

ENVIRONMENTAL IMPACT ASSESSMENT

For

*Sayen Gardens Koi Pond (Pond #2) and
Stream Ramble and Lower Pond (Pond #1) Restoration
155 Hughes Drive
Block 1772 Lot 7
Hamilton Township, Mercer County, New Jersey*



Koi Pond – Pond #2



Stream Ramble and Pond – Pond #1



February 4, 2023

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1.0 INTRODUCTION

Hamilton Township has prepared this Environmental Impact Assessment (EIA) in support of a project to reconstruct an existing 6,700 sq. ft. +/- man-made koi pond (Pond #2) and to dredge approximately 470 linear feet of a stream ramble along with a corresponding 7,500 sq. ft. pond at the stream terminus (Pond #1). The stream ramble is actually a concrete channel lined with stones and boulders (this is not a natural channel). The EIA format is consistent with the Green Acres requirements as set forth within the 2023 Park Development Application for Local Governments and Nonprofits. The EIA addresses the project location and description, environmental conditions, critical areas, environmental impacts, and environmental performance controls.

1.1 Project Location

The project site is located at 155 Hughes Drive in Hamilton Township Mercer County New Jersey (Figure 1 – Sayen Gardens Vicinity Map) and is better known as Sayen Gardens. The site is also identified as Block 1722 Lot 7 (Figure 2 – Tax Map) having 28.10 acres +/- . Pond #1 is located on the southern end of the park property adjacent to Mercer Street. Pond #2 is located at the far northern end of the park closest to the park maintenance building.

Located in the northeast portion of Hamilton Township, Sayen Gardens is surrounded by the following land use:

- North – single family residential neighborhood
- East – single family residential neighborhood
- South – Nottingham Fire Company and a single family residential neighborhood
- West – Sayen Park (athletic fields) and a single family residential neighborhood

Sayen Gardens was acquired by Hamilton Township in late 1987 from the late Fred Sayen with the help of funding from NJDEP Green Acres program. The property and grounds have been maintained as a botanical garden ever since the acquisition.

2.0 SCOPE OF PROPOSED PROJECT

The applicant is seeking stewardship funding for the following:

- Pond #1 Project Area – Remove invasive vegetation from stream ramble and lower pond, dredge lower pond and stream ramble to remove silt and sedimentation, apply aquatic herbicide to deter future growth as needed
- Pond #2 Project Area – Remove existing man made koi pond, rubber liner, filters and related infrastructure and replace with a new pond filtration system.

(Figure 3 – Sayen Gardens Concept Plan, for the locations of Pond #1 and Pond #2).

Each Pond to be reconstructed or rehabilitated will retain its existing footprint and will in no way be enlarged or elongated so as to disturb lands adjacent to the same.

3.0 OBJECTIVES OF PROPOSED PROJECT

The objectives of this project:

- Pond #1 – Remove invasive species from stream ramble channel and lower pond, remove sedimentation buildup within stream ramble channel and lower pond, redefine lower pond limits, enhance/improve the water quality within the stream ramble and channel as well as lower pond, (re)creation of habitat in restored stream ramble channel and lower pond area.
- Pond #2 – To replace approximate thirty (30) year old man made koi pond and associated infrastructure with new energy efficient, high efficiency pond filter and infrastructure and new pond with liner. Eliminate pond leaks and conserve water with new design. All associated mechanicals, pumps, filters, etc. will be replaced.

4.0 PROJECT PHASING

Due to the scope and size of this project, the improvements will be divided up into two (2) phases as follows:

- Phase 1 – Pond #1 restoration will take place immediately, tentatively awarded Spring 2024
- Phase 2 – Pond #2 reconstruction will take place approximately Fall 2024/Spring 2025.

5.0 SITE ENVIRONMENTAL INVENTORY

5.1 Soils

Pond #1 - Soils identified within the project limits include Fallaington sandy loams (FamA), 0 to 2 percent slopes, northern coastal plain for about the eastern half of the pond and Portsmouth variant silt loam (PortA), 0 to 2 percent slopes on the eastern half of the pond. (Figure 4A Sayen Pond #1)

Pond #2 - Soils identified within the project limits include Lenoir-Keyport (LenB) silt loams, 0 to 5 percent slopes – for almost 95% of the project limits. Soil type Matapeake loam (MbpB), 2 to 5 percent slopes makes up the balance of the

project limits located at the headwater area (flared end section). (Figure 4B Sayen Pond #2)

Figure 4 shows the overall soils map for the Sayen Gardens property (Figure 4 NRCS Soils Map – Sayen Gardens).

