



Smedley Preserve

Master Plan



New Garden Township, Pennsylvania
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Smedley Preserve Master Plan

Prepared for

New Garden Township

by



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acknowledgements

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wetland

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open space in new garden: something for everyone

New Garden Township recognizes the importance of conserving open space, so residents have beautiful places to walk, run, ride, and connect to nature. The Township knows that conserved land can increase property values, beautify a community, soak up stormwater and reduce flooding, provide habitat and food for native animals, and clean the air we breathe. They know too that in order to protect and even improve water quality, the land must be carefully planted and stewarded.

New Garden's Open Space Review Board has worked to protect the Township's most significant open spaces. Until now, the Township had not preserved any open space north of the bypass. This exciting new addition will provide a more proximal open space for the residents that live further north, including residents from the more urban Kennett Square and Avondale. The Smedley site will contribute nearly four miles of walking trails to the Township trail system. The length of the trails is important to residents. Residents that completed the 2019 Trail Prioritization Plan questionnaire indicated that they would like longer trails that take more than an hour to complete. With four miles of trail configured in connected loops, residents can walk the route and length they wish.

The property is a 105-acre golf course that was established in 1979. This property is surrounded by protected open space to the north and the highway to the South. Two contiguous agricultural easements exist to the west, in the neighboring Township of London Grove. Conservations easements, held by the Brandywine Conservancy, lie further north. The views looking south on Church Road from West Marlborough towards the Smedley Preserve, feature agricultural fields and stone walls. As the Township begins stewarding the site, a rural aesthetic can be enhanced, preserving the community character in this area.

The master plan will provide the outline for restoration, stewardship and public access and enjoyment. After restoration, the water flowing through Evans Brook will be cleaner when it reaches the White Clay Wild and Scenic River. This open space will form a corridor of green space with meadows, forests and a stream for New Garden's residents to enjoy.

what is a master plan?

A master plan is a specific type of plan which typically shows ideas and concepts in general locations. Master plans are the first **graphic** step in designing a site. But the master plan drawing is not the first step in the whole design process. These plans have been informed by a robust process of public dialogue, which includes public meetings, a focus group, key person interviews and site visits with stakeholders. The plans are also based on the consultants' findings after reviewing maps of existing features, township plans and other published documents. Site visits and on the ground investigations have also played a crucial role in shaping the plans. All this research has allowed us to prepare plans which show the big ideas for how the site can be used, developed, conserved and stewarded.

Master plans do not typically include enough detail to guide construction. They set the groundwork for the next steps, further study, a more detailed concept or construction drawings. As an example, a master plan might show a bridge over a stream. But further studies may be required to determine where exactly the bridge should be placed, how long and wide the bridge needs to be, where exactly the footers should be set and how the bridge may affect the stream itself. Then, after so much more study, a detailed design would be prepared. This design would provide the answers to the questions above and include details for how to construct and install the bridge. It may also include a detailed cost estimate.

The example of a bridge on a master plan is particularly relevant, as the Smedley Preserve includes several bridges. But the master plans also include recommendations for landscaping, stewardship, trails,

parking areas, picnic areas and other amenities. All of these will require further study, design or specifications before they can be installed.

Furthermore, a master plan is a guide. While these plans have been thoroughly researched, carefully designed and vetted by the community, the recommendations they contain are not set in stone. New opportunities could arise which lead to even greater possibilities for implementation and stewardship. Or, unfortunately, economic influences, such as scarce grant funding, and labor and material shortages could make some of the

recommendations infeasible. Conditions today, as the plans are developed, may not be the same when the Township is ready to implement the plans.

Finally, as the master plans are guides, they should be vetted further. When the Township does embark on major improvements or expenditures, those projects should be considered in a public setting. The Board of Supervisors, Township Commissions and Committees and the public should continue to work together to implement the master plans as they see fit.



the smedley preserve

The 106-acre property has been home to a golf course since 1979. The master plan seeks to restore the site to a more naturalized condition, featuring meadows, forests and a restored stream. The site is not appropriate for active recreation, as the underlying floodplains and hydric soils are too wet and the slopes are too steep to adequately host playing fields. Soon, the manicured lawns and human made ponds will be removed, replaced with native vegetation, which will provide food and habitat for birds and other animals, while drinking up stormwater and filtering and cleaning runoff that flows over land. The Smedley Preserve will be a beautiful place for residents to walk or run, watch birds, and generally enjoy nature in a calm and peaceful setting.

The site is in the northwestern corner of New Garden Township and borders London Grove Township and West Marlborough Township. Historic aerial photographs show the site in agriculture as early as 1946, with Church and McCue Roads already in existence. McCue Road provides the northern boundary of the site while Church Road splits it into eastern and western pieces. The site was still being used for agriculture when the Chester County Expressway/Route 1/Oxford Bypass was built in the 1960s, significantly altering the sites topography. The bypass provides the site's southern boundary.

public review process

The residents, elected officials and municipal volunteers know their community and the site best, as they live, work and recreate here every day. They know what they and their neighbors need and want in their new public open space. The continued input from the public combined with their review and comments has lead to a better master plan. The plan has benefitted from the following public process:

- **Task Force Meeting, Draft Plan** – In March, 2023, the design team met with a Task Force, made up

primarily of near neighbors. A very rough draft design was shared with them. They provided comments and critique, which informed revisions to the next draft.

- **Key Person Interviews** – Throughout July, 2023, members of the design team conducted key person interviews, collecting pointed input from residents, local subject matter experts and funders. These conversations helped the design team, in consultation with Township staff, to make some decisions about elements to be included and removed from the plan, as well as ensuring that the site would be a strong candidate for grant funding in the future.
- **Public Meeting, Open House** – In July, 2023, the Township held an open house style public meeting and invited the public to attend, review and critique the draft plan.
- **Focus Group/Site Walk** – In September, 2023, the design team, accompanied by Township staff, lead a focus group on a site walk around the entire property. The focus group was comprised of neighbors from the Sherwood Drive and Church Road neighborhood. The focus group brought out a different combination of neighbors than attended the Task Force Meeting, so different voices and perspectives were heard. The site walk allowed the group to provide comments on the entire site, rather than only focusing on the portion adjacent to their neighborhoods. Their comments allowed us to fine tune the draft, adding more landscaping at strategic locations, and to make other minor, but important revisions.
- **Board of Supervisors Meeting** – In March of 2024, the plan will go in front of the Board of Supervisors for adoption, at their regularly scheduled, advertised meeting. The public is encouraged to attend and provide final comments which can be incorporated at implementation or detailed design phases.

existing features & site analysis

eastern & western areas

Church Road divides the Smedley Preserve into eastern and western areas, which are referenced throughout this report. The western side of the preserve borders London Grove Township to the west and West Marlborough Township to the north. The eastern side of the preserve borders West Marlborough to the north.

The **western portion** of the preserve contains the following features:

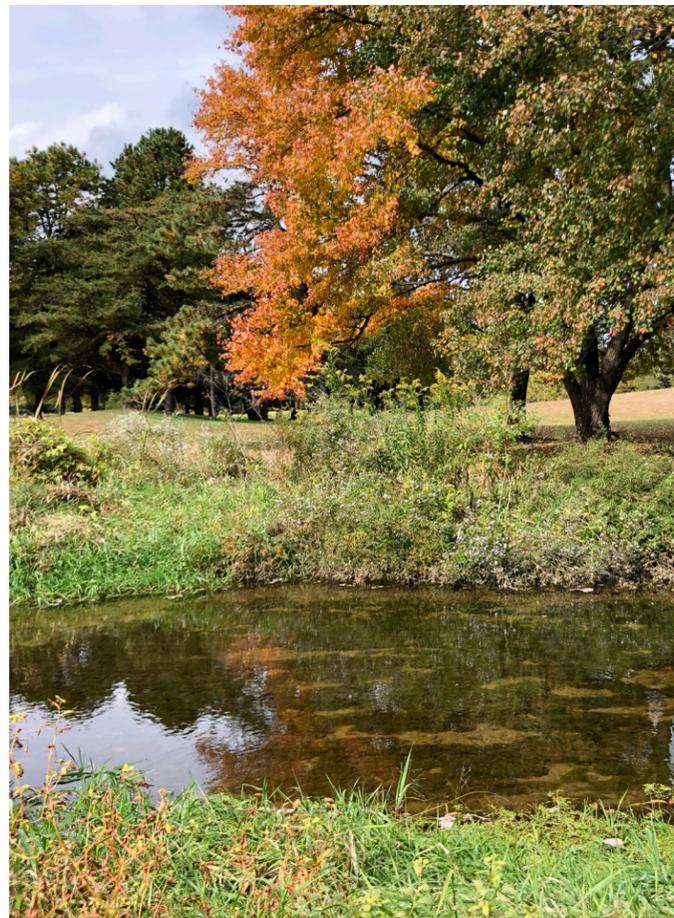
- **The White Clay Creek:** The East Branch flows along the western boundary of the western area.
- **Evans Brook:** This tributary flows across the site, from east to west, until it meets the East Branch White Clay Creek near the preserves westernmost boundary.
- **Earthen Dam:** This small dam slows the flow of Evans Brook, causing it to widen and deepen along much of the boundary shared with the restaurant.
- **Ponds:** A total of six ponds and wetlands exist west of Church Road. Two large permanent ponds appear filled with diverted flow from Evans Brook, near McCue and Church Roads. Three smaller impoundments exist near the stream, closer to the westernmost boundary. These three appear to function more like wetlands, with variable water levels and plant growth. An additional, crescent shaped pond exists on the restaurant property.
- **Township Maintenance Facility & Access Road:** Three large structures front on a central, paved parking and storage area. One building is fully enclosed, resembles a barn, and is served by electricity and running water. The two other structures are lean-tos and have historically housed

materials and equipment. The paved driveway provides access from the intersection of McCue and Church Roads to the maintenance complex.

- **Cart Paths:** The asphalt path system provides access to most of the site and includes approximately 2.3 miles of path, all of which is in fair to poor condition.
- **Six Bridges:** Crossing over Evans Brook, its tributaries and wetlands, these bridges provided access to golfers on foot or in carts, as well as maintenance vehicles. Many are in poor condition and need to be replaced.

The **eastern portion** of the preserve contains the following features

- **Evans Brook:** The tributary's headwaters exist near the large pond and the Route 1 embankment, at the easternmost reach of the preserve. It flows from east to west, where it flows under Church Road, into the western portion of the preserve.
- **Five Ponds:** One large pond at the eastern end of the preserve has a surface area of over two acres and a depth over 15'. The others are much smaller, created simply as golf play hazards. One is impounded by a well crafted stone wall.
- **Cart Paths:** The asphalt path system provides access to most of this side of the site and includes approximately 1.6 miles of path, all of which is in fair to poor condition.
- **Four Bridges:** Crossing over Evans Brook, its tributaries and wetlands, these bridges provided access to golfers on foot or in carts, as well as maintenance vehicles. Many are in poor condition and need to be replaced.



surrounding uses

The **western portion** of the preserve is surrounded by the following uses:

- **Agriculture:** The property directly west of the preserve, sharing most of the western boundary line, is primarily in agriculture. The East Branch White Clay Creek meanders back and forth over this property line. More agriculture exists north of the preserve, across McCue Road.
- **Single Family Homes:** A handful of single-family homes have been carved out of the larger agricultural properties. One borders the property along part of the western boundary line. Others front on the northern side of McCue Road and face the preserve. More exist adjacent to the preserve, as they were subdivided off of the golf course property.
- **The Great House and Farmhouse Complex:** The 13+ acre property carved out of the golf course contains multiple restaurant buildings, a pro shop, and many other outbuildings traditionally used for storage and maintenance. The property is mostly separated from the preserve by Evans Brook.
- **Route One/ Oxford Bypass:** This major highway provides the southern boundary of the property.
- **Church Road:** This locally important, two lane road divides the preserve and is currently connected only by one cart path crossing, near the intersection with McCue Road. The crossing is poorly located and plagued by poor site distance.

The **eastern portion** of the preserve is surrounded by the following uses:

- **Single Family Homes:** The Sherwood Drive neighborhood includes 22 homes, 9 of which have backyards facing the preserve. Another three homes which front on Church Road also face the preserve from their rears.
- **Agriculture:** A 46 acre farm exists to the north, separated from the Preserve by only a thin row of evergreen trees.
- **Bowling Green Brandywine Treatment Center:** This voluntary inpatient facility faces Newark Road and is fenced off from the preserve from its rear and sides. However, residents frequently walk out the front of the facility and enter the preserve along Newark Road.
- **Route One/ Oxford Bypass:** This major highway provides the southern boundary of the property. An exit ramp also connects the bypass to Newark Road across from the Preserve.
- **Church Road:** This locally important, two lane road divides the preserve and is currently connected only by one cart path crossing, near the intersection with McCue Road. The crossing is poorly located and plagued by poor site distance.
- **Newark Road:** This busy two lane road and the bypass off ramp provides a stark boundary to this end of the preserve. The landscape slopes up to the road and is covered with a variety of shade trees, buffering the road slightly. Across the street, an underdeveloped commercial property currently features woodlands along its frontage, providing a thicker backdrop to views in the preserve.

existing access

Golfers traditionally entered the course from McCue Road, through the complex of buildings including the restaurants, pro shop and club house. They would park in the lot near the buildings, check in at the club house and depart via golf cart to make their way through the course. However, the buildings and parking lot have been included in a new lot, subdivided from the preserve and now under separate ownership. The township does not have rights to that point of access.

