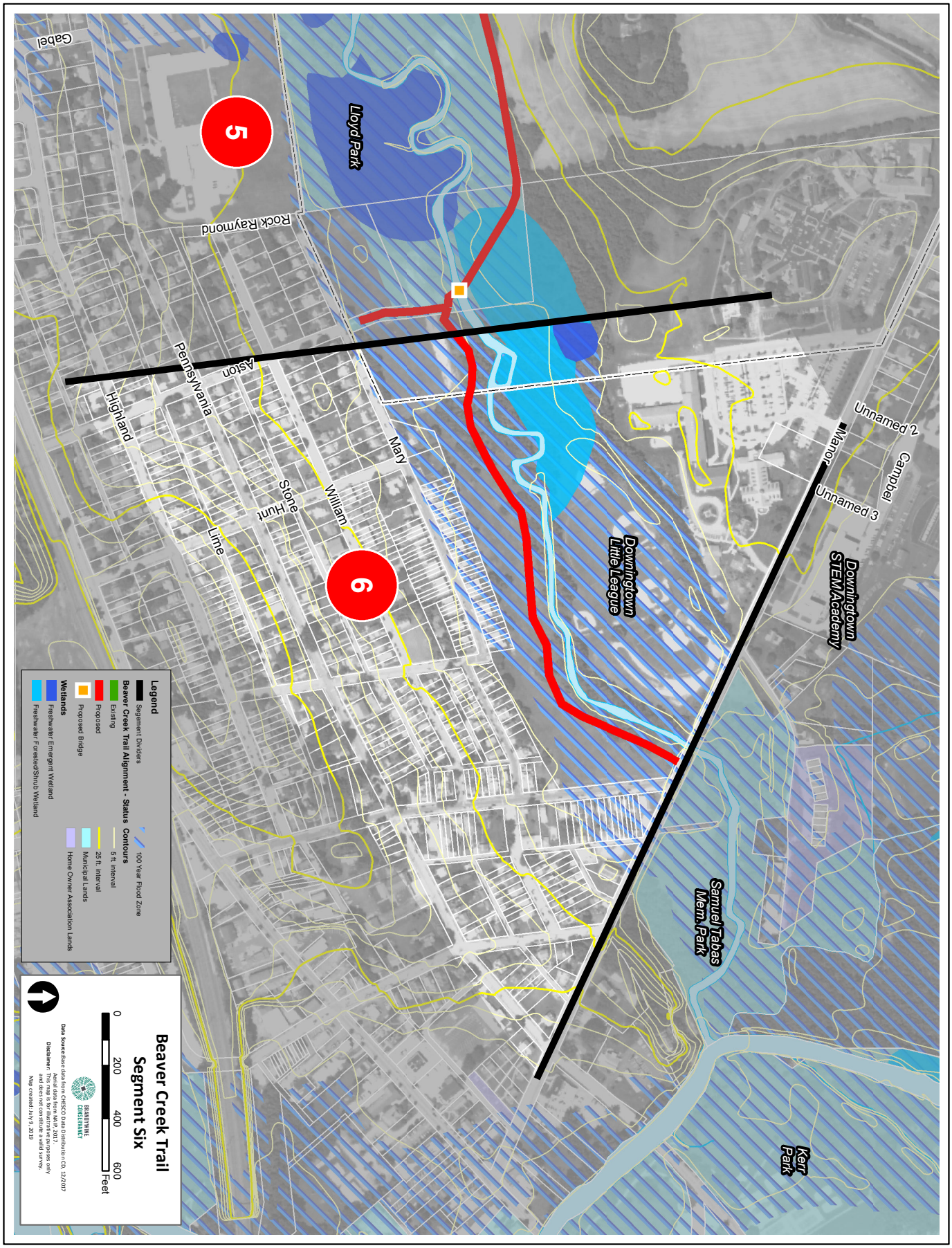
Next Steps

- Design and engineering

Estimate of probable cost for Segment 5 including the pedestrian bridge: $908,725

At left: Beaver Creek within Lloyd Park. Erosion and mud indicate heavy access from human and dog park visitors.

At right: The northern edge of the Lloyd Park property.



Map 20: Beaver Creek Trail Segment Six

Segment 6 Inventory *(This is entirely in Downingtown Borough and subject to Downingtown Borough's own design, and engineering for how the Borough would like to connect its segment of the Beaver Creek Trail to the existing Struble Trail and future Chester Valley Trail West)*

Length: 0.41 miles/ 2,127 feet (for this study's proposed alignment)

Location: Downingtown Borough

Impacted Landowners: 1

Status: Proposed

Proposed Facility Type: At discretion of Downingtown Borough

Public Input

- Downingtown Borough will need to conduct its own public input process

Existing Conditions

- Existing trail easement held by Downingtown Borough for 100' along either side of Beaver Creek
- Existing crosswalk at Stuart Avenue and Manor Avenue that could be widened and utilized by the trail

Proposed Improvements

- At the discretion of Downingtown Borough; this study suggests that a 10' wide paved multi-use trail exits Lloyd Park on the south side of the creek into the St. Joseph's sports fields driveway but could easily connect into this alignment through a short trail segment to the east

Next Steps

- At the discretion of Downingtown Borough

Estimate of probable cost for Segment 6: $681,080

At left: Looking north at the Mary Street sports fields from Aston Avenue in Downingtown Borough.

Segment Summary

The table below summarizes the existing and proposed conditions for each segment of the Beaver Creek Trail. Each segment requires a different level of coordination. Minimal coordination means that the land is likely already under Township control so that working to implement the recommendations for the segment is likely a matter of funding the next phase of work. Moderate coordination means that some of the land is likely under Township control while some of the land is owned privately and that additional landowner coordination will need to take place before moving towards design and engineering of the trail segment. Finally, major coordination means that almost none of the land needed for the trail is under Township control and that landowner coordination will need to take place before moving forward with the project.

Summary of Segments, Mileage, Treatment, and Priority

	Segment 1 G.O. Carlson between Municipal Dr. & Bondsville Rd	**Segment 2** G.O. Carlson between Bondsville Rd & Meadowlake Dr	**Segment 3** G.O. Carlson between Meadowlake Dr. & Park Dr.	**Segment 4** Nature Trail along Beaver Creek	**Segment 5** Lloyd Park	**Segment 6*** Downingtown Borough segment
Status	Existing side path	Existing sidewalk	Proposed	Proposed	Proposed	Proposed
Current Ownership	Within Caln Township roadway	Within Caln Township roadway	Caln Twp roadway and private property	Private, no existing trail easements	Within Caln Township property	Private, trail easement
Existing Surface Material and Facility Type	4' wide asphalt side path	Concrete sidewalk	Grass shoulder and asphalt roadway	Natural surface, wetland, creek	Natural surface, creek	Natural Surface
Proposed Surface Material and Facility Type	Existing side path expanded into asphalt multi-use trail	10' wide asphalt multi-use trail	10' wide asphalt multi-use trail	10' wide asphalt multi-use trail, boardwalk where needed	10' wide asphalt multi-use trail	10' wide asphalt multi-use trail
General Alignment	Expand existing side path along G.O. Carlson into roadway and shift/narrow vehicular lanes, upgrade pedestrian crossing of Bondsville Rd, add connector ped. bridge	Expand existing sidewalk along G.O. Carlson into the roadway, add connector ped. bridge	Connect to existing sidewalk, build trail in shoulder towards roadway	Create new trail in woods along north side of the stream, new bridge to cross Beaver Creek, new pedestrian crossing for trail at Lloyd Avenue	Enter park at Lloyd Avenue, follow northern property line of park, new ped. Bridge to cross creek, pathway to Aston Ave.	Along Beaver Creek at the southern extent of the trail easement
Coordination Required	Minimal	Minimal	Moderate	Major	Moderate	Moderate
Length	.5 miles	.24 miles	.33 miles	.99 miles	.49 miles	.41 miles
Next Step	Survey, pre-lim. design and engineering	Survey, pre-lim. design and engineering	Easement	Easements	Survey, pre-lim. design and engineering	At discretion of Downingtown Borough

Chapter 4 | Implementation

A view of the existing Struble Trail in Downingtown. Successful implementation of the Beaver Creek Trail will result in a very similar trail.

The Beaver Creek Trail has now completed initial planning and conceptual design. Property owner coordination and securing of trail easements, utility coordination, topographic survey, detailed engineering, and permitting will need to occur before trail construction can begin. Future design and construction are dependent upon funding either from Township funds or successful applications for grants.

Phasing and Partners

Most trail projects take between ten and twenty years to go from the feasibility study stage to being fully constructed! With the length of time needed to fund and construct a new trail in mind, the Beaver Creek Trail project has been divided into phase to aid Caln Township in implementing the project. Three main phases of implementation are envisioned to accomplish constructing the Beaver Creek Trail. In each phase, the Township will strategically work on actions with differing time frames so that the whole project can move forward more quickly.