5.2 Topography

The first project site (Pond #1) has a flat topography due to the nature of the improvement. The EL is at +/- 86. The second project site (Pond #2) does range from approximately EL 92 at the headwater down to ELE +/- 83 (lower pond surface elevation - running generally north then northwest, over a total distance of about 470 linear feet.

5.3 Geology

The predominant surficial geology of the entire project area is the Magothy Formation (Kmg). Pond #1 and part of Pond #2 fall within this formation. The Magothy Formation includes dark-gray to gray silty clay to clayey silt that contains abundant fragments of lignite; grades downward into a very fine to fine sand with scattered and discontinuous thin beds of clayey silt with lignite fragments. The second geology formation found at Pond #2 is the Potomac formation (Kp), which is dark-red, gray, pink, and white silty clay to clayey silt and very fine to medium sand beds. Beds of gray clayey silt to very fine sand that contain pieces of charcoal and lignite are common. (Figure 5 – Sayen Bedrock Geology)

5.4 Vegetation

The northern most portion of the lot is extensively wooded (nearest Pond #2) and has been in its current state since the Township acquired the lot back in 1987. The southern portion nearest Pond #1 contains some exiting woodlands and the area immediately adjacent to Pond #1 contains various landscape plantings (shrubs, trees, perennials, etc.) that were installed during the stream ramble construction back in early 2003. (Figure 6 – Sayen Aerial)

5.5 Wildlife

A large portion of Sayen Gardens (which also spills into adjacent Sayen Park) - a 13 +/- acre forested and wetland area - is identified as foraging habitat for the Great Blue Heron, a Rank 2 species of Special Concern. Pond #2 is included within this foraging habitat. In reviewing information provided by the US Fish and Wildlife Service (USFWS) through the Information, Planning and Consulting

(IPaC) system indicates that the following species may be potentially affected by activities at the project location:

- Norther Long-eared Bat (*Myotis septentrionails*) – Threatened
- Tricolored Bat (*Perimyotis subflavus*) – Proposed Endangered
- Bog Turtle (*Glyptenys muhlenbergii*) – Threatened
- Monarch Butterfly (*Danus plexippus*) – Candidate

The IPaC indicates that up to thirteen (13) migratory birds may pass through the site of which they are listed as a particular concern.

5.6 Surface Water/Hydrology

Freshwater wetlands have been identified within Sayen Gardens near both proposed project sites. (FIGURE 7 – Sayen Surface Water/Hydrology). Mapped and delineated wetlands are found about approximately seventy (70) feet north of the lower Pond #1 as part of the Miry Run stream corridor. Mapped and delineated wetlands are found on adjacent Lot 6 (also owned by Hamilton Township). The maps for this lot shows that the wetlands from Lot 6 extend into Lot 7, with the transition area about fifty (50) feet from Pond #2 (closest point to point).

5.7 Historic/Archeological Resources

The subject property is NOT listed on any State or Federal Register of Historic Places nor is the property within any Historic Districts. There are no other historic or archeological features that exist on the subject lot.

5.8 Transportation and Access

Pond #1 – Visitor access to this area is via public parking lot off Hughes Drive and walking paths from Mercer Street and Hughes Drive. An existing stone maintenance access driveway is located on the property in very close proximity to this project area and will become a construction entrance at that time.

Pond #2 – The only access to this area is via walking trails that lead from the Hughes Drive public parking lot.

All access points to and from these two projects areas will remain unimpacted and will remain the same. There may be possible temporary access closures in place during construction but alternative access point can be made available where necessary.

5.9 Adjacent Land Uses

The following identified the adjacent land uses on all sides of Sayen Gardens:

North Side – single family residential neighborhood

East Side (Hughes Drive) – A 6.75 acre addition to Sayen Gardens (Lot 6) is located on the east side of Lot 7 plus a single family residential neighborhood.