Another driveway into the preserve connects to Church Road and leads to the maintenance building complex. However, the driveway entrance is close to the intersection of McCue and Church Roads, too dangerous to be made into a main access.

white clay creek and evans brook

Loch Nairn, as its name suggests, is a wet site...or at least it should be. With two major streams flowing through the property, it should be covered with their associated floodplains and wetlands. However, the construction of the golf course and the Route 1 Bypass have altered the nature of the site. Water flows down from the edge of the property along the bypass and eventually makes its way into one of the two streams. But the floodplains and wetlands have been removed. The streams have been realigned and put in new channels to meet the needs of the course. The natural features which typically help control flooding no longer exist. The trees which keep the water cool and solidify the banks have largely been removed.

Like most golf courses, Loch Nairn was covered with non-native turf grass, mowed short, which provides no environmental benefit, and is harmful to water quality. As stormwater flows across the grass, it picks up sediment bonded to any chemicals, such as fertilizers, herbicides and pesticides, and washes them into the streams. With no trees or thick vegetation to slow and filter the water, the pollutants and sediment find their way into the stream flow. Additionally, none of

the water is encouraged to infiltrate into the ground, leaving the streams too full and likely to erode their banks and flood over them.

PNDI

The Pennsylvania Natural Diversity Inventory (PNDI) environmental review for the Smedley Preserve did not note any endangered species or species of special concern in the area. However, the U.S. Fish and Wildlife Service recommended the following conservation measures to conserve wetlands.

- In order to conserve wetland-dependent species of concern, protect wetlands along with their surface and groundwater recharge areas. In order to maintain or improve wetland water quality, conserve at least a 300-foot wide upland buffer around each wetland, as well as a 50-100 foot wide buffer on each side of waterways (perennial and intermittent rivers, streams, creeks, and tributaries).
- When adequately vegetated, this upland buffer will act to filter pollutants (e.g., sediment, fertilizers, pesticides, road salt, oil), and stabilize streambanks (preventing or minimizing erosion).
- Avoid any construction, earth disturbance, and chemical application (e.g., fertilizer, pesticide) in the wetland and upland buffer.

views

As a former golf course, the Preserve features many long, internal views, which follow the former fairways, areas that would have been kept in mowed turf grass. These views are nice and lend some organization to the site, but none are spectacular. As they were designed with golf play in mind, none features any kind of designed visual terminus or point of interest – only the former greens, at times with some planted buffers behind them.

Views into and out of the site are mostly screened or at

ponds

Pennsylvania's geology and hydrology does not support ponds naturally. Like all ponds in the area, those at Loch Nairn have been made by humans. Water is diverted into each pond, either through a piped system or directly from a nearby stream. Each pond also has some form of overflow control, either by way of a drain pipe or spillway. As the ponds themselves do not occur naturally, there is no natural way to maintain them. Man-made ponds require aerators or other devices to keep water moving, so it doesn't become stagnant and covered with algae. Where trees or shrubs can't shade the ponds, the water gets warmer. If it flows back into the nearby streams, this higher temperature can damage the cooler stream water. Further, water chemistry presents a challenge, as again there is no natural way to keep the water clean, especially on a golf course, where the ponds are also filled with sediment, nutrients and chemicals.

existing vegetation

The trees and shrubs at Loch Nairn are typical of most golf courses, as they are placed to affect or guide play, separate holes and limit views in and out of the course. The vegetation was not provided to create habitat, filter stormwater or provide other ecological benefits. Some of the trees are beautiful and placed well as focal points. But many are in decline and some are standing dead. Where the dead and declining trees are close to paths or other features, they could be hazardous to visitors and should be addressed. The species mix is also uninspiring, ranging from non-native and invasive, to native but basic or overused. White pines dominate the site, as they are a logical choice for a golf course, as they grow fast, provide screening year round and require little maintenance. However, they provide little benefit to wildlife, and many are in decline.

least buffered. In order to minimize distractions to golfers, the edges of the site were planted to hide passing cars or activity at the neighboring homes. The existing plantings provide a nice sense of volume and enclosure, making the spaces feel more comfortable. The screening is also transparent enough to allow for some visibility into the site from the surrounding streets and yards, allowing neighbors, township staff or passing police to keep an eye on the site.

cart paths & bridges

A little over four miles of cart path wind their way through the site, varying in width and condition. Most of the paths are between four to five feet wide, with some wider sections for turns and passing. The paths are designed for and primarily used by carts, so they are littered with pot holes and have worn down to gravel in many places. It does not appear that they have been maintained for quite some time. The paths are currently "adequate" for pedestrian use, but barely. They will need to be completely repaved in the near future.

The path system was designed to take golfers throughout the course, providing access to all eighteen holes. However, as the course becomes a nature preserve, less access is necessary. The existing cart path system is too extensive and intrusive for the preserve. Removal of some paths would decrease impervious surfaces and reconnect micro-habitats.

The site is wet with multiple streams and a system of manmade ponds and both created and natural wetlands. Many bridges have been installed to carry the golf carts and maintenance vehicles across these wet areas. The ten bridges are in varying states of repair. Its unclear whether it is safe to continue using them. Removal of some bridges would reduce long term maintenance costs and benefit stream flow and water quality. The proposed path system would result in four bridges being retained, but they should be assessed to determine whether they are still safe for pedestrian and/or vehicular use.

master plan

Local golfers loved playing the Loch Nairn course, and other neighbors enjoyed eating and drinking at the Farm House and attending events at the Great House. As the site transforms from a golf course to a nature preserve, even more residents and neighbors will be able to enjoy the property. The master plan will transform Loch Nairn golf course into a nature preserve. The mowed grass fairways and moss greens will be replaced with native meadows and forests. The streams will be restored, allowed to escape the channelization maintained over the decades. The paths will be upgraded, welcoming visitors to walk, run, walk their dogs and enjoy nature. The newly transformed site will attract the golfers and neighbors who've always enjoyed the property, as well as those who never had a reason to visit.

access & parking

Traditionally, golfers would arrive at the course, park near the restaurants and club house, hop into a golf cart and ride into the course. With the subdivision of the buildings, the preserve needs a new main entrance. A few locations were considered, but abandoned, including an entrance from Newark Road with parking south of Bowling Green; a new driveway from Church Road with parking on the east side near the northern boundary, and a driveway off of McCue Road on the far western end of the preserve. All of these locations were abandoned due to concerns regarding neighbors privacy, other conflicts with neighboring uses, damage to environmental features, site distance for driveways and other concerns.

A new tree-lined entrance driveway and parking lot are proposed with access from Church Road across from Sherwood Drive. This location is ideal, as it has good site distance and aligns well with the existing Sherwood Drive (from an engineering design perspective). The location is central to the entirety of the site. It connects to the existing maintenance complex without bringing the public all the way there.

The plan also shows a proposed parking lot containing 20 spaces, proposed within an open area, elongated like a fairway. Should the Township determine (immediately or in the future) that more parking is needed, it could easily be expanded farther down the open area. A gate is proposed to guide visitors into the parking area, rather than towards the maintenance complex. The parking area should also include connections to the proposed trail system. Gathering or resting areas, like benches, picnic tables or pergolas should also be installed here, so visitors have a nice place to wait for friends once they get out of their cars. A kiosk with maps and other information should also be installed here.

Pedestrian access is also proposed at the end of Sherwood Drive and from McCue Road at the far western end of the site. The western entrance should be simple, including only a trail and simple signage. This entrance would allow people walking on McCue Road to enter the preserve.

The entrance proposed at the end of Sherwood Drive requires more detailed design and study. This entrance is intended to serve the residents of this neighborhood, not to attract other visitors to park on Sherwood Drive. The end of the cul-de-sac is sloped and will require some grading before a trail can be installed. Fencing and signage may also be necessary to ensure that other Township residents don't park in the cul-de-sac and walk through private property. This area requires further, more detailed design, but its essential to provide pedestrian access to the Sherwood Drive neighbors whose properties do not front on the preserve.

temporary parking

While it may take some time to design, fund and install the proposed main parking lot off of Church Road, visitors will still need a place to park to enter the preserve. The Township has identified the right of way off of McCue Road, at the far western end of the site as an adequate location for temporary parking. The right-of-way was established as part of the six lot subdivision recorded in 1986. However, three of the lots remained as part of the golf course, two were sold and developed,

and one remains in the Smedley family's ownership. Therefore, the proposed cul-de-sac was never built. Only a driveway serving the two existing homes was installed within the right-of-way.

This leaves the remaining right-of-way and three other lots as ample space for temporary parking. The temporary parking lot would not require major improvements, aside from removal of a few small trees and potentially spreading some stone. Visitors would drive up the existing driveway, then pull off to the right hand side to park. They can then walk into the preserve and easily access a nearby cart path.

trail system

The existing cart path which served the golf course provides some framework for a new trail system. Many of the existing paths can be retained, as they provide access to much of the site while still leaving the fairways undisturbed, allowing them to be converted to meadows and forests. Some sections of cart path are redundant when put in the context of a nature preserve. Paths that follow parallel fairways can be consolidated into fewer paths. Others, which were necessary for golf, are no longer needed, as the areas they served become buffers, meadows or forests. For instance, the area closest to Route 1 is one of the least desirable places to visit and will be transformed to forest, to buffer the highway. Its no longer necessary to provide cart path access there.

The proposed path system will provide visitors with many options for their route. The eastern side of the preserve, which is smaller and more compact, offers only one loop with a spur towards Newark Road. However, the western portion of the trail system is laid out in a series of connected loops. This layout allows visitors to experience different routes each visit and to vary the length of their journey.

The existing cart paths, with some modifications, provide a sensible layout. However, the existing crossing of Church Road near McCue is problematic. The existing site distance is not ideal. Cars and trucks travel

too fast along Church Road. The location is too close to the intersection. These factors combined lead to the necessity of redesigning the road crossing to make it safer. McMahon, a Bowman Company, is the Township's appointed traffic engineer. They have provided a cursory review and conceptual design that proposes widening the road, removing some visual obstacles, providing safer pedestrian zones and moving the trail crossing slightly. Additional detailed study and design may be necessary, but it appears that with improvements, the trail crossing can be made safer.

existing ponds

The ponds which exist across the site provide some visual interest and habitat for fish, ducks, frogs, turtles and geese. However, the ponds are human made and do more damage than good in terms of water quality and habitat. The plan recommends removal of all of the ponds, for the following reasons:

- **Restoration** – As previously noted, the ponds are not natural features. They were created to improve play on the golf course. Deep water ponds may provide some habitat for fish, birds and amphibians, but their removal, coupled with restoration of natural wetlands and floodplains, provide much greater benefit to more species of native animals.
- **Maintenance** – In order to keep ponds free of algae and oxygenated enough to support fish, they need almost constant motion and chemical testing. Aerators, which require electricity and maintenance are typically installed to keep the water moving. Without them, ponds frequently get covered in algae, which is unsightly and can often smell bad. Fish tend to die off without enough oxygen, again resulting in unsightly and smelly conditions. In many cases, the ongoing maintenance is not worth the time, effort and cost.

- **Prohibited Uses** – Neighbors have reported that people have already begun fishing in the large pond at the eastern end of the site. The large pond will continue to attract anglers, many of whom will be tempted to park at the end of Sherwood Drive. Fishing is not an ideal use at a nature preserve, as anglers sometimes leave trash and remnant fishing line. Lines get stuck in trees and vegetation. Other animals, such as birds and turtles can be injured or killed.
- **Safety** – Ponds often become attractive nuisances. People are drawn to water. They want to see fish, turtles and frogs. They want to see their reflections. They like to just watch and listen to waves and splashes. However, the draw to the ponds can result in people in the ponds, purposely or accidentally. The potential for someone to get hurt, or worse, due to the ponds is not a necessary risk.

While the ponds do provide some visual scenery and habitat, they don't fit into the overall concept of the preserve, nor into the township's future plans. Therefore, all of the ponds should be drained and restored to more naturalized conditions. They should be filled or regraded and planted in meadow or forest, according to the graphic plans. In some cases, they may remain wet. Over time, they will likely revert to a more naturalized state, either drying out or remaining wet depending on their location, underlying soil and proximity to the streams.

Additionally, more detailed study may be necessary to determine how the ponds are filled, whether they are connected and how best to drain them. Its possible that draining one pond will affect the others. It is critical to determine how the ponds are connected, as one pond remains on the restaurant parcel, which his no longer part of the preserve. If this pond is inadvertently drained, it could cause issues with the current owner.

stream restoration

Over 50 years ago, Evans Brook was moved, channelized and altered to make way for the golf course. Construction

of Route 1 changed its hydrology, as massive regrading changed the flow of water over the land. The highway now contributes stormwater to the watershed as well, potentially carrying oil, gas and other automotive fluids, in addition to sediment and salt. The golf course has kept the stream under its control, trapped in straight channels, dammed and impounded and rerouted into ponds and water hazards.