In Phase 1, it is recommended that the Township complete a conceptual plan for Lloyd Park to guide trail location, creek access, and other park amenities. Once the conceptual plan is complete, the Township will also need to apply for grants to complete design and engineering for Segment 5 (Lloyd Park to Mary and Aston Streets). Because the Township already owns all of the land needed for Segment 5 and has planned on trail connections since 2004 and this trail segment would give a big impact by creating a new pedestrian connection between Caln and Downingtown, Segment 5 has been prioritized as first. However, the phasing is subject to change based upon new information that becomes available regarding the Lloyd Farm Development directly to the north of Lloyd Park. To move longer term items along, the Township will negotiate and secure easements for Segment 4 and coordinate with Downingtown Borough about Segment 6. After the design and engineering for Segment 5 is complete, the

Township should apply for grants and complete construction of Segment 5 to give the Township an "early win" of a completed trail segment on land owned and maintained by the Township that offers an immediate impact by creating a safe, attractive multimodal connection into Downingtown Borough from Lloyd Park. The timeframe for Phase 1 is approximately five to seven years.

In Phase 2, it is recommended that the Township apply for grants to complete design and engineering for Segment 4. Once design and engineering for Segment 4 are complete, the Township should apply for grants and complete the construction of Segment 4. During Phase 2, the Township should also complete survey work and preliminary design and engineering for Segments 1, 2, and 3 and negotiate and secure any necessary easements for Segments 1, 2, and 3. The timeframe for Phase 2 is approximately five years.

During Phase 3, it is recommended that the Township apply for grants and complete design and engineering for Segments 1, 2, and 3. The Township should then apply for grants and construct Segments 1, 2, and 3, thereby completing the entire preferred alignment of the Beaver Creek Trail! The timeframe for Phase 3 is approximately five years.

Priority Action Items for Implementation for Each Trail Segment

	Segment 1 G.O. Carlson between Municipal Dr. and Bondsville Rd	**Segment 2** G.O. Carlson between Bondsville Rd and Meadowlake Dr	**Segment 3** G.O. Carlson between Meadowlake Dr. and Park Dr.	**Segment 4** Nature Trail along Beaver Creek	**Segment 5** Lloyd Park	**Segment 6*** Downingtown Borough segment
Status	Existing side path	Existing sidewalk	Proposed	Proposed	Proposed	Proposed
Priority Action Item	Survey and pre-liminary design and engineering	Negotiate and secure easements	Negotiate and secure easements	Negotiate and secure easements	Create a conceptual plan for Lloyd Park, explore opportunities for trail construction through land development process, and apply for grants for design and engineering of the trail	Coordinate with Downingtown Borough on plans to develop the trail, seek to apply for grants jointly to increase chances of funding for design and engineering

** This segment is entirely within Downingtown Borough and will require coordination with the Borough.*

Potential partners to help the Township with implementation include:

- Caln Township Parks and Recreation Board
- Caln Township Public Works
- Wedgwood Homeowners Association
- Preserve at Milltown
- Beaver Run Knoll Homeowners Association
- Businesses including Chester County Sports Arena, William Cohen & Sons, Caln Village Shopping Center, and others
- Downingtown Borough
- Chester County Planning Commission
- Chester County Parks Department

Potential partners continued:

- Brandywine Conservancy
- Downingtown Area Recreation Consortium
- PA Department of Conservation and Natural Resources
- Friends of the Chester Valley Trail

Conceptual Cost Estimate

Segment	Multi-use Trail (and board-walk where appropriate)	Road Crossing Improvements	Pedestrian Bridge	Inspection, Permitting, Engineering, Mobilization, and Contingency	Conceptual Plan for Lloyd Park	Total
1	$611,046	$15,260	$35,000	$469,858	-	$1,131,164
2	$279,506	N/A	$35,000	$223,457	-	$537,963
3	$369,660	N/A	N/A	$262,643	-	$632,303
4	$2,467,144	$129,500	$35,000	$1,869,783	-	$4,501,427
5	$496,263	N/A	$35,000	$377,462	$10,000	$918,725
6	$398,176	N/A	N/A	$282,904	-	$681,080
Total project conceptual cost						$8,392,672

Funding for Design and Construction

Caln Township can stretch its financial reserves further by applying for grant funds. While the Township will have to provide matching funds for grant applications, in most cases, the grant funding can help the Township implement its vision while spending fewer Township funds. The trail grant funding opportunities chart on the next page lists opportunities that were current as of November 2019. With careful planning, it is possible to fund trail development projects with very little financial outlay from a municipality. Grants can be matched with other grants; however, this can lengthen the process and the amount of time it takes to develop the trail. Caln Township should weigh its desire to develop the trail quickly against its ability to fund the trail project.

Trail Grant Funding Opportunities

Program	Program Details
Community Conservation Partnership Grant Program (C2P2)	-Administered by PA DCNR - 50% match required -Federal and state funds -Funds design and construction
Chester County Open Space- Municipal Grants Program	-Administered by Chester County Open Space Preservation -50% match, $100,000-$250,000 maximum for development grants -3-year timeframe to complete the grant-funded activities -Acquisition Grants fund a maximum of 50% of the appraised value to buy land, conservation easements, or trail easements plus eligible transaction costs. -Park and Trail Improvement Grants Park and Trail Improvement Grants fund 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.
CFA/ DCED- Multimodal Transportation Fund (MTF)	-Administered by the Commonwealth Financing Authority -30% match, $100,000 minimum; $3 million maximum -2-3-year timeframe to complete grant-funded activities -Funds design and construction
Congestion Mitigation and Air Quality (CMAQ)	-Federal program administered by PennDOT and DVRPC -Match requires funding all pre-construction activities -Funds design and construction
Greenways, Trails, and Recreation Program (GTRP)	-Administered by the Commonwealth Financing Authority (CFA) with DCNR and DCED -15% match, $250,000 maximum -2-3-year timeframe to complete grant-funded activities -Funds design and construction
PECO Green Region Program	-Administered by Natural Lands - 50% match, $10,000 maximum -18-month timeframe to complete grant funded activities - Awards grants for southeastern Pennsylvania municipal efforts to preserve, protect, and improve open spaces.
PennDOT- Multimodal Transportation Fund (MTF)	-30% match based on grant award; $100,000 minimum; $3 million maximum - 2-3-year timeframe to complete the grant funded activities -Funds design and construction
Regional Trails Program	-Administered by DVRPC -Funds design and engineering only
Transportation Alternatives Set-Aside	-Federal program administered by PennDOT and DVRPC -Match requires funding all pre-construction activities -$50,000 minimum; $1 million soft cap -2-year timeframe to complete design, right-of-way, and utility clearance -Funds design and construction
Transportation and Community Development Initiative (TCDI) Program	-20% match; $25,000 minimum; $100,000 max -Funds planning only

Trail Ownership Considerations

Caln Township should coordinate with the Chester County Planning Commission as well as the Chester County Departments of Parks and Open Space as to a final decision for the party or parties responsible for ownership and maintenance of the Beaver Creek Trail. Coordination with Downingtown Borough for their connection to this trail is also advised and could be included in this meeting. Because the Beaver Creek Trail could eventually form part of the proposed Chester Valley Trail West extension, Chester County has expressed interest previously in supporting this project and possibly participating in ownership and/or maintenance of the trail. Due to a backlog of planned trail projects within the Chester County departments who work on trail planning, construction, and maintenance, Caln Township can expect to complete the Beaver Creek Trail in a much shorter-term timeframe if Caln is responsible for constructing the trail than if Caln left future trail planning, funding and construction to Chester County. The Township would likely need to hold the trail easements necessary for the areas where the trail is envisioned to cross private property. In the future, the Township could negotiate with Chester County to convey the trail easements for Beaver Creek Trail should the County plan to own and operate the trail once all the easements are acquired.

Maintenance Costs

In 2018 Chester County's annual maintenance costs to maintain the Chester Valley Trail (CVT) were about $21,000 per mile. However, this includes snow removal, which may or may not be part the Beaver Creek Trail's maintenance program. Chester County has a park ranger who is dedicated to the CVT (roughly $50,000/year salary including benefits). Adding 3 miles of trail would likely not warrant another ranger, but some consideration should be given to how the trail will be patrolled.

Safety and Security

The Chester Valley Trail is patrolled with assistance from the municipal police forces through which the trail passes; the Beaver Creek Trail could be similarly patrolled whether or not it is Township-owned. There are also volunteer trail ambassador programs that could be utilized to provide an official presence on the trail and to report any maintenance issues that arise.