South Side (Mercer Street) – The Nottingham Fire Company is located across Mercer Street as well as a single family residential neighborhood

West Side – Sayen Park (athletic fields) is immediately adjacent and attached to Sayen Gardens as well as a single family residential neighborhood

6.0 ENVIRONMENTAL IMPACT ANALYSIS OF PROPOSED ACTIONS

The project has incorporated measures designed to reduce potential environmental impacts associated with the project to the maximum extent possible.

6.1 Soil Erosion and Sedimentation

A soil erosion and sediment control (SESC) plan will be submitted to the Mercer County Soil Conservation District for review if it is determined that their approval is required. The SESC will be implemented to mitigate the effects of construction on water quality. The plan will outline actions taken to minimize the movement of sediments off-site during construction resulting in potential impacts these sediments may otherwise have on the surrounding environment.

6.2 Flooding and Floodplain Disruption

The project sites are not located within a floodzone as per FEMA Flood FIRM Panel 34021C0231F, effective on 7/20/2016.

6.3 Degradation of Surface Water Quality

The project will not result in an increase of impervious area or regulated motor vehicle surface area. Site disturbance will be limited to approximately 7,500 sq. ft. for Pond #1 and 6,700 sq. ft. for Pond #2. We should be less than 1 acre of total site disturbance and would not be subject to the applicable stormwater regulations.

6.4 Sewage Disposal

The two (2) project areas do not require access to public sewer system nor have any current connections to the same. This project has no impact on public sewer service.

6.5 Solid Waste Disposal

Solid waste/construction debris will be handled by a private waste hauler. Recycling will be handled by the property owner with materials being recycled at the Township Ecological facility.

6.6 Vegetation Destruction

For Pond #1, there will be minimal impact on existing vegetation as the vast majority of proposed improvement can be completed without the removal of any existing trees or shrubs. An existing maintenance access driveway will be utilized during construction to also alleviate the need for turf disturbance.

For Pond #2, there will be minimal pruning of trees or the transplanting of shrubbery to facilitate clear and unobstructed access from adjoining Lot 6 into Lot 7 (Pond #2). There is no direct vehicular access from the public parking lot or Hughes Drive to access Pond #2. We will utilize an existing dirt (former) nursery road to access the pond from the adjoining township lot. The plan is to have any large or heavy equipment work from within the pond and not around the perimeter for the purpose of not removing trees are large stands of azaleas and rhododendrons.

There will be no substantial impact from the project on vegetation.

6.7 Disruption of Wildlife

There is no critical habitat for any threatened or endangered species at the project sites. The project will result in no adverse impact regarding wildlife habitats.

6.8 Destruction of Scenic and Historic Features

There are no other historic features that exist on the subject property (Lot 7). The "scenic features" - represented by the Pond #2 area – will only be temporary and will be reconstructed and improved upon once completed.

6.9 Air Quality

Project construction will produce temporary emissions that will not substantially affect air quality. The projects once completed will produce zero emissions and have no negative impact on air quality.

6.10 Noise Levels

Overall noise standard regulation is subject to the New Jersey Noise Control Act (N.J.A.C. 7:29). The awarded contractor will be subject to State and Local performance standards, including noise control rules for work during the day.

6.11 Energy Use

Both current project areas (Pond #1 and Pond #2) both utilize electricity to run filters and pumps to maintain each water body. The scope of work includes the replacement of all pumps, filters and associated components with new energy efficient, high efficiency units. The electricity draw would be equal to or less than what current exists at both project areas. Where possible, measures would be taken to conserve energy for the operation of mechanical and electrical systems.

6.12 Neighborhood Deterioration

The project sites are currently located within a popular and highly visited park in the middle of a suburban neighborhood. The balance of Sayen Gardens will be open and maintained during the construction of each project, and as noted in 4.0 Project Phasing, the improvements will be phased to limit overall park and visitor inconvenience.

6.13 Traffic Generation

The proposed improvements to both Pond #1 and Pond #2 will have no negative impact on park or neighborhood traffic nor will there be any increase in traffic generation other than temporary construction traffic to each site.

6.14 Health, Safety and Welfare of Existing Residents

During the engineering design phase, a plan will be prepared to address temporary trail and pathway closures, pathway detours, temporary security fencing around areas under construction plus dedicated construction access and material laydown areas. Temporary road barriers and six (6) foot high construction fencing will be used to prohibit access to areas under construction and those not safe for public passage.