The Township is now working with a firm to redesign the stream, with the goal of allowing the stream to restore itself to its natural patterns and conditions. The detailed design is underway, so the exact plan is not yet known. However, the master plan shows the expected limits of disturbance as a red hatch. The plan proposes improvements outside of these limits. The restoration work will include final grading and plantings within the work corridor.

The stream restoration will only moderately affect the master plan. Most of the trails and other proposed improvements are outside of the work area. Many of the bridges within the work area are proposed to be removed permanently. The restoration work will result in draining many of the ponds, also recommended in the plan. However, the actual restoration work will affect use of the preserve, as heavy equipment will and earthmoving may make it unsafe to visit parts or all of the preserve while restoration is underway.

conceptual planting plan

The master plan shows proposed landscaping at a conceptual level, using bubbles and hatches to indicate plant communities or planting areas. Master plans do not typically provide detailed planting plans with species or exact quantities. Detailed landscape plans should accompany further design of parking areas, pond removals and other improvements. However, the sections below provide samples of species and implementation methods which should guide creation of landscape plans, or allow the Township to skip formal landscape plans in some cases.

meadows

The plan transforms the site from a golf course into a nature preserve. However, the nature preserve can still maintain some shadows of its former life. By transforming some fairways to meadows, the form of the golf course can be maintained. For returning golfers, the place will look different, but parts of it will still feel familiar. Mowed turf grass grown into meadows will keep the open feeling, while improving habitat, stormwater management and soil health.

The site conditions vary, as some areas are much wetter than others. Therefore, multiple seed mixes are necessary to encourage proper establishment. Meadow areas are labeled on the graphic plan with the following corresponding item numbers:

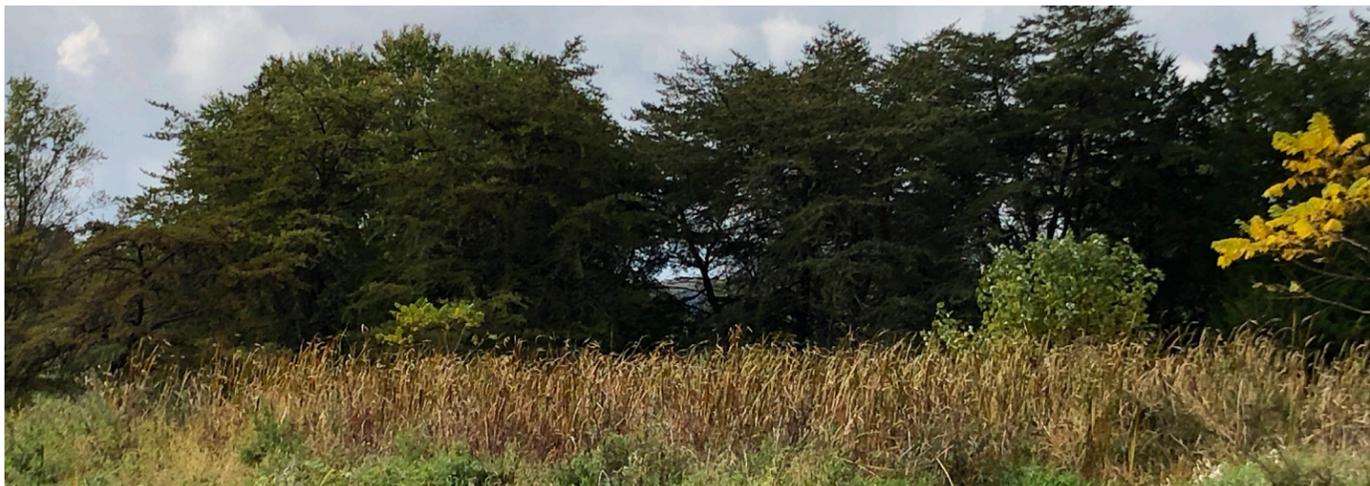
- **ERNMX-273: PA Coastal Plain Riparian Mix** – This mix is appropriate for the wettest areas, near streams, floodplains or wetlands. This mix, formulated for wet soils and prolonged moisture, is very diverse, with no single species comprising more than 15% of the mix. Its made up of grasses as well as flowering plants, such as milkweed, ironweed, asters and goldenrod.
- **ERNMX-153 : Showy Northeast Native Wildflower & Grass Mix** – This mix should be used in areas that may be wet at times but dry at others. It is currently

proposed in the eastern end of the site. This showy mix uses little bluestem as a filler, complemented by a wide variety of native wildflowers, which will provide a pop of color in the summer into the fall.

- **ERNMX 270-1: PA Coastal Plain Province UPL Meadow Mix** – This mix contains approximately 60% little bluestem, a native grass growing to approximately 4' in height. Wild rye, comprising 20%, helps to fill out the meadow. The last 20% contains a mixture of wildflowers, which will add diversity and color to the meadow. This mix is appropriate for the driest parts of the site, mainly around the proposed parking area.

Once the meadows are established and the residents and visitors get used to their growth and maintenance patterns, they should come to accept and even love them. However, meadow sites are typically ugly and a bit messy in their first few years as the plants are still getting established. The township should consider signs or other messaging to explain the process, to inform people that the meadows are being stewarded, but that they are a work in progress.

Typically, meadows require far less mowing than turf grass lawns. Once the mixes are specified and installed, the Township should follow any specific instructions provided by the seed manufacturer. The new meadows will likely require two mowings in the first year or two, followed only by a spring mowing in subsequent years.



riparian buffers & reforestation

Tree planting is a major component to restoring the golf course to a more natural condition. Some of the fairways, especially those closest to streams, are proposed to be reforested. A mix of reforestation and meadow plantings will provide a more diverse variety of plant species and communities, making the site more beneficial to a wider variety of animals. It will also provide a variety of scenery, sun and shade and character to improve the visitors' experience.

Where trees are planted near streams, we call these new plantings riparian buffers. "Riparian" means related to or situated on the banks of a river. In this case, "buffer" means protection. The trees planted as a riparian buffer help to protect the streams. The roots hold soil together and drink up stormwater before it can flow into the streams. The trees also clean the water that they don't drink. Their roots, trunks and suckers act as obstacles to flowing water, which is then filtered by taller grasses or the trees themselves. As the water slows down, it also drops out sediment and pollutants, and is encouraged to infiltrate into the ground. Infiltration is important, as water then recharges the aquifer below, rather than overwhelming and flooding the streams.

Where reforestation or riparian buffer trees are proposed, it would be most economical to plant small (4-6' ht) restoration grade trees. They should be protected with tree tubes at least 6' in height, so deer can't destroy the saplings. The tubes should be topped with mesh to discourage bees and wasps from nesting in the tubes. Each tube should also be supported with a stake, to help keep the trees upright if deer or other animals rub the tubes. The trees should be spaced at least 10' on center, but potentially slightly more or less depending on the width of the mower to be used to mow between them.

The trees in tubes need to be maintained regularly for approximately 3-5 years. Once the trees reach approximately 10' in height, or outgrow the widths of the tubes, the tubes can be removed. Before then, the township must mow between the rows of tubes on a

regular basis to discourage mice, voles and other small mammals from nesting and chewing on the roots. Voles frequently damage or kill young trees. Mowing can be alternated by direction every few weeks, leaving tall grass in one direction to help reduce erosion, manage stormwater and provide some habitat.

hazard trees

With so many trees already growing on the course as it reaches 50 years old, its not surprising that some are dying. Where dead trees exist in the middle of an existing or proposed forest or meadow, they do not necessarily need to be removed or even addressed. They can be allowed to drop where they stand, with the dead wood acting as habitat and eventually rotting and replenishing the soil.

However, where dead or dying trees are near a path, parking lot, or other gathering area, they are considered hazard trees and should be addressed. Even these trees may not need to be completely removed- only the hazard needs to be eliminated. For instance, if a 50' wide tree is dying and the farthest reaches of its branches hang over a parking lot, the branches constitute a hazard. The branches should be removed, but a portion of the trunk may be able to be left as habitat. Every hazard tree is different and requires a different solution.

The Township should inspect trees close to paths, parking, buildings, and other places people use on a regular basis. A certified arborist or similar professional should conduct a formal inspection every three years. A professional may identify long term issues (such as emerald ash borer) before they become an emergency, allowing the Township to plan for remediation. The Township staff should also walk the site and look for potential hazards after major storm events.

landscaping

Landscape restoration will depend primarily on meadow installation and reforestation, both of which are planned on a large scale without details showing individual plants. However, some areas of the preserve would benefit from detailed design, to create beautiful and welcoming entrances, to screen out some neighboring uses and to help the preserve fit in the surrounding community.

- **Driveways & Entrances** – The proposed driveway should be landscaped with shade trees to create a welcoming entrance sequence. Traditionally used native species, like oaks and elms, should be used. As they grow, they will shade the driveway and evoke a traditional farmstead entry driveway. Trees and shrubs should also be planted at other entrances and places where trails intersect. These areas need to be dressed up with landscaping to be welcoming. Also, people frequently stop at trail intersections. Its nice to have some shade and beauty in these locations.

screening & softening buffers

Views in and out of the preserve need to be well thought out to create a sense of enclosure and a comfortable space within the preserve, while still allowing visibility for security and safety. Every boundary is different and should be approached differently. The plan recommends the following buffers, in addition to reforestation and meadows:

- **Agriculture** – On the eastern side of the site, a large farm exists north of the preserve. Residents of Sherwood Drive report that the fields get dusty in dry seasons and the dust blows through the preserve and into their neighborhood. The existing row of white pines along the boundary provides some intermittent buffering, with many gaps and some trees in decline. A mix of more evergreens and lower growing flowering trees would provide more buffering from the dust, while better defining

the edge of the preserve. A variety of species would also provide more color, texture and interest.

- **Bowling Green Brandywine Treatment Center** – This neighboring use is already surrounded by a fence, but neighbors have reported that the fence by itself is insufficient to buffer the treatment site. Residents of the treatment center sometimes hang out near the fence, making preserve users wary. Additionally, the chain link fence and the rear of the treatment center do not blend well with the proposed character of the preserve. The western and southern boundaries should be buffered heavily with thick shrub and tree plantings to discourage residents from hanging out near the fence or climbing it. The buffer should also be designed to hide the treatment center as much as possible.
- **Sherwood Drive & Church Road Backyards** – The areas adjacent to these backyards is primarily planned to be planted in meadows and off limits to the public. An existing carpath which follows the boundary will remain open for maintenance vehicles only. However, fencing these property lines will help define the boundary and help to avoid issues for both the Township and the neighbors. A fence should eliminate any accidental trespassing by visitors. It should also ensure that neighbors don't encroach on the preserve.

amenities

The master plan doesn't show exact locations of amenities, as additional design and study may be necessary before placing them. But like any park or nature preserve, the site will need benches and signage. Picnic tables, arbors, trellises, and other seating areas or structures may also be appropriate.

- **Signs** – The preserve will need a unified signage system, preferably matching signage at other Township parks and open spaces, but at least consistent throughout this site. Site identification and information signs should welcome visitors at all entrances. The main entrance drive should feature a large, well crafted sign stating the name of the preserve, making it obvious that this is the main entrance and parking area. A kiosk or other informational sign should be placed near the parking lot along a main trail. The kiosk should be readable from the trail, but should be slightly away from the parking lot, so visitors reading the information aren't standing where cars may be trying to park. A kiosk could be coupled with a small shelter or other structure to signify it as a place for people to gather before they head into the preserve.

Similarly, temporary signage should be installed at the temporary parking area. The same information should be posted. Knowing that the entrance will only exist temporarily, the signs should be constructed and installed in a manner that is less costly and can be easily removed. For instance, a kiosk may be installed using compacted stone footers, rather than concrete. Signage and information sheets may be laminated printouts, rather than permanent, plastic signs.

As the site contains over 100 acres and four miles of trails, wayfinding signage will be important to guide visitors to the important features on site. The site and trail system are large enough that visitors may get turned around or temporarily lost, but its not so big that anyone would be in danger. Therefore,

wayfinding signs can be kept to a minimum, placed at intersections and trailheads. They may be limited to simple directions, like "This Way to Church Road Parking."

- **Benches** – There is no commonly accepted standard for approximate distance between benches, but a quarter mile walk is commonly used to consider a location walkable. So the master plan recommends benches be placed roughly every quarter mile to allow visitors to sit and rest. However, greater consideration should be given to character of the location, rather than strictly placing benches by distance. Benches should take advantage of beautiful views, like long views along a fairway, or points of interest, such as wetlands or a significant tree. Benches also should be grouped, so more than two people can sit and interact with each other. Where multiple benches are placed together, they should be placed across from each other, or angled towards each other, so people on different benches can face and talk to each other comfortably.

potential future uses

The preserve's primary function and goal should be to restore the golf course to nature and give residents a place to walk and enjoy nature. However, as the site contains over 100 acres, most of which have been disturbed, it does offer flexibility to incorporate other uses. The master plan has not explored the following options beyond conversations with the Township, but they could be considered for future implementation.

- **Community/Allotment Gardens** – Residents who wish to garden, but don't have proper space, may benefit from renting a plot in a community garden. However, these types of gardens do come with design challenges. They require sunshine and water. They also typically need mulch and soil delivery, so they need to be close to a driveway. Community gardens are also fairly unattractive for much of the year, so adjacent neighbors may not want them in view. The garden beds are typically barren from fall



through the early spring, or even worse, left with standing dead plants. These dead plants also end up in brush or compost piles, which contribute to the messy aesthetic. These are real challenges, but they can be addressed through good design and proper location.