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Appendix I: Landowner Coordination

Landowner Outreach Summary- Beaver Creek Trail Feasibility Study

A. Landowners Contacted

1) Beaver Run Knoll Community Association
2) Wedgwood Homeowners Association
3) The Preserve at Milltown (Morgan Properties)
4) Stonebridge Homeowners Association
5) Caln Village Shopping Center (Herbert Yentis and Company Realtors)
6) Chester County Sports Arena (Jamie DiDomenico)
7) Caln Township
8) All residents of Ayerwood Drive

B. Landowner Meetings Summary

1) Chester County Sports Arena Properties (Jamie DiDomenico), UPIs 39-5-10.3 and 39-5-9
   a. 5/20/19 meeting and site walk with Mr. DiDomenico and Brandywine Conservancy (Meredith Mayer and Rob Daniels)
   b. Brandywine Conservancy (Conservancy) staff briefed Mr. DiDomenico on the topics covered during the April 9th, 2019 Study Advisory Committee Meeting that Mr. DiDomenico was unable to attend. Conservancy staff shared the handouts prepared for the aforementioned meeting and the initial information gathered about the study area through previous studies (the Caln Township Beaver Creek Trail Staff Report and the Chester Valley Trail West Feasibility Study/Master Plan). Mr. DiDomenico shared the wetland delineation work that he commissioned in support of his intention to clear approximately two acres of non-native plants (including phragmites and cattails) and convert it to a pond to be used for water based recreation during his 11-week summer camp that he runs on the property. Mr. DiDomenico reported that he has had some property boundary and use disputes with some of the neighboring parcels along Ayerwood Drive and Delio Lane that have arisen during his maintenance or boundary marking of his property.

      Mr.DiDomenico is interested in working with the Township on a trail project through his property and is generally supportive of a trail, especially in exchange for political support of his pond project if needed throughout his permitting process. No specifics were discussed about how a trail might be established through the property (fee acquisition or trail easement), although it seems that an alignment along the northern extent of his property may be preferable. Mr. DiDomenico has been working to improve access to the stream corridor from/through his property for access during his summer camp program to the northern portion of his property, which he accesses through a wire bridge that he constructed. Gravel trails currently exist on his property; the ability to connect these trails to the Township's trail in the future to allow access to the playground at Lloyd Park would be a positive for Mr. DiDomenico.

2) Chester County Sports Arena Properties (Jamie DiDomenico), UPIs 39-5-10.3 and 39-5-9
   a. Late June 2019 meeting and site walk with Mr. DiDomenico and Brandywine Conservancy (Sheila Fleming, Meredith Mayer, and Rob Daniels)
   b. Mr. DiDomenico showed Brandywine Conservancy staff his preferred location for the trail through his property. Mr. DiDomenico shared the results of the wetland delineation he had done on his property. Conservancy staff was able to understand how Mr. DiDomenico utilizes his property for the summer camp that he runs on the property as part of his business. Finally, Conservancy staff and Mr. DiDomenico considered potential trail crossing solutions between Mr. DiDomenico's property and

Lloyd Park over Lloyd Avenue.

3) Informal meeting with Mr. Peru Prabaharan and Mrs. Shahana Ramaswamy, owners of 101 Ayerwood Drive, Downingtown PA. (UPI 39-5-7.20)
   a. Late June 2019 informal site walk with Mr. Prabaharan while Brandywine Conservancy staff was completing a site analysis of options for the trail crossing of Lloyd Avenue. Conservancy staff introduced Mr. Prabaharan to the project and solicited his feedback. He shared that the eastern edge of his property is bordered by a utility right of way and that he would not object to having a trail located in the utility right of way, between his property and Lloyd Avenue.

4) Invitations to Wedgwood Homeowners Association and Beaver Run Knoll Community Association to hold informational meetings about the trail study and solicit resident feedback were sent in July 2019 and were not accepted.

5) Landowner meeting held on 7/30/2019 in Lloyd Park for all the residents of Ayerwood Drive who were invited via a mailed letter. No landowners attended.

Appendix II: Written Comments Received

From Jim Spaulding, Caln Township Resident

THE FORGOTTEN WATERSHED
BEAVER CREEK!

Did you know that…
(According to Chester County WATERSHEDS planning report)…

- Beaver Creek carries over 2,816,000,000 gallons of water per year!
- Beaver Creek is the 6TH largest of the Brandywine Valleys 15 creeks?
- It is blessed with beautiful land and plants and animals along its length.
- Over 627,000,000 gallons per year are being taken from the ground!
- Over 648,000,000 gallons per year are being taken from the surface!
- About one third of Beaver Creek's total water flow is being taken!
- It is being depleted at 2x the rate of all but 3 Brandywine Valley creeks!
- Beaver Creek is being abused worse than all except West Valley Creek!
- By 2020, it's load will be increased more than all but 2 other creeks!
- It has been ignored and used as a water supply and sewer far too long!
- It is hardly a footnote in state and county Planning documents!
- Beaver Creek and Valley Run together touch most all of the Township.
- Together they are the major watershed for Caln, with brooks and ponds.
- Together they are within 1 ½ miles of every resident in Caln Township.
- 90% of Caln people are within 3000 feet of Valley Run or Beaver Creek.
- It belongs to everyone, yet few know it exists…It is the Forgotten Creek!
- Let's change this situation… Let's give BEAVER CREEK a voice!

Some of the last pieces of undeveloped property in Caln Township stretch along the Beaver Creek watershed and wetlands. This beautiful creek meanders through the eastern part of the township between rout 340 and route 322, flowing from the northern side and feeding into the Brandywine River in Downingtown on the east. Thousands of trees and animals grow along its banks and uncounted fish and other animals live in its waters. It touches hundreds of acres of property along its path and provides shade and cooling wetlands in the heart of the valley, but is almost invisible to many area residents.

Unfortunately, while out of sight and out of mind, the area along Beaver Creek has been used too often for dumping and runoff, while its wetlands are slowly filled in. The quality of its waters, wetlands and banks continues to degenerate from such abuse, though little of the land that touches the creek can be properly developed because of the intensity of the flooding and wetlands along it.
Even if not great for apartments, it can be kept perfect for the soul of our residents. This is a treasure that is well worth preserving since it is in the back yards of hundreds of our neighbors, and is the last of such creeks flowing through the valley.

We propose to save the remaining open space around the creek and turn some of it to public use as parks and trails.

This will stem development that threatens clean water flow, flooding, wetlands, animal and plant life, and the long-term health of the watershed along Beaver Creek. There are a number of parks and open spaces touching or closely linked to the creek or its tributaries already, and the number of recreational users is growing rapidly. Many pedestrians, children and teenagers are risking their lives by walking and biking along narrow roads that

could be alleviated by adequate walking and biking trails in the area. The proposed open space could help link important areas with walking and biking paths throughout the township to protect our children and ourselves. Many people feel that undeveloped land along the creek should be used as a park under the Open Space program. It could be associated with Lloyd Park on the east and Caln Municipal Park on the west, and provide a walking / biking trail from the east side of the township to Thorndale. This would be a great investment in our future as a township and preserve the last pieces of open land along the Beaver creek watershed. It would serve many of our township residents and provide a safe and reliable path for children and outdoor recreation in the area.

We already have extensive public or communal lands that can be used for neighborhood recreation, playgrounds and sports fields. However, there are few more natural environments near our homes that can be used less intensively.

As the density of the township reaches its maximum, we find that there are few safe areas for pedestrians or bicyclists anywhere in the township. The shortage of sidewalks and the narrow country roads with no shoulders or sidewalks means that there is no safe place to walk or ride anywhere in the township. The overloaded roads demonstrate the futility of thinking that shoulders and sidewalks will really cure this problem. Many of our neighbors have found the only solution lies in separating pedestrian and cycling traffic from the automobile traffic.

Trails are a great idea, they increase property values and make a community more comfortable for existing residents and more welcoming to new residents. However, some people are concerned when trails run too close to their back yards or homes, so it is best to acquire sufficient land that the trails can be positioned with a barrier or space between the trail and private properties. For safety reasons, a clear unobstructed view along the trail is helpful and reassuring to users. Both sets of needs and concerns must be integrated into the design. In addition, some allowance must be made for policing and rescue access for emergencies.

Obviously, some of this land should be preserved in a virgin state, since it is rare and needs to be protected, is not useful for most activities, protects animal and plant life and water quality, and is expensive to develop. However, an examination of the township map shows that these pieces of land are invaluable as protected zones for pedestrian traffic off roads but between important sites in and near to the township. Many of the teenagers could get where they need to go without walking on dangerous roads or increasing the auto traffic if there was simply an easy path to walk from one development to the next.

This land could be especially wonderful for recreational strolling, bird watching, fishing, walking, hiking, jogging, running and riding bicycles.