6.15 Short Term/Long Term Impacts

The only short-term project impacts will be the temporary closure of each Pond area to the general public. Due to the phased approach both project areas will not be closed for construction at the same time. There will be no substantial long term impacts of the proposed projects.

6.16 Anticipated Increase in Recreation Use Over Time

These improvement projects (Pond #1 and Pond #2) are basically being replaced in kind or improved without expanding the site footprint. These are not active recreational uses that would command additional use once it is renovated (i.e. made new) nor is the use itself being expanded so as to accommodate more users of the feature. There is no anticipation of additional park users once both projects are completed. The improvements are for aesthetic, functionality, economic and environmental reasons.

6.17 Permits or Other Approvals

The final project design, if applicable, will require the following permits:

- Mercer County Soil Conservation approval
- Freshwater Wetlands GP #13 (Lake Dredging)
- Freshwater Wetlands GP #16 (Habitat creation and enhancement activities)

6.18 Climate Change/Sea Level Rise

After reviewing the scope of improvements for each Pond area, the proposed improvement will not be impacted by sea level rise.

7.0 ALTERNATIVES

7.1 Identify Alternative Sites

There are no alternative sites within Sayen Gardens to locate Pond #2 due to existing wooded areas, wetlands, other improvements such as the Sayen house and various valuable botanical garden areas (rhododendrons and azaleas). Pond #1 was created to “daylight” an underground storm drainage pipeline that connected Mercer Street and neighborhoods upstream to Miry Run. If this project area is relocated then there would be a major expense to put the stream flow back into drainage pipe. Plus there is no usable uplands left in the park to include an overall project of this size.

7.2 Alternative Levels and Types of Development

Due to the nature and design of each Pond project, we could not reduce the scale or footprint of Pond #1 due to the engineered design to daylight the stormwater. Pond #2 could be made smaller but the disturbed area is already existing and an exact replacement makes more sense for the aesthetic feature that was created. There is no consideration to any other type of development as the improvement is a “restoration or reconstruction” only.

7.3 Environmental Impacts of Each Alternative

The only reasonable and logical alternative to Pond #2 is to make the new pond smaller, but again the pond is existing and has been so for about 30 years. There are no environmental impacts on a smaller pond or a pond of the same size.

The impacts on making the Pond #1 project smaller may have negative impacts on upstream drainage patterns and would reduce volume that the stream ramble and lower pond can hold before outfalls to Miry Run. Again this stream ramble and pond have existed for about 20 years, and the best improvement to negate any adverse impacts is a “direct replacement”.

8.0 MITIGATING MEASURES

Measures that will be implemented in each project to mitigate any adverse impacts will be the following:

- Installation of required silt fences and tree protection fencing to limit the construction activity disturbances.
- Only working during permitted daytime hours as defined by local code.
- Review and permit field changes that provide for a better design or lessens site disturbances
- Perform “value engineering” during and after design is completed.
- On-site construction inspection to ensure the contractor is abiding by the design plans, safety protocols, the soil erosion plan, and scope of work in general. This will include daily or weekly contractor meetings.
- Prepare plans and details to preserve valuable plants and shrubbery in the areas of proposed improvements – field delineate “off-limit” areas before site work is to commence.