Should a community garden be established at the preserve, it should be located close to the existing maintenance center compound. The maintenance center has water and electricity. It is also far enough from the road to hide the garden and it won't impact existing residents' views. A portion of the maintenance area could be designated for garden member use, to store tools and materials. The garden will also gain some security by being located close to the Township's center of activity at the preserve.

- **Parks & Volunteer Headquarters** – The existing maintenance center provides the Township

with a place to store vehicles, materials, tools and equipment. It also provides a place for the Township to have a presence at the preserve. While employees won't be stationed there all the time, the maintenance area provides a center for Township activity. For now, just having these buildings and access to water and electricity is enough.

However, in the future, the Township could plan to do more with the space. While it should still function as storage and maintenance, the enclosed building could be revamped to act as a headquarters for parks and recreation. It could be renovated to include offices, meeting rooms and gathering spaces, lockers, bathrooms and more. The building could host meetings, informational sessions, conferences and other educational programs. It could be a warm place for volunteers to meet up on project days. It can provide a permanent township presence at the preserve.

implementation - phasing

The master plan provides guidance for transforming the site from a golf course into a nature preserve. The site is no longer used for golf, but its not quite a nature preserve or park yet either. However, this in-between phase hasn't stopped residents from visiting. Neighbors are walking in where they can (which is ok). Some are parking on the road sides or at the restaurant (which is not ok). The Township can't implement the entire master plan at once, as its likely cost prohibitive and there are more interim steps to take. But a simple phasing plan can help provide safer access soon while lessening the chances of conflicts and illicit uses. The plan (and other steps outside the plan) can be implemented in the following phases:

Phase 1: Immediate Access

- Hazard tree assessment and removal/pruning per assessment.
- Permit neighbors to walk into the preserve and use the existing cart paths.
- Install temporary parking with signage.
- Conduct additional studies, such as traffic engineering, pond hydrology, Sherwood Drive trail design, detailed landscape design, etc.
- Conduct assessment of bridges to remain.
- Continue seasonal mowing, allowing fairways to grow into meadows.

Phase 2: Stream Restoration

- Work with the consultant to determine the schedule and how much of the preserve will need to be closed at a time.
- Limit access to safe areas.

Phase 3: Pond Remediation

- Remove large pond.
- Regrade to naturalized condition.
- Plant proposed meadows in the easternmost area.
- Drain shallow walled pond.
- Install wetland planting species.

Phase 4: Permanent Access

- Install permanent entrance driveway.
- Install permanent parking area.
- Install heavy duty gate.
- Install identification and welcome signage.
- Install recommended improvements at Church Road Crossing.
- Grade and seed proposed lawn adjacent to parking.
- Remove temporary parking.
- Remove unnecessary cartpaths
- Repave cartpaths to remain and install new paths.
- Replace bridges as necessary.

Phase 5: Buffer Landscaping

- A. Install screening and security buffer around Bowling Green Brandywine Treatment Center
- B. Install mixed buffer along northern boundary of eastern site.

Phase 6: Restoration Landscaping

- A. Eastern Side
 - 1. Install restoration grade trees – can be performed by volunteers, staff or contractors (or combination)
 - 2. Install fencing along boundaries w/ Sherwood backyards.
 - 3. Install meadows.
- B. Western Side
 - 1. Install riparian buffers at westernmost boundary.
 - 2. Install riparian buffers along Evans Brook.
 - 3. Install reforestation trees throughout the remaining landscape.
 - 4. Install meadows surrounding entrance and at McCue Road frontage at western end.

Phase 7: Finish Details

- A. Install Benches.
- B. Install wayfinding signage.
- C. Install any remaining buildings, covers, or structures.
- D. Final seeding/stabilization/cleanup



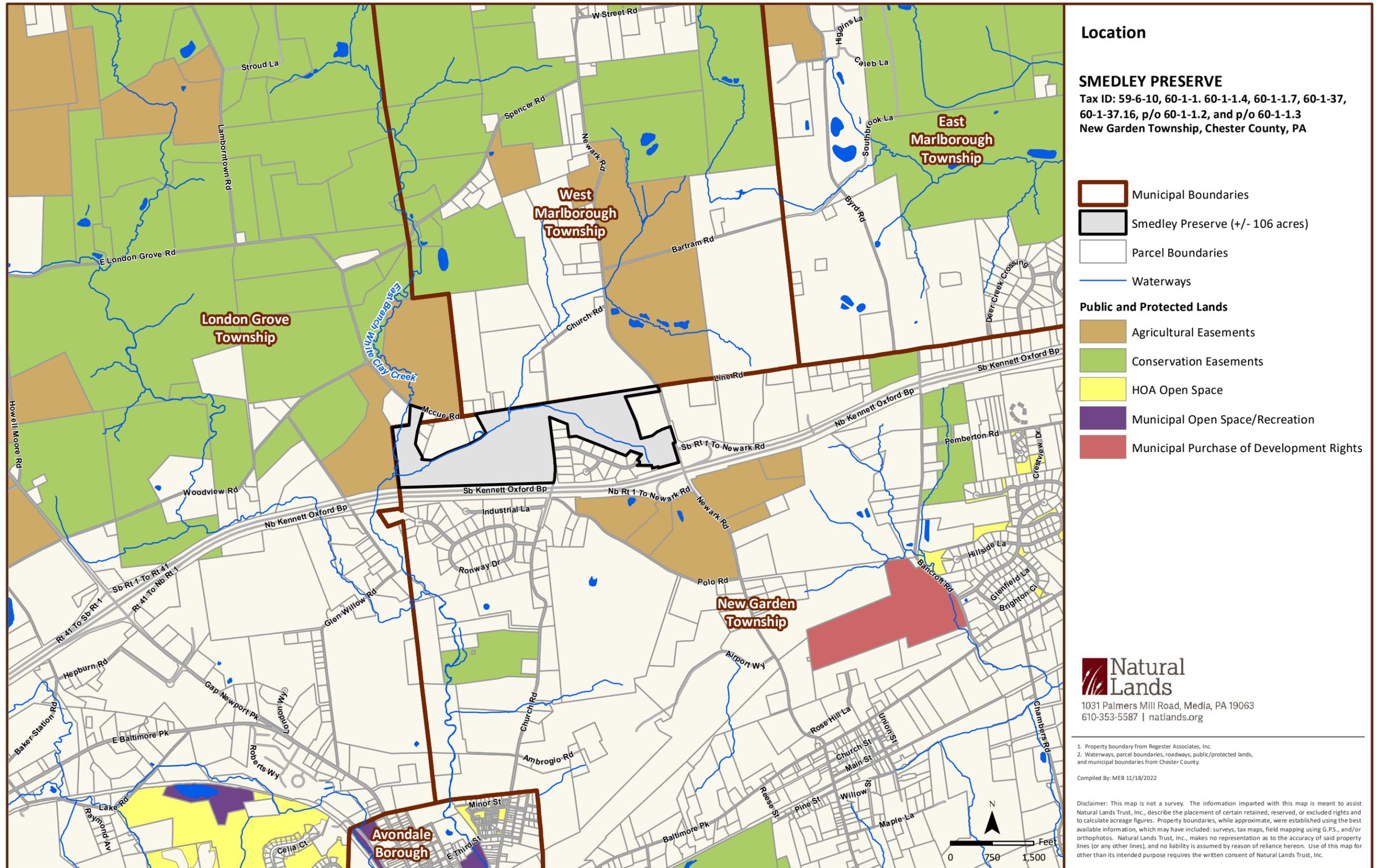
The transformation of the Loch Nairn Golf Course into a nature preserve will begin to restore the site to its natural condition. Long before it was a golf course, the site was farmed, stripped of any trees, eroding the streams, polluting the water with sediment, and likely worse. As the reclamation proceeds, residents will begin to get a glimpse of what most of New Garden Township may have looked like hundreds of year ago-forested stream valleys amongst Chester County’s rolling hills.

The form of the golf course, the fairways, some cart paths, maybe wetlands where there were once water

hazards, will still be recognizable for some time. Golfers may return to walk the site and enjoy memories from the course. Maybe they’ll still eat or drink at the restaurant next door. They should have some new companions though, as reforestation and restoration should bring back meadow birds and forest creatures.

The site will be more welcome to the birds, mammals and amphibians, as well as to people. Once fully open, the preserve will welcome members of the public to come visit, walk the paths and enjoy nature. The new nature preserve will continue Loch Nairn’s legacy of outdoor recreation, welcoming everyone.







Historical Aerial (1946)

SMEDLEY PRESERVE

Tax ID: 59-6-10, 60-1-1, 60-1-1.4, 60-1-1.7, 60-1-37, 60-1-37.16, p/o 60-1-1.2, and p/o 60-1-1.3
New Garden Township, Chester County, PA

 Smedley Preserve (+/- 106 acres)

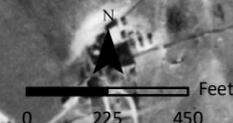


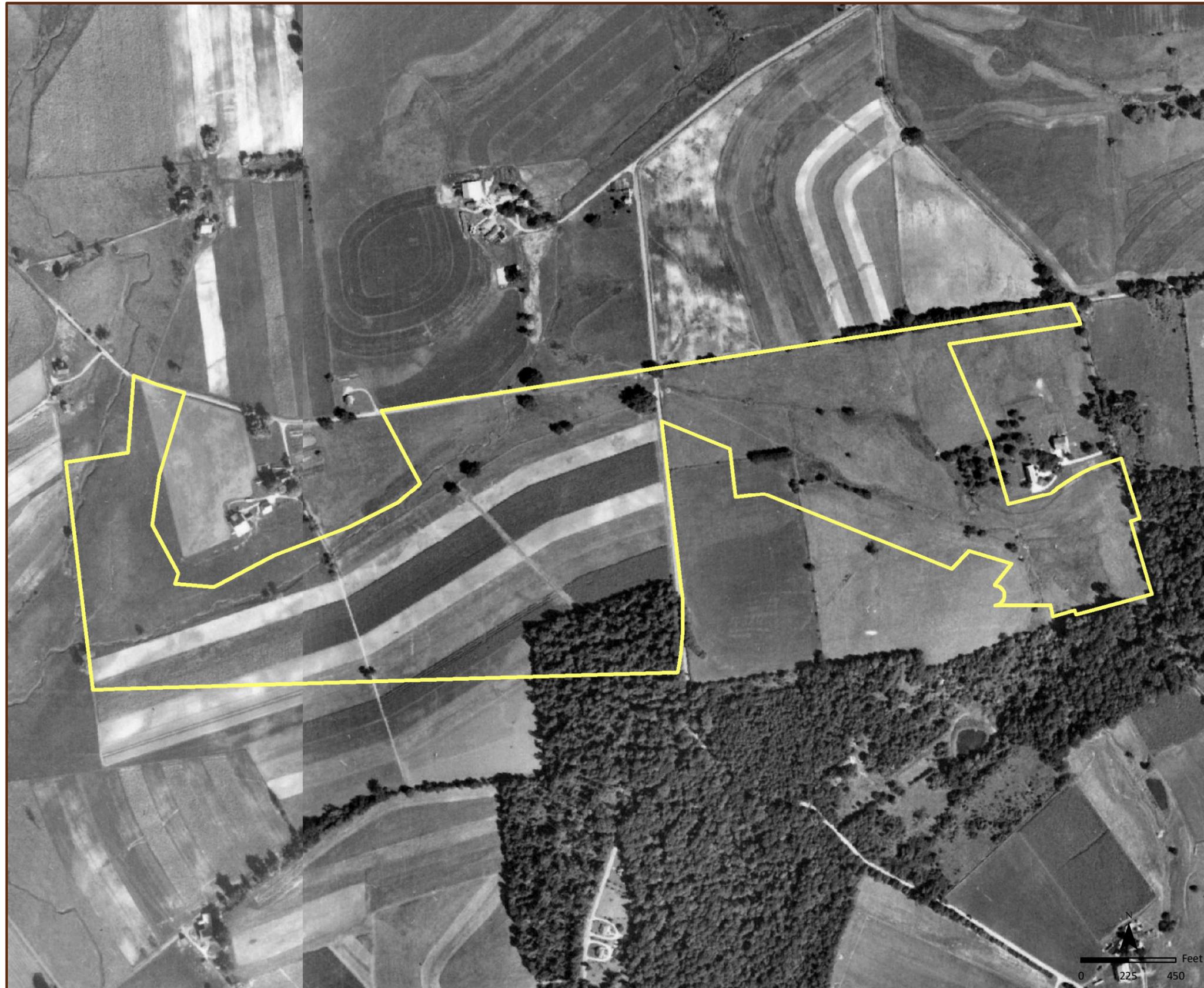
1031 Palmers Mill Road, Media, PA 19063
610-353-5587 | natlands.org

- 1. Property boundary from Register Associates, Inc.
- 2. Historical aerial imagery from PennPilot (www.pennpilot.psu.edu).