The most limited trail plan shows a simple trail connecting the Common area along the creek at Goddard Blvd with Lloyd Park along the creek, a little over a half mile. A more aggressive plan suggests this could be extended to other common areas along the creek for a total about one mile long. Another plan suggests a network of trails extending from Kerr Park in Downingtown to the municipal building in Caln with a three side-trails for a total trail length of almost three miles, connecting a number of public areas throughout the township. An even more aggressive plan includes some additional side trails with several walking bridges and an auto bridge at Goddard Blvd over the creek as well, linking the areas to both shores of the creek at several locations.
If we want to see this dream happen, we must get the township and the county and developers to integrate such ideas into their plans. Only our planning commission and Board of supervisors have the power t… and they need your demonstrable concerns to initiate such actions. This proposal may limit land use in the area, but it cannot happen unless the community (you and I) is actively engaged in the debate.

First: research creek and adjoining properties, review topographical, hydrological and ecological environments with legal requirements, easements and ownership issues.

Second: design several feasible plans to preserve and utilize the space and resources for the benefit of the community while recognizing the property rights of owners.

Third: Select minimum or key properties (estimated 15-20 acres) that must be acquired to fulfill the least ambitious plans and rezone and begin condemnation on those properties so they cannot be developed while the full plan is developed.

Fourth: immediately file for open space easements and grants for at least the minimum properties (estimated 15-20 acres) needed in the plan.

Fifth: Begin a round of public hearings, open house, forums and discussion groups to evaluate the various plans and to refine a comprehensive plan with widespread support.

Sixth: Lay out a long-term plan of land acquisition (estimated 20-50 acres) and open space financing and development to fulfill the long term goals.

Seventh: Implement the plan.

THREE EXAMPLE OPTIONS that may be considered.:
Simple Beaver Creek trailway: Acquire lands immediately adjacent to the creek and its wetlands up to 100 yards from the center of the creek with a minimum of twenty yards from the center of the creek on both sides. Create trails for walking and cycling within that narrow belt that connect with parks and public rights of way along the area.

Beaver Creek Preserve: Tie up the lands with Open Space preserves free from development and leave the land as virgin land with no development at all, not even for public use.

Beaver Creek Park: Acquire large parcels of land adjacent to the creek and its wetlands, and preserve sections and develop other sections as parkland for recreational use, including trails as appropriate.

Open space… certain areas could be turned over to floral groups or clubs for wildflower growing, and even some small plots for residents to grow gardens.

Some spots along the bank can be opened and kept clear along the creek itself to permit easy access for fishing and wading and swimming.

Lloyd Park is not in the heart of the township and should not be the focus of our townships recreational money and efforts… it is used mostly by Downingtown residents as an extension of the lands around the creek. If we improve it, most of our residents will not benefit, and we will be subsidizing Downingtown residents. What we really need is improvement west of Lloyd Ave, on the north side of Beaver creek next to the southern end of Goddard blvd, with a link/access to the western parkland at the municipal park.

The vision we are promoting is long on ideas but short on details. Basically, we are suggesting a series of greenways linking important elements along the Beaver Creek Watershed. For example a greenway along the creek and sewer line right-of-way could link Lloyd Park to existing recreational lands along the Creek and Goddard

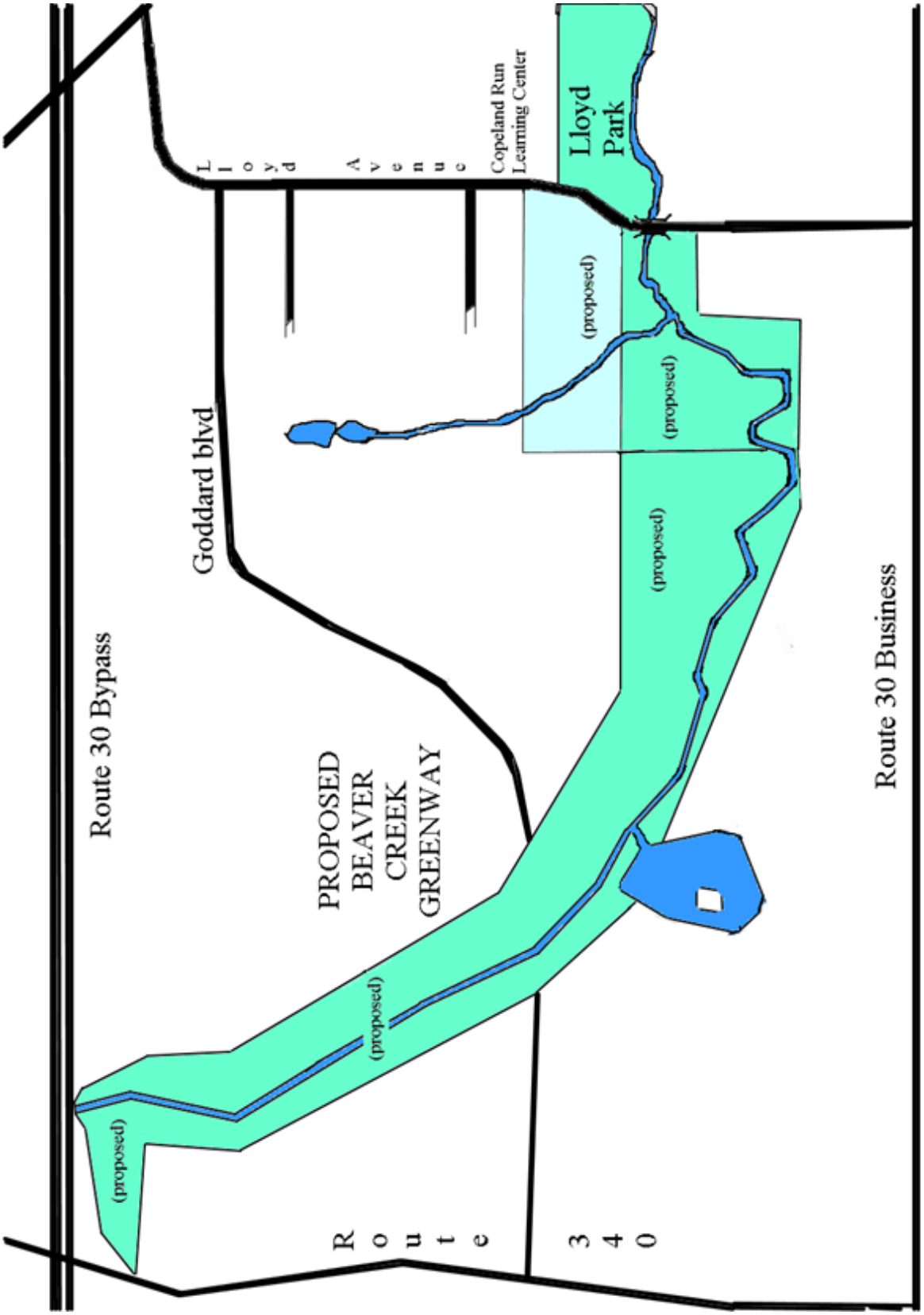
Blvd. Perhaps a new ("YETOBNEMD")yet to be named park could be built along the Beaver creek on the north side across from the pond as the terminus for the greenway from Lloyd Park with playground and recreational facilities for the large number of homes north of Beaver creek. This YETOBNEMD park could also be linked by a bycycle/footbridge to the south side of Beaver Creek alongside the Wedgewood Pond, and from there along the existing open areas behind the shopping center as a greenway to the existing municpal park. A third greenway would extend from YETOBNEMD park north along the creek to a terminus at the Route 30 Bypass with access to Rt 340 (Some have suggested that a small parking lot could be tucked in behind the on-ramp to the highway, as well).

So what are we actually proposing?
We ask the commissioners to pass several acts immediately to effectuate a preliminary plan. These acts would create zoning and munmicipal plan changes to create a narrow greenway following beaver creek all the way from Lloyd Avenue toRout 30 bypass to protect it from further pollution, filling, overuse, wetlands destruction, development or privitazation. In addition we are asking the township to establish a Beaver Creek Greenways Mission statement and operating focus group to examine the potential uses and offer suggestions to the board for its consideration. We further ask the Board to select a plan by March 2004 and charter the appropriate man-power to execute it at the earliest possible date.

Cost???
600 acres approximately – as wetlands, worth perhaps $10,000 per acre ($6m total). As farmland, perhaps 20,000 per acre ($12m total), as developped land perhaps $40,000 per acre ($24M total).
We can have it all by acquiring only 300 acres as gifts and open space and wetlands and grants for pronably less than $1M!
This is small stuff after what we went through to get the farm!