FIGURES

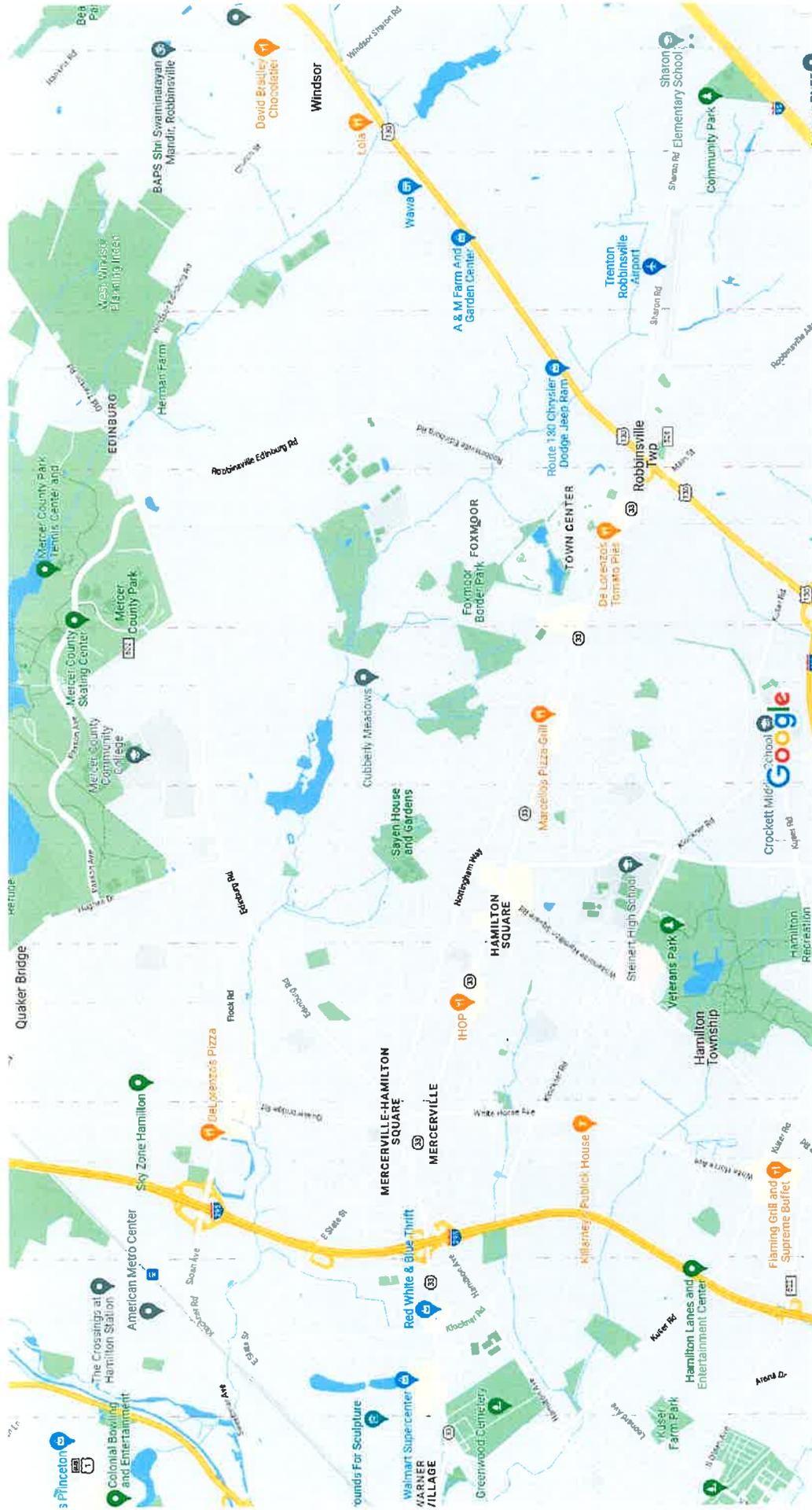


FIGURE 1

Map data ©2023 2000 ft

MAP LEGEND

 Area of Interest (AOI)	 Spoil Area
 Soils	 Stony Spot
 Soil Map Unit Polygons	 Very Stony Spot
 Soil Map Unit Lines	 Wet Spot
 Soil Map Unit Points	 Other
Special Point Features	 Special Line Features
 Blowout	Water Features
 Borrow Pit	 Streams and Canals
 Clay Spot	Transportation
 Closed Depression	 Rails
 Gravel Pit	 Interstate Highways
 Gravelly Spot	 US Routes
 Landfill	 Major Roads
 Lava Flow	 Local Roads
 Marsh or swamp	Background
 Mine or Quarry	 Aerial Photography
 Miscellaneous Water	
 Perennial Water	
 Rock Outcrop	
 Saline Spot	
 Sandy Spot	
 Severely Eroded Spot	
 Sinkhole	
 Slide or Slip	
 Sodic Spot	

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

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Survey Area Data: Version 18, Aug 30, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