Compiled By: MEB 11/18/2022

Disclaimer: This map is not a survey. The information imparted with this map is meant to assist Natural Lands Trust, Inc., describe the placement of certain retained, reserved, or excluded rights and to calculate acreage figures. Property boundaries, while approximate, were established using the best available information, which may have included: surveys, tax maps, field mapping using G.P.S., and/or orthophotos. Natural Lands Trust, Inc., makes no representation as to the accuracy of said property lines (or any other lines), and no liability is assumed by reason of reliance hereon. Use of this map for other than its intended purpose requires the written consent of Natural Lands Trust, Inc.





Historical Aerial (1957/1958)

SMEDLEY PRESERVE

Tax ID: 59-6-10, 60-1-1, 60-1-1.4, 60-1-1.7, 60-1-37, 60-1-37.16, p/o 60-1-1.2, and p/o 60-1-1.3
New Garden Township, Chester County, PA

 Smedley Preserve (+/- 106 acres)

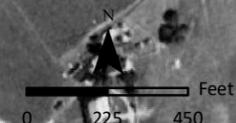


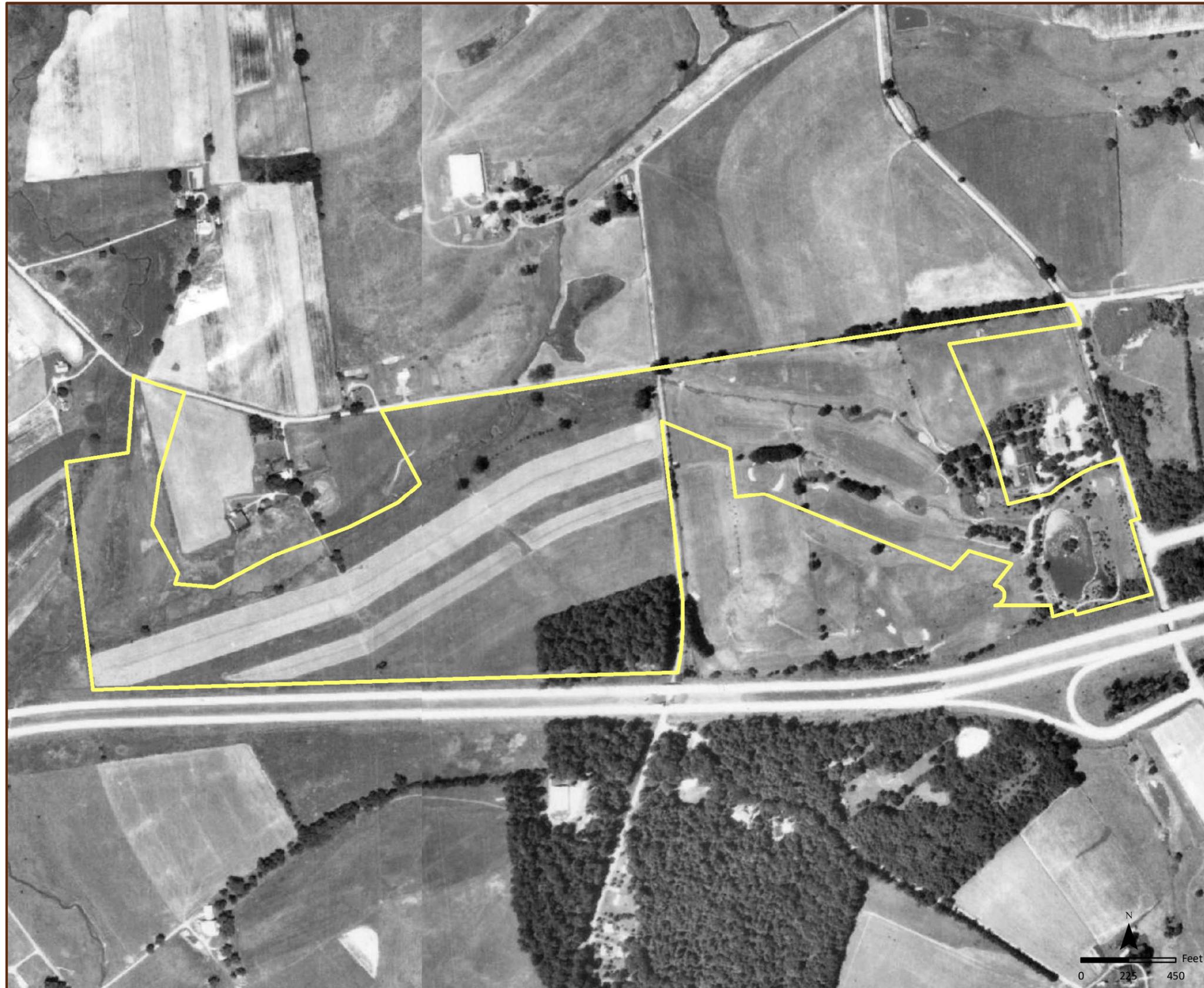
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Historical Aerial (1971)

SMEDLEY PRESERVE

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New Garden Township, Chester County, PA

 Smedley Preserve (+/- 106 acres)

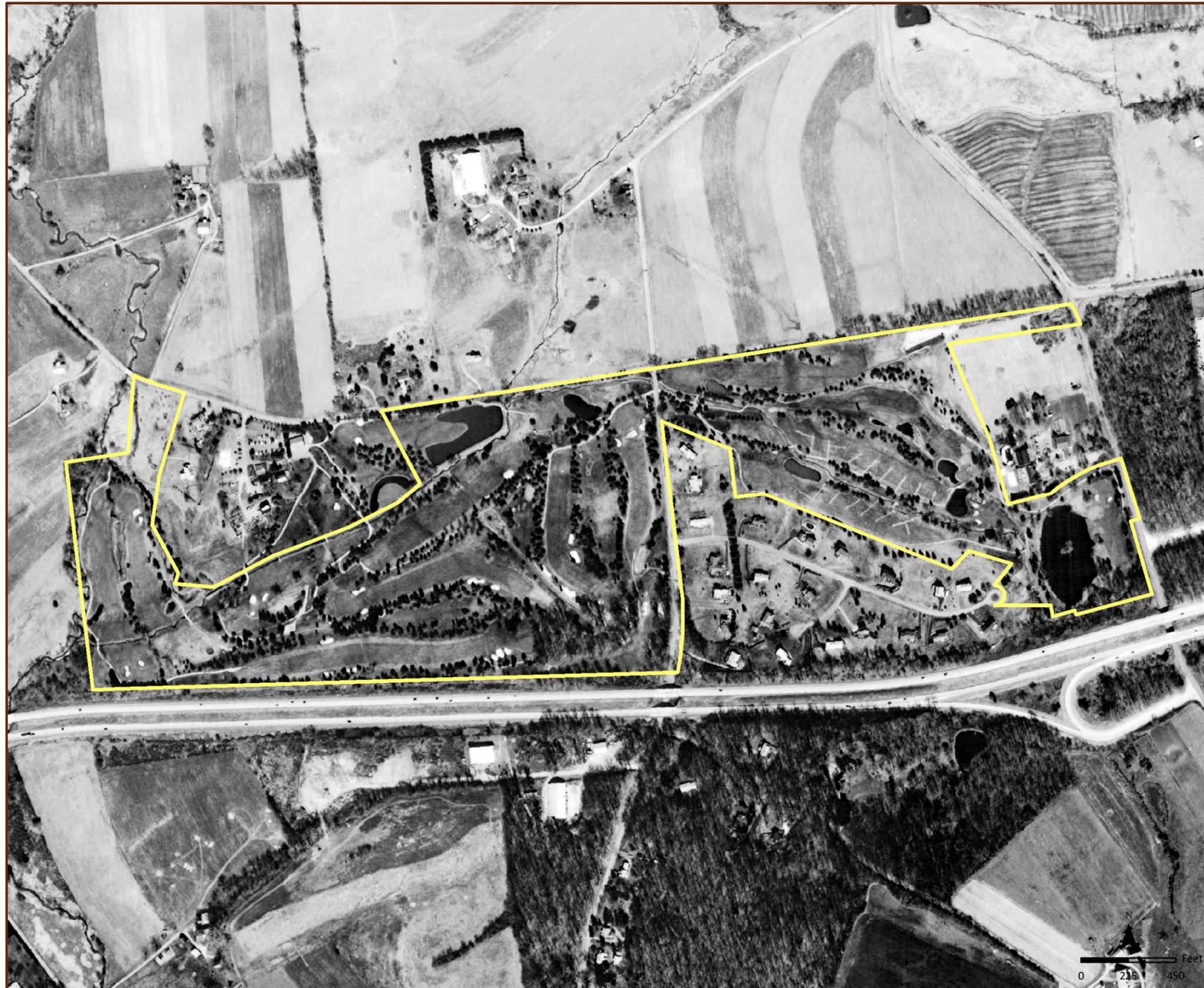


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- 1. Property boundary from Register Associates, Inc.
- 2. Historical aerial imagery from PennPilot (www.pennpilot.psu.edu).

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Historical Aerial (1995)

SMEDLEY PRESERVE

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New Garden Township, Chester County, PA

 Smedley Preserve (+/- 106 acres)



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- 1. Property boundary from Register Associates, Inc.
- 2. Historical aerial imagery from PennPilot (www.pennpilot.psu.edu).

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2018 Aerial Photography

SMEDLEY PRESERVE

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New Garden Township, Chester County, PA

 Smedley Preserve (+/- 106 acres)