Contact List:

Jeff Caln Engineer
(610)
Bill Gladden County Open Space Facilities Coordinator… lives in Valley
(610) 344-6415
Andy Schaum Lawyer – Conservancies Attorney @ Law
636 S. Birmingham Rd
West Chester, Pa. 19382-2135
(610) 430-0907


Route 30 Bypass
Goddard blvd
Lloyd Avenue
Copeland Run Learning Center
Lloyd Park
(proposed)
(proposed)
(proposed)
(proposed)
(proposed)
PROPOSED BEAVER CREEK GREENWAY
Route 30 Business
Route 340

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Appendix III: Study Meeting Documents

AGENDA
Beaver Creek Trail Feasibility Study Steering Committee
MEETING #1: April 9, 2019

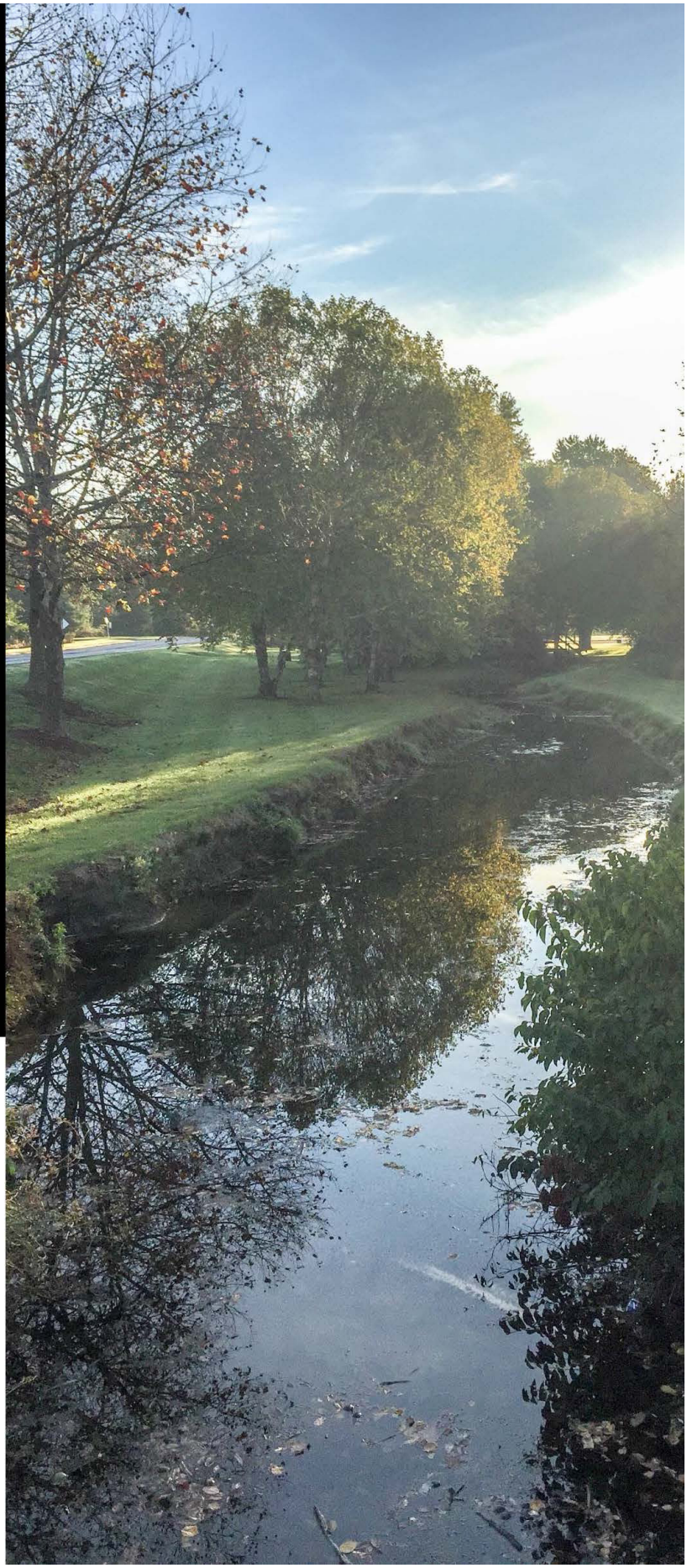
1. Introductions and expectations
2. Review Scope of Work and Intention of the Grant
3. Review mapping and give input
4. Other news or input?

AGENDA

Beaver Creek Trail Feasibility Study Steering Committee
MEETING #2: August 19, 2019

1. Presentation of Inventory and Conceptual Alignment
2. Discussion of Alignment and Surface Treatment Options
3. Preparation for Public Meeting on September 10th, 2019
4. Other news or input?

BEAVER CREEK TRAIL STUDY PUBLIC MEETING



JOIN US FOR A PUBLIC MEETING TO EXPLORE CREATING A NEW TRAIL ALONG BEAUTIFUL BEAVER CREEK

DATE: TUESDAY, MAY 28, 2019
TIME: 7:00 PM
LOCATION: CALN TOWNSHIP MUNICIPAL BUILDING
253 MUNICIPAL DR. THORNDALE

BRANDYWINE CONSERVANCY

CHESTER COUNTY Planning COMMISSION

CALN TOWNSHIP INC. ★ 1868 — Caln TOWNSHIP — THE HEART OF CHESTER COUNTY

SIGN-UP!

To stay in the loop for the Beaver Creek Trail Feasibility Study!

NAME	AFFILIATION (IF ANY)	EMAIL
AL DIMATTEO	TRAIL TASK FORCE	INSURANCEAPA @ GMAIL.COM
Jim Spaulding	Caln (I Volunteer!)	jamestspaulding@verizon.com
ERIC QUINN	CCPC	EQUINN@CHESCO.ORG.
Jamie D'Onofrio	Chester County Sports Area	jamesanthonyd22@aol
Paul Mollin	CTMA	compassfsonce@gmail.com
Joe Ferris	None - Neighbor	joeferris@gmail.com
Dana Jackson	WECA - check email is wrong use this	djackson831@hotmail.com
Patricia Wakefield	Neighbor	angelolkus@yahoo.com
Suzanne + GAVIN Speirs	Neighbor	suzannejspeirs@gmail.com
Brett Klukan	Caln Parks & Rec	brett.klukan@gmail.com
Joan McGlinn	Neighbor	joan.mcglinn@harron.com

Beaver Creek Trail Feasibility Study - Comment Form

Contact Information (optional)

Name _____

Address _____

_____

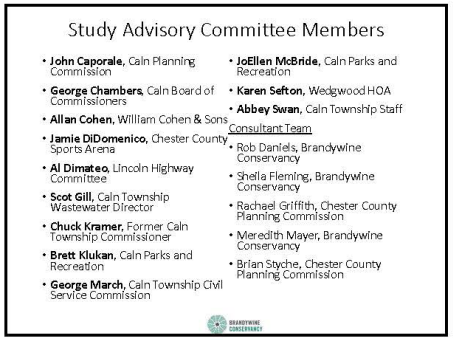
E-mail address _____

Please provide written questions, comments, or concerns to the Beaver Creek Trail Feasibility Study. Thank you for your interest and input!

Please return this form to the sign-in table.

Beaver Creek Trail Feasibility Study
Community Workshop
May 28, 2019
Planning
BRANDYWINE CONSERVANCY

1


Study Advisory Committee Members
• John Caporale, Caln Planning Commission
• George Chambers, Caln Board of Commissioners
• Allan Cohen, William Cohen & Sons
• Jamie DiDomenico, Chester County Sports Arena
• Al Dimateo, Lincoln Highway Committee
• Scot Gill, Caln Township Wastewater Director
• Chuck Kramer, Former Caln Township Commissioner
• Brett Klukan, Caln Parks and Recreation
• George March, Caln Township Civil Service Commission
• JoEllen McBride, Caln Parks and Recreation
• Karen Sefton, Wedgwood HOA
• Abbey Swan, Caln Township Staff
Consultant Team
• Rob Daniels, Brandywine Conservancy
• Shella Fleming, Brandywine Conservancy
• Rachael Griffith, Chester County Planning Commission
• Meredith Mayer, Brandywine Conservancy
• Brian Styche, Chester County Planning Commission
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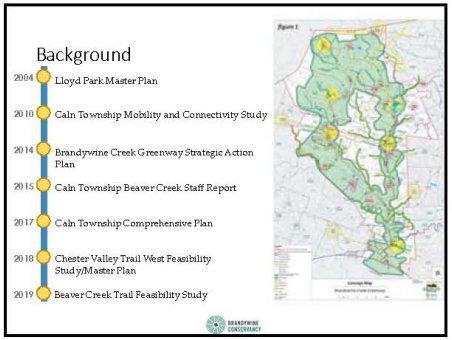
Background
2004 Lloyd Park Master Plan
2010 Caln Township Mobility and Connectivity Study
2014 Brandywine Creek Greenway Strategic Action Plan
2015 Caln Township Beaver Creek Staff Report
2017 Caln Township Comprehensive Plan
2018 Chester Valley Trail West Feasibility Study/Master Plan
2019 Beaver Creek Trail Feasibility Study
BRANDYWINE CONSERVANCY