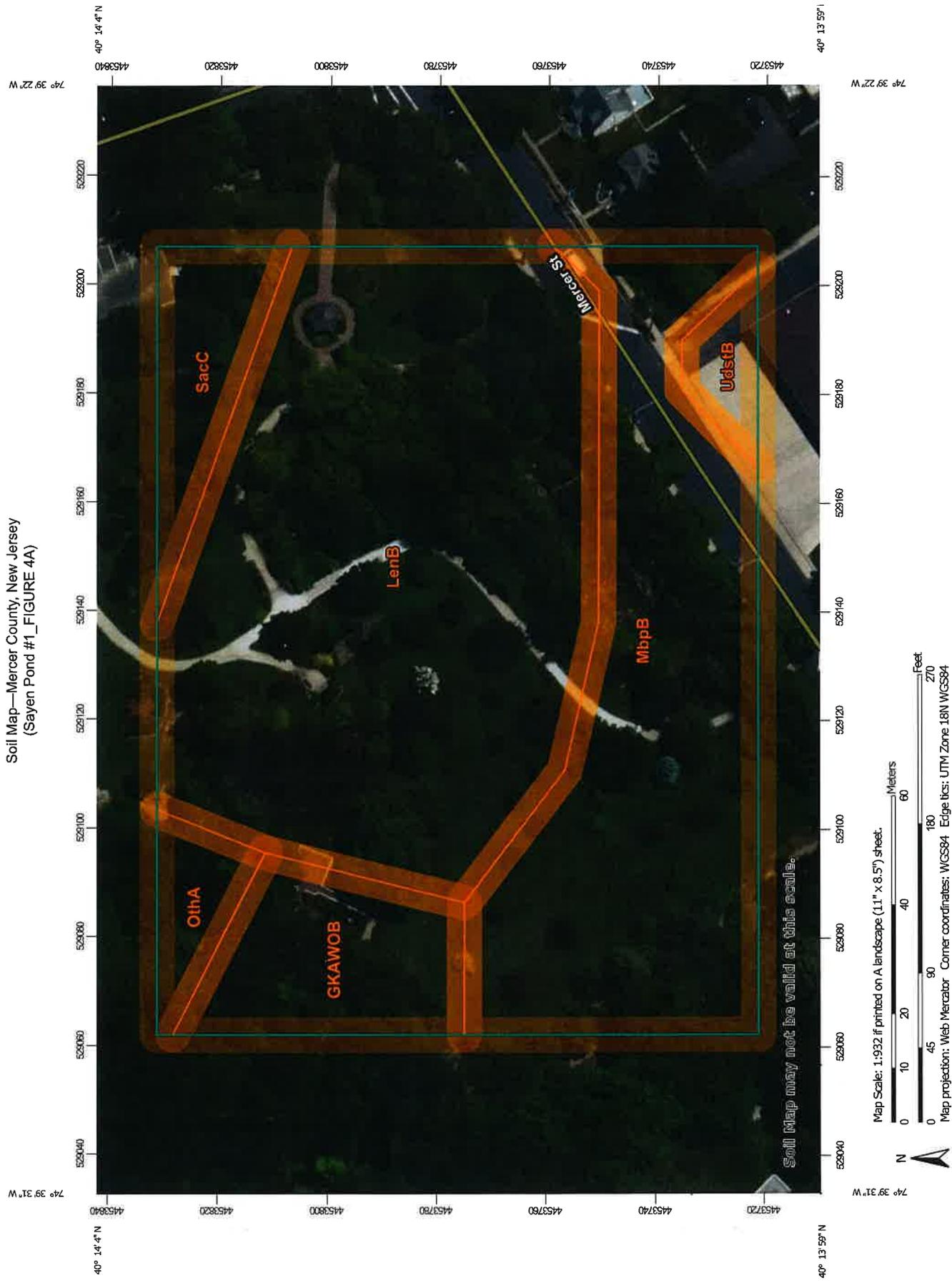
Date(s) aerial images were photographed: Jun 4, 2022—Jul 22, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
FamA	Fallsington sandy loams, 0 to 2 percent slopes, northern coastal plain	13.2	12.7%
GASB	Galloway variant soils, 0 to 5 percent slopes	1.2	1.2%
GKAWOB	Glassboro and Woodstown sandy loams, 0 to 5 percent slopes	9.1	8.7%
LenB	Lenoir-Keyport silt loams, 0 to 5 percent slopes	2.1	2.0%
MbpB	Matapeake loam, 2 to 5 percent slopes	44.4	42.6%
MbpC2	Matapeake loam, 5 to 10 percent slopes, eroded	1.6	1.5%
MBYB	Mattapex and Bertie loams, 0 to 5 percent slopes	6.3	6.0%
OthA	Othello silt loams, 0 to 2 percent slopes, northern coastal plain	10.1	9.7%
PortA	Portsmouth variant silt loam, 0 to 2 percent slopes	5.3	5.1%
SacB	Sassafras sandy loam, 2 to 5 percent slopes, Northern Coastal Plain	3.1	3.0%
SacC	Sassafras sandy loam, 5 to 10 percent slopes, Northern Coastal Plain	1.0	0.9%
SadB	Sassafras gravelly sandy loam, 2 to 5 percent slopes	0.8	0.8%
SagC3	Sassafras sandy clay loam, 5 to 10 percent slopes, severely eroded	3.3	3.1%
UdstB	Udorthents, stratified substratum, 0 to 8 percent slopes	2.8	2.7%
Totals for Area of Interest		104.1	100.0%