 Waterways

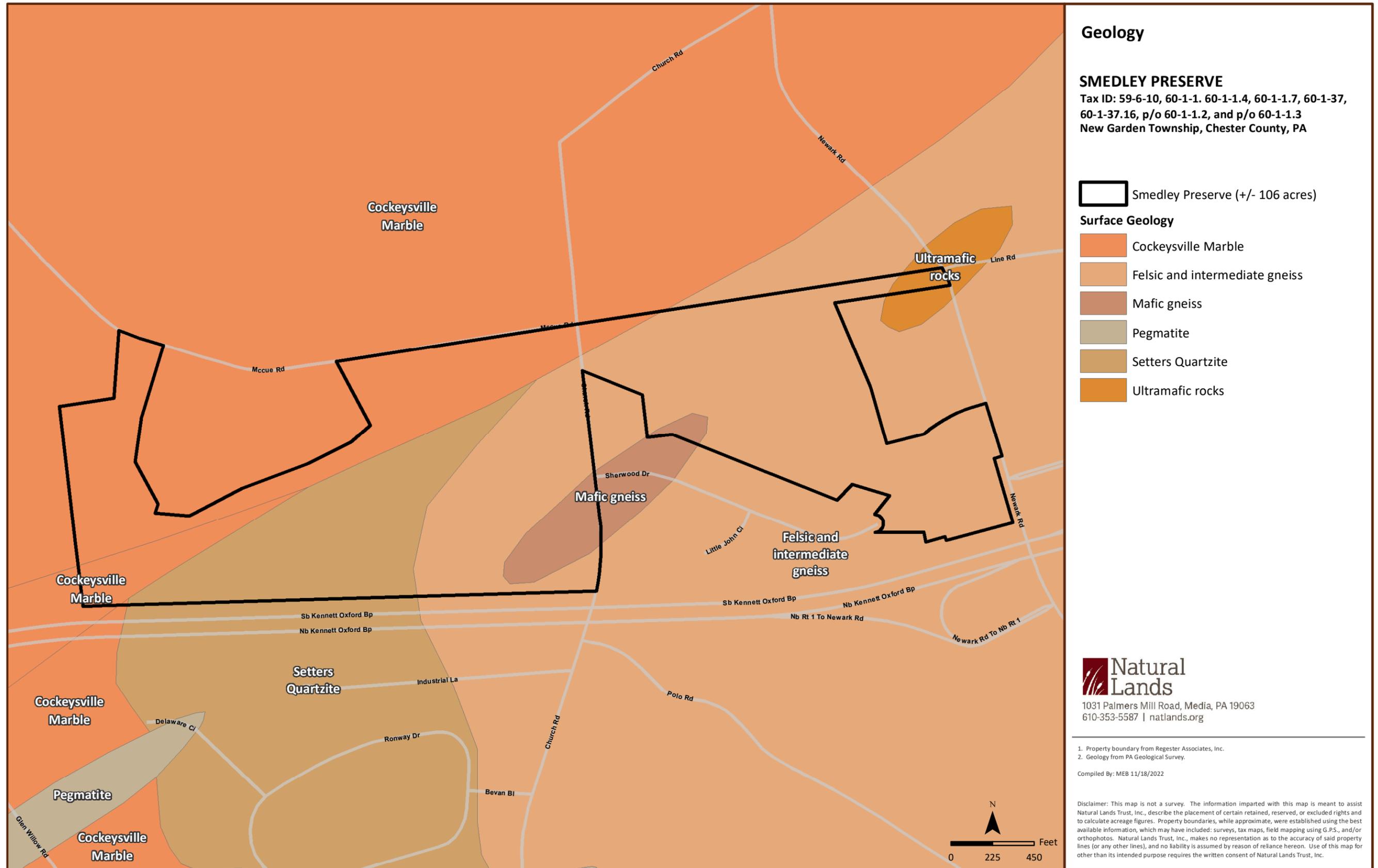


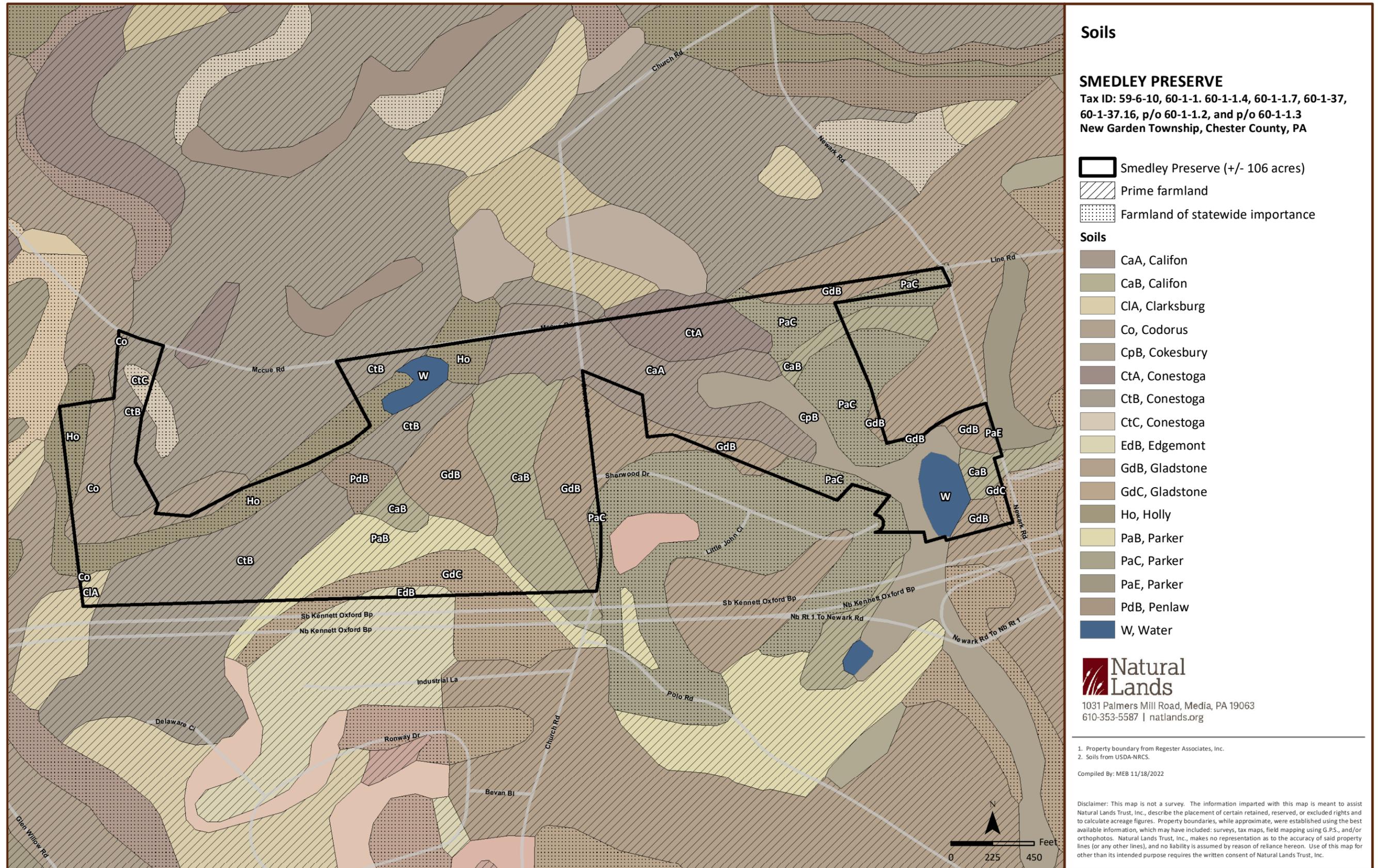
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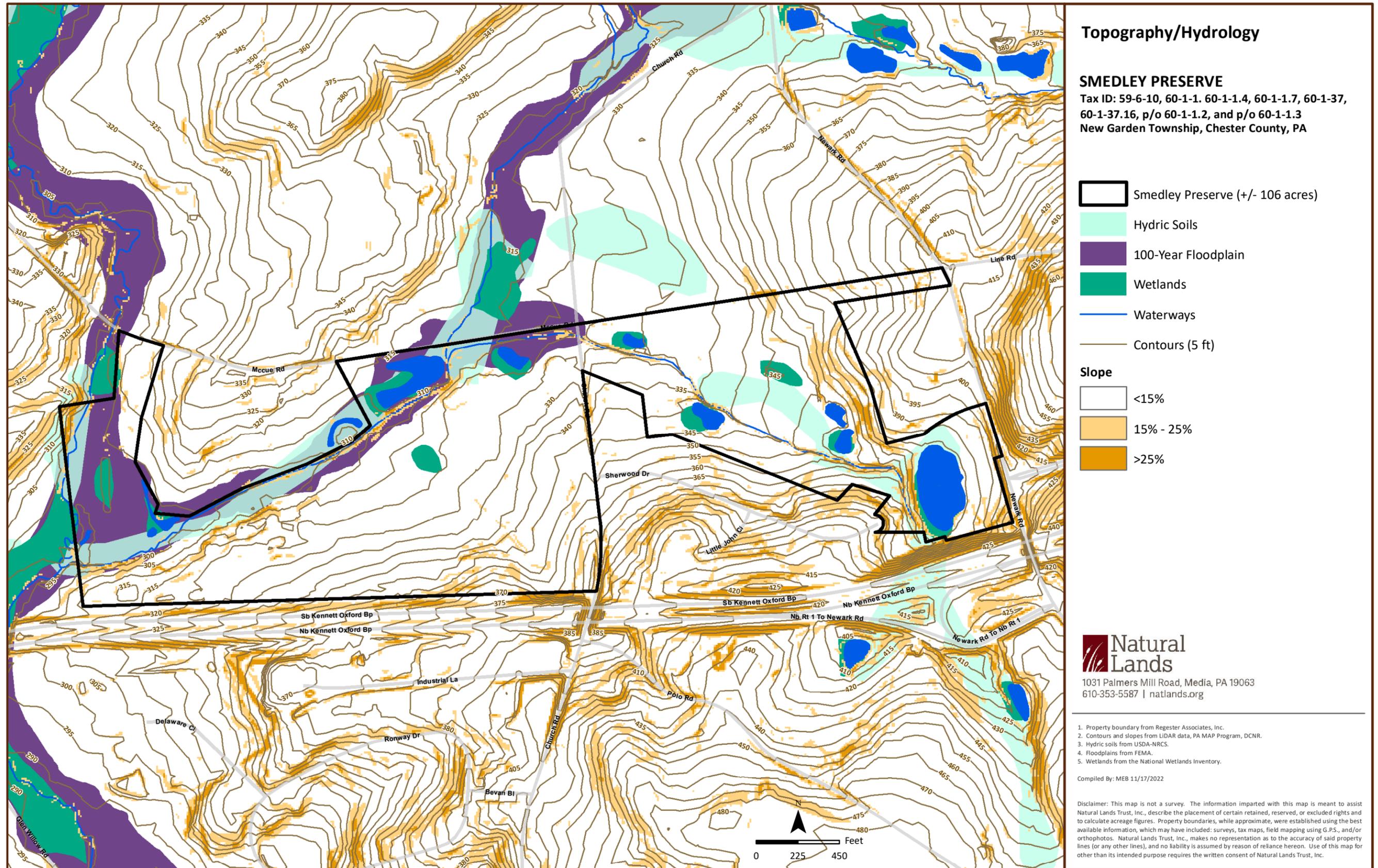
- 1. Roadways and waterways from from Chester County.
- 2. Property boundary from Register Associates, Inc.
- 3. Aerial imagery from PEMA.

Compiled By: MEB 11/17/2022

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Existing Cart Paths

SMEDLEY PRESERVE

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New Garden Township, Chester County, PA

 Smedley Preserve (+/- 106 acres)

 Waterways

 Existing Cart Paths



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1. Roadways and waterways from Chester County.
2. Property boundary and existing cart paths from Regester Associates, Inc.
3. Aerial imagery from PEMA.

Compiled By: MEB 11/17/2022

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**New Garden Twp. Park
Master Plan**
New Garden Township
Chester County, PA
March 18, 2024
OPTION 1
Total Area: 106 Ac. +/-

Key

-  Proposed Stream Restoration Area
-  Existing Stream
-  Existing Pond (TBR)
-  Existing Boundary
-  Proposed Riparian Buffer
-  Proposed Screen
-  Proposed Meadow
-  Proposed Forest Plantings
-  Entrances (Existing and Proposed)
-  Entrances To Be Removed
-  Traffic Study Area
-  Proposed Trail
-  Proposed Gate
-  Existing Bridge To Be Removed
-  Existing Bridge to Remain/Replaced

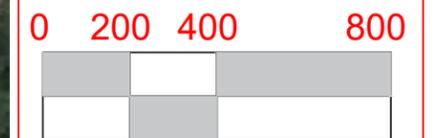


Exhibit 3
Church Road and Sherwood Road Sight Distance
July 12, 2023
(Schematic not to Scale)