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BRANDYWINE CREEK GREENWAY
BRANDYWINE CONSERVANCY

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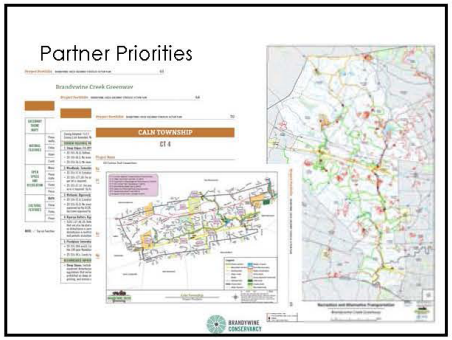
What constitutes the Greenway?
• 40 mile long corridor of open space and trails
• Width to be determined
• Urban, suburban, rural
• Diverse natural, cultural, and scenic features
• Land- and water-based
• Public and private property
• Functions vary
BRANDYWINE CONSERVANCY

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Partner Priorities
CALN TOWNSHIP
BRANDYWINE CONSERVANCY

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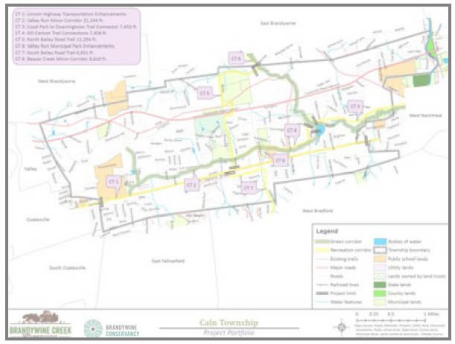

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Chester Valley Trail West
Feasibility Study and Master Plan

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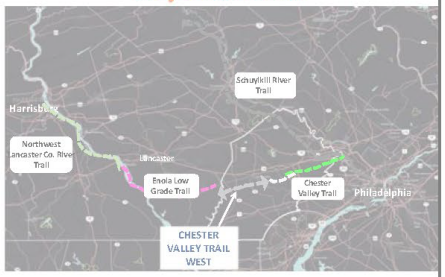
Project Context



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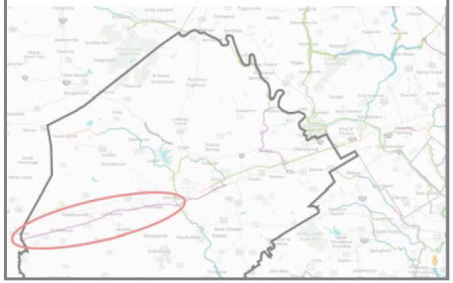
Beaver Creek Trail Staff Report, 2015

- Proposed a 1.5-mile recreation trail along G.O. Carlson at Park Drive, continuing through the woods to Lloyd Avenue Dog Park
- Would connect to 1.8 miles of existing walking trail along G.O. Carlson Boulevard
- Public meeting on June 18, 2015
- Prepared in support of Township applications for grant funding to move forward with the project that were not successful

8

Project Context



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Recommended Alignment

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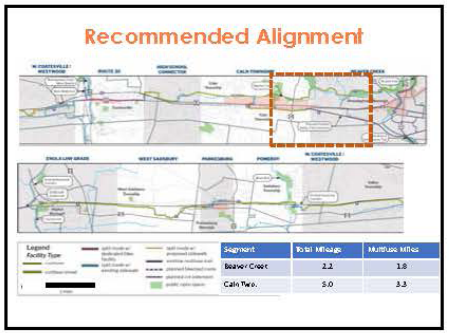

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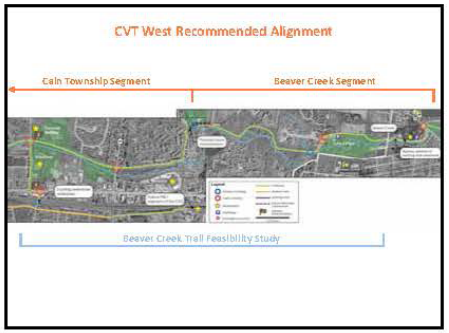

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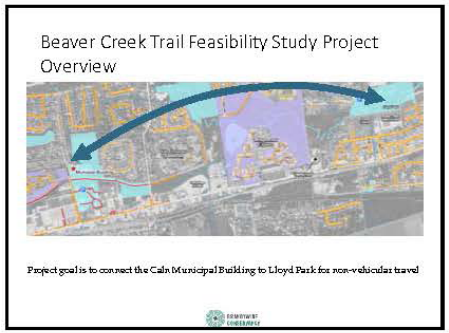

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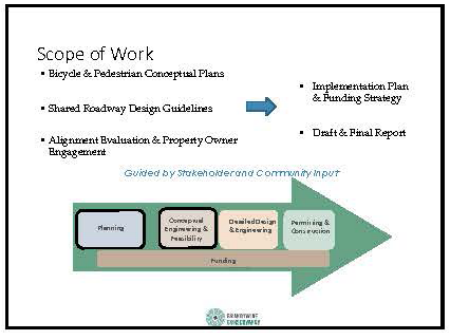

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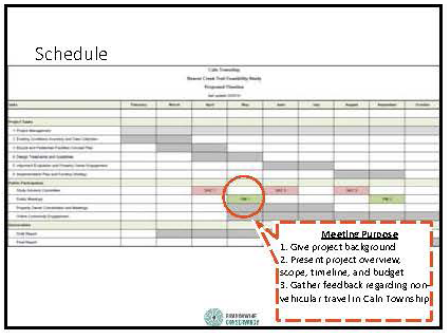

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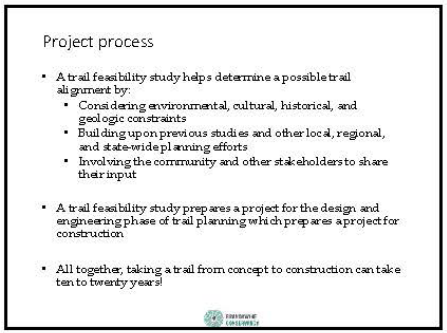

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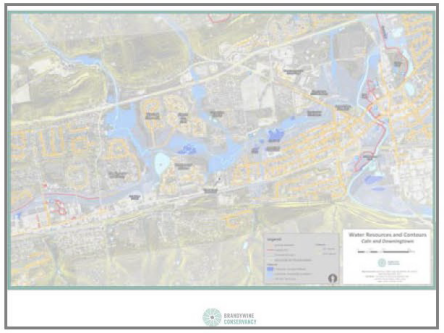

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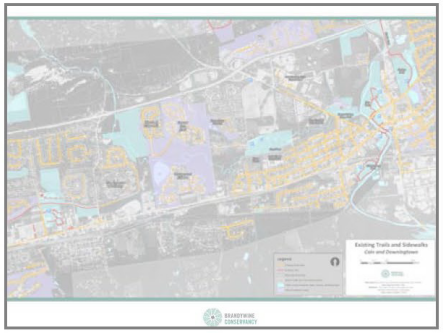

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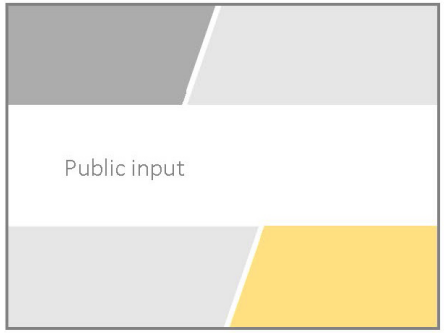

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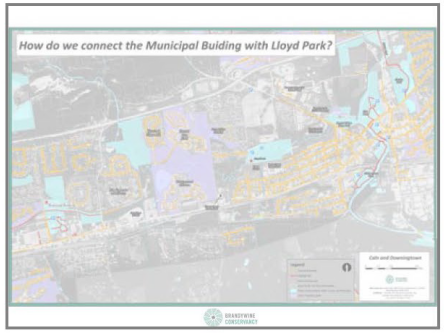

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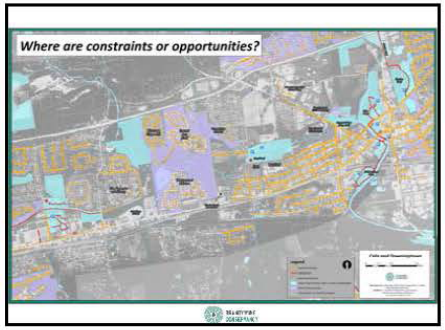
Where are constraints or opportunities?

25

Next Steps
Receive and review community input
Property owner coordination
Work with study advisory committee to develop draft trail alignment
Community Workshop for public input on draft alignment
(date to be determined and published, fall 2018)
Thank you!