FIGURE 4A



Soil Map—Mercer County, New Jersey
(Sayen Pond #1_FIGURE 4A)

MAP LEGEND

 Area of Interest (AOI)	 Spoil Area
 Soils	 Stony Spot
 Soil Map Unit Polygons	 Very Stony Spot
 Soil Map Unit Lines	 Wet Spot
 Soil Map Unit Points	 Other
Special Point Features	 Special Line Features
 Blowout	Water Features
 Borrow Pit	 Streams and Canals
 Clay Spot	Transportation
 Closed Depression	 Rails
 Gravel Pit	 Interstate Highways
 Gravelly Spot	 US Routes
 Landfill	 Major Roads
 Lava Flow	 Local Roads
 Marsh or swamp	Background
 Mine or Quarry	 Aerial Photography
 Miscellaneous Water	
 Perennial Water	
 Rock Outcrop	
 Saline Spot	
 Sandy Spot	
 Severely Eroded Spot	
 Sinkhole	
 Slide or Slip	
 Sodic Spot	

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Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
GKAWOB	Glassboro and Woodstown sandy loams, 0 to 5 percent slopes	0.3	8.4%
LenB	Lenoir-Keyport silt loams, 0 to 5 percent slopes	2.0	49.9%
MbpB	Matapeake loam, 2 to 5 percent slopes	1.2	31.5%
OthA	Othello silt loams, 0 to 2 percent slopes, northern coastal plain	0.1	2.9%
SacC	Sassafras sandy loam, 5 to 10 percent slopes, Northern Coastal Plain	0.2	5.3%
UdstB	Udorthents, stratified substratum, 0 to 8 percent slopes	0.1	2.0%
Totals for Area of Interest		4.0	100.0%

Soil Map—Mercer County, New Jersey
(Sayen Pond #2, FIGURE 4B)



FIGURE 4B

MAP LEGEND

- Area of Interest (AOI)
- Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points
- Special Point Features**
 - Blowout
 - Borrow Pit
 - Clay Spot
 - Closed Depression
 - Gravel Pit
 - Gravelly Spot
 - Landfill
 - Lava Flow
 - Marsh or swamp
 - Mine or Quarry
 - Miscellaneous Water
 - Perennial Water
 - Rock Outcrop
 - Saline Spot
 - Sandy Spot
 - Severely Eroded Spot
 - Sinkhole
 - Slide or Slip
 - Sodic Spot

- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features
- Water Features**
 - Streams and Canals
- Transportation**
 - Rails
 - Interstate Highways
 - US Routes
 - Major Roads
 - Local Roads
- Background**
 - Aerial Photography