March 2024

Rough Cost Estimate for Improvements

New Garden Preserve

Loch Nairn

Includes Pennoni edits, 12.01.2023
Includes Bowman estimates, 3.20.2024

ITEM DESCRIPTION	UNIT	SIZE	QTY.	UNIT PRICE	MAT'L COST	LABOR	LABOR COST	SUBTOTAL	CONTINGENCY	TOTAL
A. Pre-Construction (Design and Permitting)										
1 Base Topo/ Ex. Conds Survey	EA	LS	1	\$ 20,000.00	\$ 20,000.00	\$ -	\$ -	\$ 20,000.00	\$ 3,000.00	\$ 23,000.00
2 Geotechnical Investigation	EA	LS	1	\$ 10,000.00	\$ 10,000.00	\$ -	\$ -	\$ 10,000.00	\$ 1,500.00	\$ 11,500.00
3 Engineering Design	EA	LS	1	\$ 150,000.00	\$ 150,000.00	\$ -	\$ -	\$ 150,000.00	\$ 22,500.00	\$ 172,500.00
4 Landscape Design	EA	LS	1	\$ 50,000.00	\$ 50,000.00	\$ -	\$ -	\$ 50,000.00	\$ 7,500.00	\$ 57,500.00
5 HOP/Traffic Permitting	EA	LS	1	\$ 20,000.00	\$ 20,000.00	\$ -	\$ -	\$ 20,000.00	\$ 3,000.00	\$ 23,000.00
6 NPDES Permitting	EA	LS	1	\$ 45,000.00	\$ 45,000.00	\$ -	\$ -	\$ 45,000.00	\$ 6,750.00	\$ 51,750.00
7 DEP Permitting	EA	LS	1	\$ 25,000.00	\$ 25,000.00	\$ -	\$ -	\$ 25,000.00	\$ 3,750.00	\$ 28,750.00
8 Pond Remediation Study/Design	EA	LS	1	\$ -	\$ -	\$ 30,000.00	\$ -	\$ 30,000.00	\$ 4,500.00	\$ 34,500.00
SUBTOTAL					\$ 320,000.00		\$ 30,000.00	\$ 350,000.00	\$ 52,500.00	\$ 402,500.00
PRE-CONSTRUCTION SUBTOTAL (A)										
\$ 402,500.00										
B. Demolition, Site Prep & Earthwork										
1 Trail/Paving Removal	EA	SF	35000	\$ 1.00	\$ 35,000.00	\$ 1.00	\$ 35,000.00	\$ 70,000.00	\$ 10,500.00	\$ 80,500.00
2 Sand Trap Removal/Fill	EA	CY	1360	\$ 10.00	\$ 13,600.00	\$ 40.00	\$ 54,400.00	\$ 68,000.00	\$ 10,200.00	\$ 78,200.00
3 Rough Grading - Driveway and Parking	EA	LS	1	\$ 50,000.00	\$ 50,000.00	\$ 2.00	\$ 2.00	\$ 50,002.00	\$ 7,500.30	\$ 57,502.30
4 Pond Restoration	EA	Acre	4.5	\$ 18,000.00	\$ 81,000.00	\$ -	\$ -	\$ 81,000.00	\$ 12,150.00	\$ 93,150.00
5 Remove hazard trees	LS		1	\$ 50,000.00	\$ 50,000.00	\$ -	\$ -	\$ 50,000.00	\$ 7,500.00	\$ 57,500.00
SUBTOTAL					\$ 229,600.00		\$ 89,402.00	\$ 319,002.00	\$ 47,850.30	\$ 366,852.30
C. Infrastructure										
1 Parking - Permanent - 40 spaces	EA	SY	1600	\$ 40.00	\$ 64,000.00	\$ 45.00	\$ 72,000.00	\$ 136,000.00	\$ 20,400.00	\$ 156,400.00
2 Paving - Driveway	EA	SY	2400	\$ 40.00	\$ 96,000.00	\$ 45.00	\$ 108,000.00	\$ 204,000.00	\$ 30,600.00	\$ 234,600.00
3 Paved Trails - 4' W. Grade and install	EA	SY	8177	\$ 35.00	\$ 286,195.00	\$ 50.00	\$ 408,850.00	\$ 695,045.00	\$ 104,256.75	\$ 799,301.75
4 Gates - Security/Vehicular Control	EA	EA	3	\$ 8,000.00	\$ 24,000.00	\$ 2,000.00	\$ 6,000.00	\$ 30,000.00	\$ 4,500.00	\$ 34,500.00
5 Grass open areas - clear and level	EA	AC	1.25	\$ 8,000.00	\$ 10,000.00	\$ -	\$ -	\$ 10,000.00	\$ 1,500.00	\$ 11,500.00
6 Stormwater Management	LS		1	\$ 350,000.00	\$ 350,000.00	\$ -	\$ -	\$ 350,000.00	\$ 52,500.00	\$ 402,500.00
7 Site Lighting	LS		0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.00
8 Utilities (water, sanitary, electric, etc)	LS		0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.00
9 Church Road - see Bowman estimate										\$ 312,070.00
SUBTOTAL					\$ 480,195.00		\$ 594,850.00	\$ 1,075,045.00	\$ 161,256.75	\$ 1,236,301.75
D. Furniture & Amenities										
1 Fencing (Split Rail)	EA	LF	3450	\$ 20.00	\$ 69,000.00	\$ 10.00	\$ 34,500.00	\$ 103,500.00	\$ 15,525.00	\$ 119,025.00
2 Benches w/ concrete pad	EA	6'	10	\$ 1,200.00	\$ 12,000.00	\$ -	\$ -	\$ 12,000.00	\$ 1,800.00	\$ 13,800.00
3 Kiosk	EA		2	\$ 2,500.00	\$ 5,000.00	\$ -	\$ -	\$ 5,000.00	\$ 750.00	\$ 5,750.00
4 Signs (Interpretive & Wayfinding system)	LS		1	\$ 5,000.00	\$ 5,000.00	\$ -	\$ -	\$ 5,000.00	\$ 750.00	\$ 5,750.00
5 Main Entrance Identity Sign	EA		1	\$ 9,000.00	\$ 9,000.00	\$ -	\$ -	\$ 9,000.00	\$ 1,350.00	\$ 10,350.00
6 Picnic Tables	EA		5	\$ 1,200.00	\$ 6,000.00	\$ -	\$ -	\$ 6,000.00	\$ 900.00	\$ 6,900.00
7 Bridges and Boardwalks - 20'L	EA		4	\$ 10,000.00	\$ 40,000.00	\$ 10,000.00	\$ 40,000.00	\$ 80,000.00	\$ 12,000.00	\$ 92,000.00
8 Composting Restroom	EA		1	\$ 250,000.00	\$ 250,000.00	\$ -	\$ -	\$ 250,000.00	\$ 37,500.00	\$ 287,500.00
SUBTOTAL					\$ 396,000.00		\$ 74,500.00	\$ 131,500.00	\$ 19,725.00	\$ 541,075.00
CONSTRUCTION SUBTOTAL (B-D)										
\$ 2,888,799.05										
E. Plant Material - Entrances/ Formal Areas										
1 Shade Trees	EA	2 - 2 1/2" cal.	50	\$ 150.00	\$ 7,500.00	\$ 300.00	\$ 15,000.00	\$ 22,500.00	\$ 3,375.00	\$ 25,875.00
2 Evergreen Trees	EA	7-8" ht	40	\$ 100.00	\$ 4,000.00	\$ 200.00	\$ 8,000.00	\$ 12,000.00	\$ 1,800.00	\$ 13,800.00
3 Deciduous Shrubs	EA	24-36" ht	50	\$ 30.00	\$ 1,500.00	\$ 60.00	\$ 3,000.00	\$ 4,500.00	\$ 675.00	\$ 5,175.00
4 Evergreen shrubs	EA	24-36" ht	50	\$ 45.00	\$ 2,250.00	\$ 60.00	\$ 3,000.00	\$ 5,250.00	\$ 787.50	\$ 6,037.50
SUBTOTAL			190		\$ 15,250.00		\$ 29,000.00	\$ 44,250.00	\$ 6,637.50	\$ 50,887.50
F. Plant Material - BG Buffer										
1 Shade Trees	EA	2 - 2 1/2" cal.	100	\$ 150.00	\$ 15,000.00	\$ 300.00	\$ 30,000.00	\$ 45,000.00	\$ 6,750.00	\$ 51,750.00
2 Evergreen Trees	EA	7-8" ht	200	\$ 100.00	\$ 20,000.00	\$ 200.00	\$ 40,000.00	\$ 60,000.00	\$ 9,000.00	\$ 69,000.00
3 Deciduous Shrubs	EA	24-36" ht	200	\$ 30.00	\$ 6,000.00	\$ 60.00	\$ 12,000.00	\$ 18,000.00	\$ 2,700.00	\$ 20,700.00
4 Evergreen shrubs	EA	24-36" ht	200	\$ 45.00	\$ 9,000.00	\$ 60.00	\$ 12,000.00	\$ 21,000.00	\$ 3,150.00	\$ 24,150.00
SUBTOTAL			700		\$ 50,000.00		\$ 94,000.00	\$ 144,000.00	\$ 21,600.00	\$ 165,600.00
G. Plant Material - Farm Buffer										
1 Shade Trees	EA	2 - 2 1/2" cal.	30	\$ 150.00	\$ 4,500.00	\$ 300.00	\$ 9,000.00	\$ 13,500.00	\$ 2,025.00	\$ 15,525.00
2 Evergreen Trees	EA	7-8" ht	160	\$ 100.00	\$ 16,000.00	\$ 200.00	\$ 32,000.00	\$ 48,000.00	\$ 7,200.00	\$ 55,200.00
SUBTOTAL			190		\$ 20,500.00		\$ 41,000.00	\$ 61,500.00	\$ 9,225.00	\$ 70,725.00
H. Plant Material - Conservation Tree Planting										
1 Riparian Buffers	EA	8' - 10' ht	4000	\$ 25.00	\$ 100,000.00	\$ 30.00	\$ 120,000.00	\$ 220,000.00	\$ 33,000.00	\$ 253,000.00
2 Upland Plantings	EA	8' - 10' ht	8500	\$ 25.00	\$ 212,500.00	\$ 30.00	\$ 255,000.00	\$ 467,500.00	\$ 70,125.00	\$ 537,625.00
SUBTOTAL			12500		\$ 312,500.00		\$ 375,000.00	\$ 687,500.00	\$ 103,125.00	\$ 790,625.00
I. Meadow Seeding										
1 Meadow Mix - ERNMX-153 (20 lbs/ac)	EA	Lb.	288	\$ 55.00	\$ 15,840.00	\$ -	\$ -	\$ 15,840.00	\$ 2,376.00	\$ 18,216.00
2 Meadow Mix - ERNMX-273 (20 lbs/ac)	EA	Lb.	45	\$ 30.00	\$ 1,350.00	\$ -	\$ -	\$ 1,350.00	\$ 202.50	\$ 1,552.50
3 Meadow Mix - ERNMX-270-1	EA	Lb.	106	\$ 35.00	\$ 3,710.00	\$ -	\$ -	\$ 3,710.00	\$ 556.50	\$ 4,266.50
4 Cover Crop - Grain Oats or Grain Rye (20 lbs/ac)	EA	Lb.	660	\$ 1.00	\$ 660.00	\$ -	\$ -	\$ 660.00	\$ 99.00	\$ 759.00
5 Seeding - Mechanical	EA	AC	20	\$ 8,712.00	\$ 174,240.00	\$ -	\$ -	\$ 174,240.00	\$ 26,136.00	\$ 200,376.00
SUBTOTAL					\$ 195,800.00		\$ -	\$ 195,800.00	\$ 29,370.00	\$ 225,170.00
LANDSCAPING SUBTOTAL (E-I)										
\$ 1,303,007.50										
TOTAL										
\$ 4,564,306.55										

ITEM DESCRIPTION	UNIT	SIZE	QTY.	UNIT PRICE	MAT'L COST	LABOR	LABOR COST	SUBTOTAL	CONTINGENCY	TOTAL
A. Pre-Construction (Design and Permitting)										
1 Base Topo/ Ex. Conds Survey	EA	LS	1	\$ 20,000.00	\$ 20,000.00	\$ -	\$ -	\$ 20,000.00	\$ 3,000.00	\$ 23,000.00
2 Geotechnical Investigation	EA	LS	1	\$ 10,000.00	\$ 10,000.00	\$ -	\$ -	\$ 10,000.00	\$ 1,500.00	\$ 11,500.00
3 Engineering Design	EA	LS	1	\$ 150,000.00	\$ 150,000.00	\$ -	\$ -	\$ 150,000.00	\$ 22,500.00	\$ 172,500.00
4 Landscape Design	EA	LS	1	\$ 50,000.00	\$ 50,000.00	\$ -	\$ -	\$ 50,000.00	\$ 7,500.00	\$ 57,500.00
5 HOP/Traffic Permitting	EA	LS	1	\$ 20,000.00	\$ 20,000.00	\$ -	\$ -	\$ 20,000.00	\$ 3,000.00	\$ 23,000.00
6 NPDES Permitting	EA	LS	1	\$ 45,000.00	\$ 45,000.00	\$ -	\$ -	\$ 45,000.00	\$ 6,750.00	\$ 51,750.00
7 DEP Permitting	EA	LS	1	\$ 25,000.00	\$ 25,000.00	\$ -	\$ -	\$ 25,000.00	\$ 3,750.00	\$ 28,750.00
8 Pond Remediation Study/Design	EA	LS	1	\$ -	\$ -	\$ 30,000.00	\$ -	\$ 30,000.00	\$ 4,500.00	\$ 34,500.00
SUBTOTAL					\$ 320,000.00		\$ 30,000.00	\$ 350,000.00	\$ 52,500.00	\$ 402,500.00
PRE-CONSTRUCTION SUBTOTAL (A)										
\$ 402,500.00										
B. Demolition, Site Prep & Earthwork										
1 Trail/Paving Removal	EA	SF	35000	\$ 1.00	\$ 35,000.00	\$ 1.00	\$ 35,000.00	\$ 70,000.00	\$ 10,500.00	\$ 80,500.00
2 Sand Trap Removal/Fill	EA	CY	1360	\$ 10.00	\$ 13,600.00	\$ 40.00	\$ 54,400.00	\$ 68,000.00	\$ 10,200.00	\$ 78,200.00
3 Rough Grading - Driveway and Parking	EA	LS	1	\$ 50,000.00	\$ 50,000.00	\$ 2.00	\$ 2.00	\$ 50,002.00	\$ 7,500.30	\$ 57,502.30
4 Pond Restoration	EA	Acre	4.5	\$ 18,000.00	\$ 81,000.00	\$ -	\$ -	\$ 81,000.00	\$ 12,150.00	\$ 93,150.00
5 Remove hazard trees	LS		1	\$ 50,000.00	\$ 50,000.00	\$ -	\$ -	\$ 50,000.00	\$ 7,500.00	\$ 57,500.00
SUBTOTAL					\$ 229,600.00		\$ 89,402.00	\$ 319,002.00	\$ 47,850.30	\$ 366,852.30
C. Infrastructure										
1 Parking - Permanent - 40 spaces	EA	SY	1600	\$ 40.00	\$ 64,000.00	\$ 45.00	\$ 72,000.00	\$ 136,000.00	\$ 20,400.00	\$ 156,400.00
2 Paving - Driveway	EA	SY	2400	\$ 40.00	\$ 96,000.00	\$ 45.00	\$ 108,000.00	\$ 204,000.00	\$ 30,600.00	\$ 234,600.00
3 Paved Trails - 4' W. Grade and install	EA	SY	8177	\$ 35.00	\$ 286,195.00	\$ 50.00	\$ 408,850.00	\$ 695,045.00	\$ 104,256.75	\$ 799,301.75
4 Gates - Security/Vehicular Control	EA	EA	3	\$ 8,000.00	\$ 24,000.00	\$ 2,000.00	\$ 6,000.00	\$ 30,000.00	\$ 4,500.00	\$ 34,500.00
5 Grass open areas - clear and level	EA	AC	1.25	\$ 8,000.00	\$ 10,000.00	\$ -	\$ -	\$ 10,000.00	\$ 1,500.00	\$ 11,500.00
6 Stormwater Management	LS		1	\$ 350,000.00	\$ 350,000.00	\$ -	\$ -	\$ 350,000.00	\$ 52,500.00	\$ 402,500.00
7 Site Lighting	LS		0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.00
8 Utilities (water, sanitary, electric, etc)	LS		0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.00
9 Church Road - see Bowman estimate										\$ 312,070.00
SUBTOTAL					\$ 480,195.00		\$ 594,850.00	\$ 1,075,045.00	\$ 161,256.75	\$ 1,236,301.75 </



Engineer's Conceptual Opinion of Cost for Construction

9/13/23
Prepared By: BDD

Project Name: Church Road Pedestrian Crossing
Location: Church Road and McCue Road
Municipality: New Garden Township, Chester County, PA
McMahon Project No: 313534

Disclaimer: McMahon, a Bowman Company, has provided this opinion of cost as requested by the client. Please note that opinions of cost are subject to change based on plan/design revisions, fluctuations in unit costs, field conditions, and differences in locale. Opinions of cost are provided for use in budgeting, but in no way intended to be construed as a final cost for the project. Final costs are contingent only on actual bids from contractors. McMahon will not be held responsible for differences between this opinion of cost and contractor bid costs.