27

We want to hear from you!
• Sign-in: Project Email List
• Review/Comment on Boards and Participate in Mapping Activity
• Project Website
https://www.brandywine.org/conservancy/projects/beaver-creek-trail
• Comment Forms
• Take a project description sheet home with you or share with a neighbor

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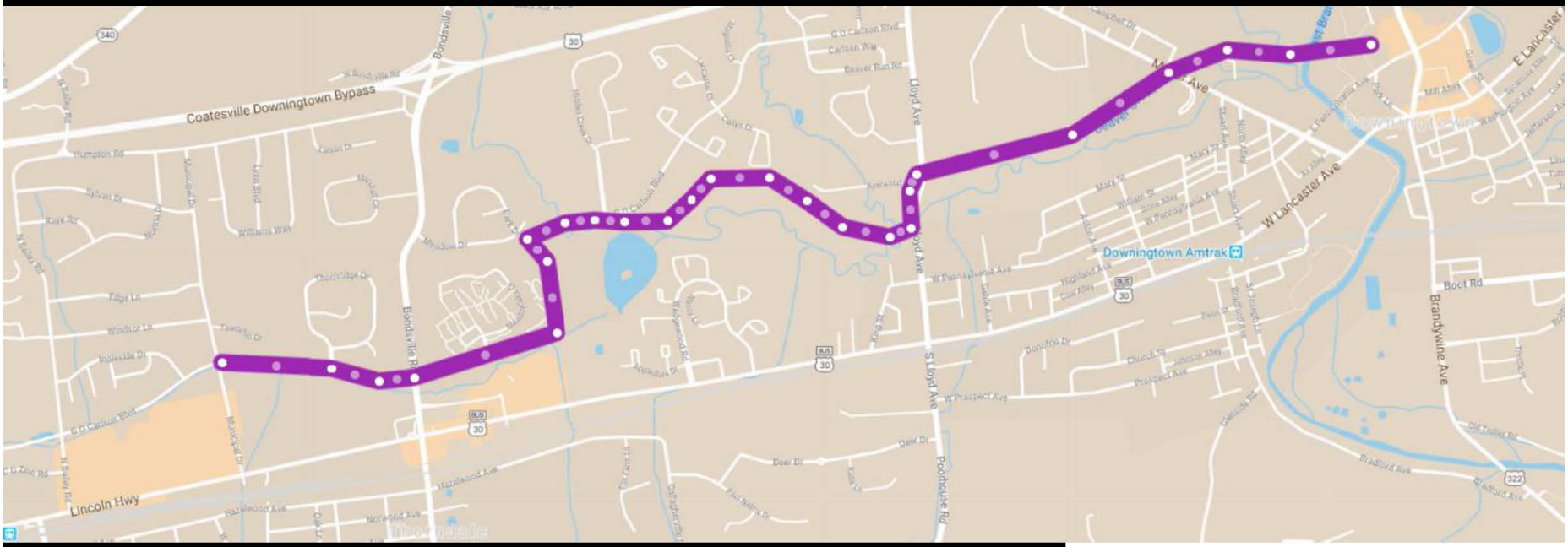
BEAVER CREEK TRAIL STUDY PUBLIC MEETING



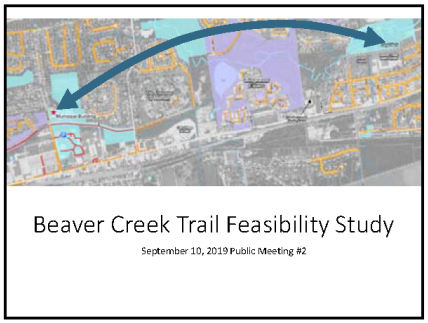
JOIN US FOR A PUBLIC MEETING TO EXPLORE CREATING A NEW TRAIL ALONG BEAUTIFUL BEAVER CREEK

DATE: TUESDAY, SEPT. 10, 2019
TIME: 7:00 PM
LOCATION: CALN TOWNSHIP MUNICIPAL BUILDING
253 MUNICIPAL DR. THORNDALE

BRANDYWINE CONSERVANCY

CHESTER COUNTY Planning COMMISSION

CALN TOWNSHIP
THE HEART OF CHESTER COUNTY



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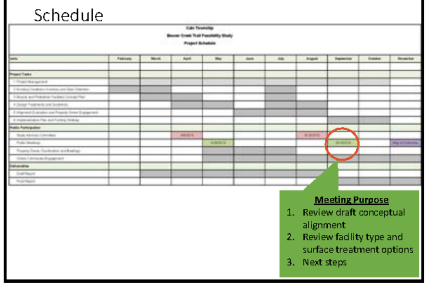
Schedule



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Tasks completed between May and September 2019

- Received and reviewed community input
- Property owner coordination and meetings
- Existing conditions inventory and data collection
- Field work to further refine conceptual alignment
- Prepared "menu" of surface treatment options
- Prepared draft conceptual alignment, initial review from Study Committee on 8/19

3

Summary of Input: May 2019 Public Meeting

- Residents most interested in a nature trail along Beaver Creek
- Concern about safety crossing Lloyd Avenue given its existing issues
- Support for a neighborhood trail that would be more easily accessed than the Struble Trail
- Concern about community safety with introducing a trail that could be near residences
- Would like to see pedestrian connection from the trail along G.O. Carlson to the Acme shopping center on 30

4

Summary of Input: Property Owner Coordination

Contacted to set up a meeting:

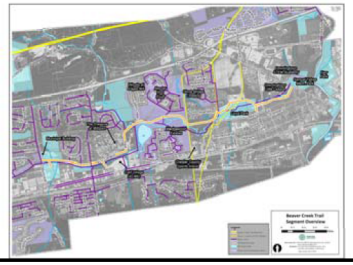
- All Ayerwood Drive residents
- Beaver Run Knoll HOA
- Wedgwood HOA
- Morgan Properties, owner of the Preserve at Milltown apartments
- Jamie DiDomenico, owner of Chester Co. Sports Arena

Met with:

- Jamie DiDomenico

5

Mapping of Utilities in Project Area



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Review and Input of Conceptual Alignment

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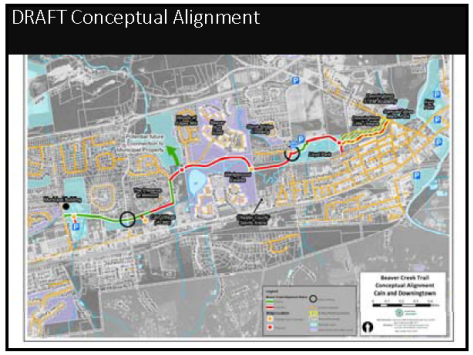
DRAFT Conceptual Alignment

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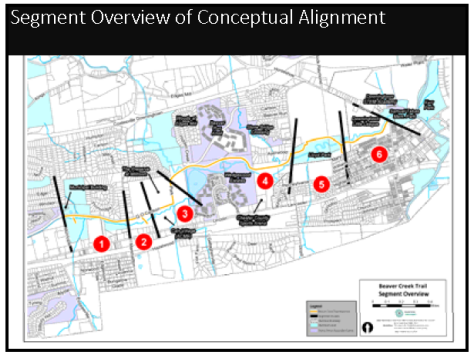
Segment Overview of Conceptual Alignment

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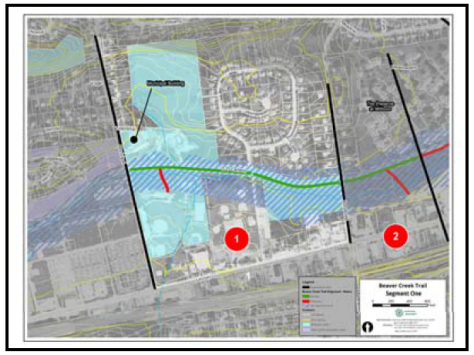

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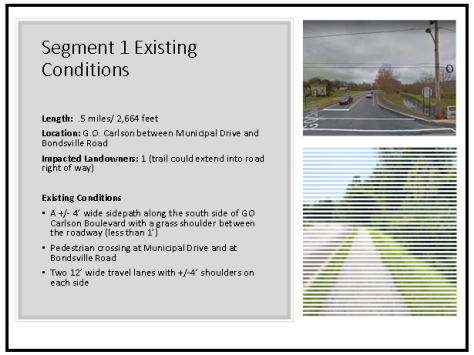
Segment 1 Existing Conditions
Length: .5 miles/ 2,664 feet
Location: G.O. Carlson between Municipal Drive and Bondsville Road
Impacted Landowners: 1 (trail could extend into road right of way)
Existing Conditions
• A +/- 4' wide sidepath along the south side of G.O Carlson Boulevard with a grass shoulder between the roadway (less than 1')
• Pedestrian crossing at Municipal Drive and at Bondsville Road
• Two 12' wide travel lanes with +/-4' shoulders on each side

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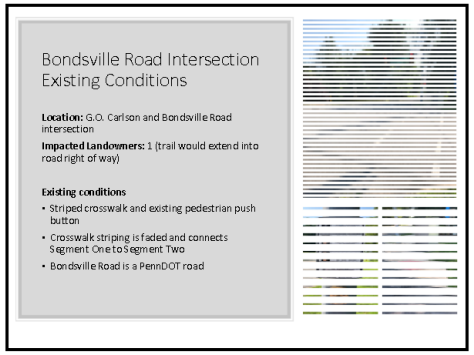
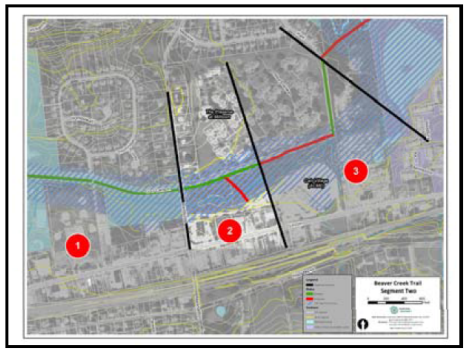

Bondsville Road Intersection Existing Conditions
Location: G.O. Carlson and Bondsville Road intersection
Impacted Landowners: 1 (trail would extend into road right of way)
Existing conditions
• Striped crosswalk and existing pedestrian push button
• Crosswalk striping is faded and connects Segment One to Segment Two
• Bondsville Road is a PennDOT road

12

2



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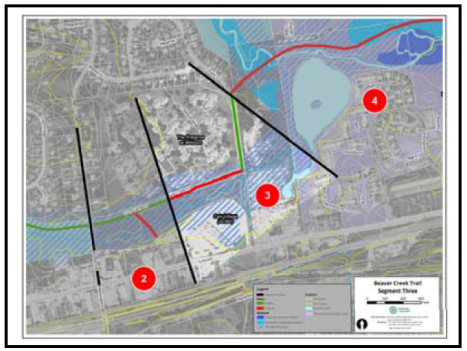

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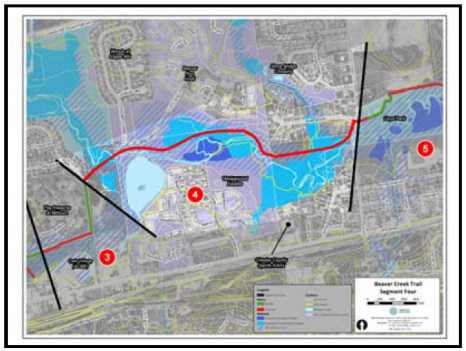

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Segment 2 Existing Conditions

- **Length:** .24 miles/ 1,265 feet
- **Location:** G.O. Carlson between Bondsville Road and Meadowlake Drive
- **Impacted Landowners:** 1 (trail would extend into road right of way or could be share the road)

Existing Conditions

- Concrete sidewalk that extends from the pedestrian crossing at Bondsville Road to the pedestrian crossing at Meadowlake Drive

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Segment 3 Existing Conditions

Length: .33 miles/1,759 feet
Location: GO Carlson at Meadowlake Drive to Park Drive
Impacted Landowners: 2

Existing Conditions

- Roadway and grass shoulder

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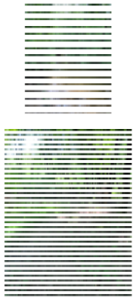
Segment 4 Existing Conditions

- **Length:** .99 miles/ 5,215 feet
- **Location:** Park Drive to Lloyd Avenue along Beaver Creek
- **Impacted Landowners:** 3

Existing Conditions

- Woods, riparian corridor
- Crosswalk at entrance to Lloyd Park
- Some private trails and a wire bridge on the Chester County Sports Arena Property



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Lloyd Avenue Crossing Existing Conditions

Existing Conditions

- Existing crosswalk between sidewalk that extends out of Ayerwood Drive north along Lloyd Avenue and the Lloyd Park entrance on Lloyd Avenue
- Tight corridor with stacking area required for the one lane bridge (Chester County-owned)
- Lloyd Avenue is Township-owned

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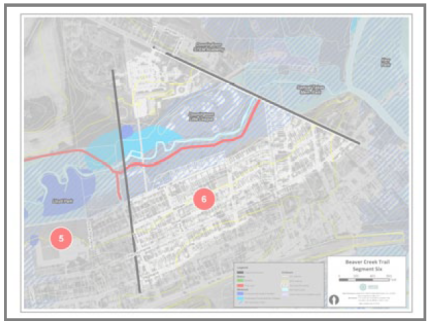
Segment 5 Existing Conditions

- **Length:** .49 miles/ 2,528 feet
- **Location:** Lloyd Park to Driveway to Mary Street
- **Impacted Landowners:** 0 (all on Township-owned property)

Existing Conditions

- Some existing paved pathway in park
- Dog park with a fence between the dog park and the rest of the park
- Woods, riparian corridor
- Existing driveway to Aston and Mary Streets in Downingtown Borough at St. Joseph's Fields that connects to existing sidewalk infrastructure that allows pedestrian and bicycle connectivity to Downingtown recreational offerings

21



22

Segment 6 Existing Conditions

(This is entirely in Downingtown Borough and subject to Downingtown Borough's own feasibility, design, and engineering for how the Borough would like to connect its segment of the Beaver Creek Trail to the existing Struble Trail and future Chester Valley Trail West)

- **Length:** .41 miles/ 2,127 feet
- **Location:** Downingtown Borough
- **Impacted Landowners:** 1

Existing Conditions

- Existing easement held by Downingtown Borough for 100' along either side of Beaver Creek through Downingtown Little League Parcel

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Facility Type and Surface Treatment Review and Input

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On-Road Facility Type Options: Shared Lane

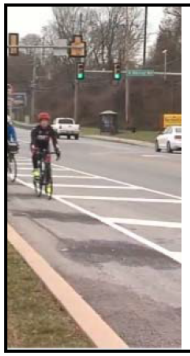
User: Bicycle

What is it?: Travel lanes in a roadway that are shared by vehicles and bicycles. The shared lane can be designated with signage and striping, such as sharrows.

Surface material: Asphalt (roadway)

Width: 13-14'

25



On-Road Facility Type Option: Bike Lane

User: Bicycle

What is it?: Portion of a roadway (at least 5' wide) that is designated for the exclusive use of bicycles with pavement markings and possibly signage.

Surface material: Asphalt (roadway)

Width: 5-6'

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Off-Road Facility Type Option: Path *(Improved Surface)*

User: Pedestrian

What is it?: A pathway that facilitates pedestrian travel between destination points

Surface material: Crushed stone, asphalt

Width: <8'

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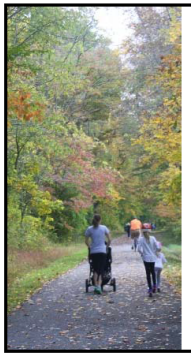

Off-Road Facility Type Option: Multi-Use Trail

User: Multi-use

What is it: A paved pathway at least 8' wide that is intended for use by both bicycles and pedestrians.

Surface material: Crushed stone, asphalt

Width: 10-12', 8' permissible

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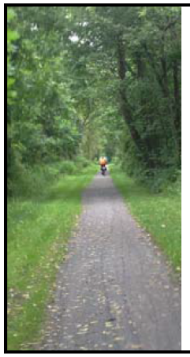

Off-Road Surface Treatment Option: Stone Dust

PROS:
- Good for flat areas out of floodplains
- Soft on joints
- Cheaper initial installation cost

CONS:
- Costs twice as much to maintain than asphalt over time
- Difficult to use in weather conditions, has erosion issues

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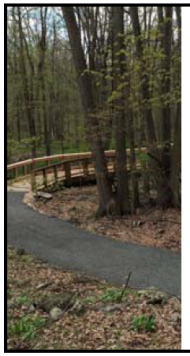

Off-Road Surface Treatment Option: Asphalt

PROS:
- Smooth initial surface (no cracks)
- Slightly cheaper than concrete

CONS:
- Maintenance of cracks
- Must be replaced every 7-15 years
- Requires more excavation for installation

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Off-Road Surface Treatment Option: Boardwalk

PROS:
- Suitable for wetlands and over water

CONS:
- More expensive to install and maintain than asphalt or stone dust
- Can be slippery when wet

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Approximate linear foot (LF) costs

- Asphalt Trail: $185/LF
- Widening asphalt path on GO Carlson to a multiuse standard (includes demolishing existing path and doing a "road diet"): $237/LF
- Stone dust Trail: $165/LF
- Widening asphalt path on GO Carlson to a multiuse standard- stone dust: $217/LF
- Boardwalk: $1,144/LF

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Next Steps

September 10, 2019

Public meeting gives input to finalize alignment, surface type, and facility type

Sept. and Oct. 2019

Draft report completed late September for committee review. Study committee will meet again in October 2019 to give feedback. Draft report on project website in late October 2019 for public review.

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