Item No.	Description	Comment	Unit	Quantity	Unit Cost	Cost
Standard Items						
1	Clearing and Grubbing		LS	1	\$10,000.00	\$10,000.00
2	Class 1 Excavation		CY	200	\$80.00	\$16,000.00
3	Grading (Including Topsoil & Seeding)		SY	600	\$25.00	\$15,000.00
4	Concrete Median Infill, 4" Depth		SY	76	\$220.00	\$16,720.00
5	Full-Depth Asphalt Pavement		SY	300	\$110.00	\$33,000.00
6	Concrete Mountable Curb		LF	350	\$85.00	\$29,750.00
7	ADA Curb Ramps		EA	2	\$9,000.00	\$18,000.00
8	Construction Surveying		LS	1	\$3,500.00	\$3,500.00
9	Signing and Pavement Markings		LS	1	\$4,000.00	\$4,000.00
10	Trail Entrance Gate/Bollards		EA	2	\$1,500.00	\$3,000.00
11	Subtotal Construction Cost	Items 1 - 10				\$148,970.00
12	Maintenance and Protection of Traffic	Approx. 10% of Item 11	%	10		\$14,900.00
13	Erosion and Sediment Control	Approx. 5% of Item 11	%	5		\$7,500.00
14	Mobilization	Approx. 8% of Item 11	%	8		\$12,000.00
15	Contingency	Approx. 15% of Items 11 - 14	%	15		\$27,600.00
16	Construction Cost: 2023	Items 11 - 14				\$210,970.00
17	Inflation	4%/Yr Compounded 1 Years of Item 16	YR/%	1	4	\$8,500.00
18	Construction Inspection	Approx. 12% of Item 16	%	12		\$25,400.00
19	Project Development	Approx. 20% of Item 16	%	20		\$42,200.00
20	Utility Relocations	1 electric pole	LS	1	\$25,000.00	\$25,000.00
21	Total Project Cost: 2024	Items 16 - 20				\$312,070.00



ERNST SEEDS

Ernst Conservation Seeds

8884 Mercer Pike
Meadville, PA 16335
(800) 873-3321 Fax (814) 336-5191
www.ernstseed.com

Date: March 04, 2024

Showy Northeast Native Wildflower & Grass Mix - ERNMX-153

Botanical Name	Common Name	Price/Lb
27.90 % <i>Schizachyrium scoparium, Fort Indiantown Gap-PA Ecotype</i>	Little Bluestem, Fort Indiantown Gap-PA Ecotype	14.61
20.00 % <i>Elymus virginicus, Madison-NY Ecotype</i>	Virginia Wildrye, Madison-NY Ecotype	10.45
11.20 % <i>Bouteloua curtipendula, Butte</i>	Sideoats Grama, Butte	24.76
10.70 % <i>Echinacea purpurea</i>	Purple Coneflower	43.20
4.00 % <i>Coreopsis lanceolata</i>	Lanceleaf Coreopsis	28.80
4.00 % <i>Rudbeckia hirta</i>	Blackeyed Susan	31.20
2.80 % <i>Penstemon digitalis, PA Ecotype</i>	Tall White Beardtongue, PA Ecotype	168.00
2.70 % <i>Helianthus scaberrimus, PA Ecotype</i>	Oxeye Sunflower, PA Ecotype	33.60
2.60 % <i>Asclepias tuberosa, PA Ecotype</i>	Butterfly Milkweed, PA Ecotype	312.00
2.00 % <i>Zizia aurea, PA Ecotype</i>	Golden Alexanders, PA Ecotype	72.00
1.30 % <i>Chamaecrista fasciculata, PA Ecotype</i>	Partridge Pea, PA Ecotype	12.00
1.20 % <i>Liatris spicata</i>	Marsh Blazing Star	252.00
1.00 % <i>Aster oblongifolius, PA Ecotype</i>	Aromatic Aster, PA Ecotype	336.00
1.00 % <i>Baptisia australis, Southern WV Ecotype</i>	Blue False Indigo, Southern WV Ecotype	96.00
1.00 % <i>Lespedeza capitata, RI Ecotype</i>	Roundhead Lespedeza, RI Ecotype	115.20
1.00 % <i>Lespedeza virginica, VA Ecotype</i>	Slender Lespedeza, VA Ecotype	216.00
0.80 % <i>Eragrostis spectabilis, RI Ecotype</i>	Purple Lovegrass, RI Ecotype	192.00
0.80 % <i>Rudbeckia triloba, WV Ecotype</i>	Browneyed Susan, WV Ecotype	57.60
0.80 % <i>Senna hebecarpa, VA & WV Ecotype</i>	Wild Senna, VA & WV Ecotype	28.80
0.60 % <i>Aster laevis, NY Ecotype</i>	Smooth Blue Aster, NY Ecotype	336.00
0.40 % <i>Aster pilosus, PA Ecotype</i>	Heath Aster, PA Ecotype	264.00
0.40 % <i>Monarda fistulosa, Fort Indiantown Gap-PA Ecotype</i>	Wild Bergamot, Fort Indiantown Gap-PA Ecotype	96.00
0.40 % <i>Senna marilandica</i>	Maryland Senna	28.80
0.40 % <i>Solidago nemoralis, PA Ecotype</i>	Gray Goldenrod, PA Ecotype	264.00
0.20 % <i>Penstemon hirsutus</i>	Hairy Beardtongue	480.00
0.20 % <i>Pycnanthemum incanum, MD Ecotype</i>	Hoary Mountainmint, MD Ecotype	432.00
0.20 % <i>Solidago bicolor, PA Ecotype</i>	White Goldenrod, PA Ecotype	240.00
0.20 % <i>Solidago juncea, PA Ecotype</i>	Early Goldenrod, PA Ecotype	336.00
0.20 % <i>Tradescantia ohiensis, PA Ecotype</i>	Ohio Spiderwort, PA Ecotype	252.00

100.00 % Mix Price/Lb Bulk: \$52.27

Seeding Rate: 15 lbs/acre with 30 lbs/acre of a cover crop. For a cover crop use either grain oats (1 Jan to 31 Jul) or grain rye (1 Aug to 31 Dec).

Grasses & Grass-like Species - Herbaceous Perennial; Herbaceous Flowering Species - Herbaceous Perennial; Pollinator Favorites; Uplands & Meadows

The native wildflowers and some grasses provide a gorgeous display of color from spring to fall. Designed for upland sites with well-drained soils and full sun to semi-shaded areas; ideal for attracting butterflies and hummingbirds. Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.

Price quotes guaranteed for 30 days.
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for current pricing when placing orders.



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www.ernstseed.com

Date: March 04, 2024

PA Coastal Plain Province UPL Meadow Mix - ERNMX-270-1

Botanical Name	Common Name	Price/Lb
62.10 % <i>Schizachyrium scoparium, Fort Indiantown Gap-PA Ecotype</i>	Little Bluestem, Fort Indiantown Gap-PA Ecotype	14.61
20.00 % <i>Elymus virginicus, Madison-NY Ecotype</i>	Virginia Wildrye, Madison-NY Ecotype	10.45
3.00 % <i>Chamaecrista fasciculata, PA Ecotype</i>	Partridge Pea, PA Ecotype	12.00
2.60 % <i>Penstemon digitalis, PA Ecotype</i>	Tall White Beardtongue, PA Ecotype	168.00
2.50 % <i>Heliopsis helianthoides, PA Ecotype</i>	Oxeye Sunflower, PA Ecotype	33.60
2.00 % <i>Rudbeckia triloba, WV Ecotype</i>	Browneyed Susan, WV Ecotype	57.60
2.00 % <i>Senna hebecarpa, VA & WV Ecotype</i>	Wild Senna, VA & WV Ecotype	28.80
1.00 % <i>Lespedeza capitata, RI Ecotype</i>	Roundhead Lespedeza, RI Ecotype	115.20
0.90 % <i>Aster lateriflorus</i>	Calico Aster	336.00
0.90 % <i>Aster novae-angliae, PA Ecotype</i>	New England Aster, PA Ecotype	336.00
0.50 % <i>Pycnanthemum tenuifolium</i>	Narrowleaf Mountainmint	240.00
0.40 % <i>Monarda fistulosa, Fort Indiantown Gap-PA Ecotype</i>	Wild Bergamot, Fort Indiantown Gap-PA Ecotype	96.00
0.40 % <i>Solidago nemoralis, PA Ecotype</i>	Gray Goldenrod, PA Ecotype	264.00
0.30 % <i>Asclepias syriaca, PA Ecotype</i>	Common Milkweed, PA Ecotype	96.00
0.30 % <i>Oenothera fruticosa var. fruticosa</i>	Sundrops	360.00
0.30 % <i>Penstemon laevigatus, PA Ecotype</i>	Appalachian Beardtongue, PA Ecotype	336.00
0.30 % <i>Tradescantia virginiana, Southeastern PA/Northern VA</i>	Virginia Spiderwort, Southeastern PA/Northern VA blend	480.00
0.20 % <i>Aster pilosus, PA Ecotype</i>	Heath Aster, PA Ecotype	264.00
0.20 % <i>Solidago juncea, PA Ecotype</i>	Early Goldenrod, PA Ecotype	336.00
0.10 % <i>Solidago odora, PA Ecotype</i>	Licorice Scented Goldenrod, PA Ecotype	384.00
100.00 %	Mix Price/Lb Bulk:	\$33.70

Seeding Rate: 20 lbs/acre with 30 lbs/acre of a cover crop. For a cover crop use either grain oats (1 Jan to 31 Jul) or grain rye (1 Aug to 31 Dec).

Grasses & Grass-like Species - Herbaceous Perennial; Herbaceous Flowering Species - Herbaceous Perennial; Pollinator Favorites; Uplands & Meadows

Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.

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 for current pricing when placing orders.



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www.ernstseed.com

Date: March 04, 2024

PA Coastal Plain Province Riparian Mix - ERNMX-273

Botanical Name	Common Name	Price/Lb
14.80 % <i>Schizachyrium scoparium, Fort Indiantown Gap-PA Ecotype</i>	Little Bluestem, Fort Indiantown Gap-PA Ecotype	14.61
14.50 % <i>Sorghastrum nutans, NY4 Ecotype</i>	Indiangrass, NY4 Ecotype	14.47
13.00 % <i>Panicum virgatum, 'Habitat'-NJ Ecotype</i>	Switchgrass, 'Habitat'-NJ Ecotype	12.81
12.00 % <i>Elymus virginicus, Madison-NY Ecotype</i>	Virginia Wildrye, Madison-NY Ecotype	10.45
11.00 % <i>Andropogon gerardii, 'Niagara'</i>	Big Bluestem, 'Niagara'	9.38
10.00 % <i>Elymus riparius, PA Ecotype</i>	Riverbank Wildrye, PA Ecotype	10.05
5.00 % <i>Carex vulpinoidea, PA Ecotype</i>	Fox Sedge, PA Ecotype	28.80
5.00 % <i>Panicum rigidulum, PA Ecotype</i>	Redtop Panicgrass, PA Ecotype	57.60
3.00 % <i>Chamaecrista fasciculata, PA Ecotype</i>	Partridge Pea, PA Ecotype	12.00
2.00 % <i>Heliopsis helianthoides, PA Ecotype</i>	Oxeye Sunflower, PA Ecotype	33.60
2.00 % <i>Juncus effusus</i>	Soft Rush	48.00
2.00 % <i>Verbena hastata, PA Ecotype</i>	Blue Vervain, PA Ecotype	38.40
1.90 % <i>Asclepias incarnata, PA Ecotype</i>	Swamp Milkweed, PA Ecotype	177.60
1.00 % <i>Senna hebecarpa, VA & WV Ecotype</i>	Wild Senna, VA & WV Ecotype	28.80
0.50 % <i>Eupatorium perfoliatum, PA Ecotype</i>	Boneset, PA Ecotype	192.00
0.50 % <i>Helenium autumnale, PA Ecotype</i>	Common Sneezeweed, PA Ecotype	216.00
0.50 % <i>Vernonia noveboracensis, PA Ecotype</i>	New York Ironweed, PA Ecotype	264.00
0.40 % <i>Monarda fistulosa, Fort Indiantown Gap-PA Ecotype</i>	Wild Bergamot, Fort Indiantown Gap-PA Ecotype	96.00
0.30 % <i>Eupatorium fistulosum, PA Ecotype</i>	Joe Pye Weed, PA Ecotype	273.60
0.20 % <i>Aster novae-angliae, PA Ecotype</i>	New England Aster, PA Ecotype	336.00
0.20 % <i>Aster prenanthoides, PA Ecotype</i>	Zigzag Aster, PA Ecotype	432.00
0.20 % <i>Solidago rugosa, PA Ecotype</i>	Wrinkleleaf Goldenrod, PA Ecotype	264.00
100.00 %	Mix Price/Lb Bulk:	\$26.59

Seeding Rate: 20 lbs/acre with 30 lbs/acre of a cover crop. For a cover crop use either grain oats (1 Jan to 31 Jul) or grain rye (1 Aug to 31 Dec).

Grasses & Grass-like Species - Herbaceous Perennial; Herbaceous Flowering Species - Herbaceous Perennial; Riparian Sites

Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.

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 for current pricing when placing orders.



Smedley Preserve

Master Plan



New Garden Township, Pennsylvania
March 2024