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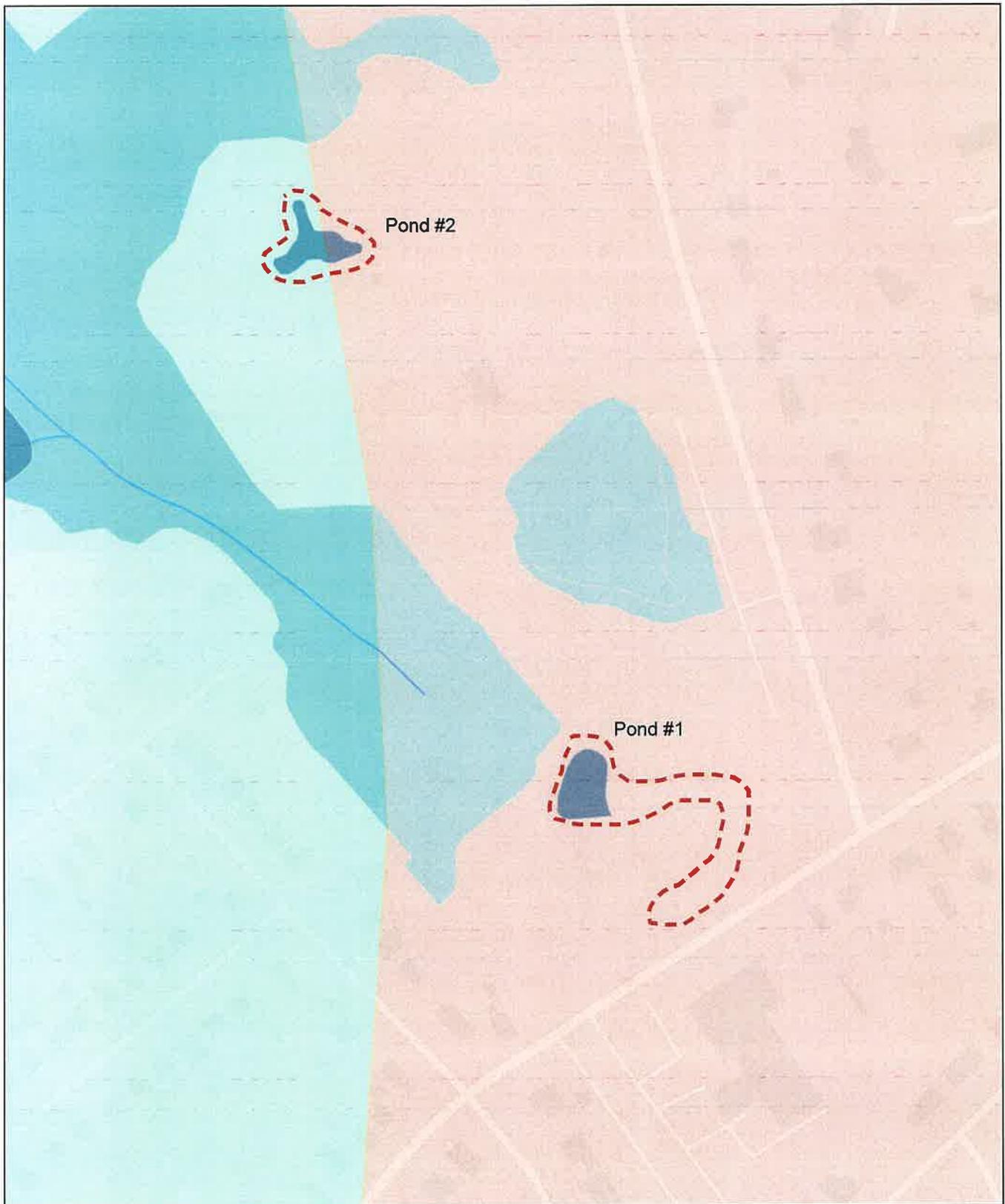
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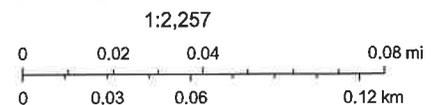
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GKAWOB	Glassboro and Woodstown sandy loams, 0 to 5 percent slopes	0.4	7.3%
MbpB	Matapeake loam, 2 to 5 percent slopes	0.1	1.6%
OthA	Othello silt loams, 0 to 2 percent slopes, northern coastal plain	0.0	0.0%
PortA	Portsmouth variant silt loam, 0 to 2 percent slopes	3.0	51.3%
Totals for Area of Interest		5.8	100.0%

Sayen Bedrock Geology



2/3/2023, 2:08:15 PM

- Water Bodies
- Wetlands (2012)
- Override 1
- Bedrock Geology
- Kmg Magothy Formation
- Kp Potomac Formation
- Municipalities
- Streams
- Stream/River
- Artificial Path



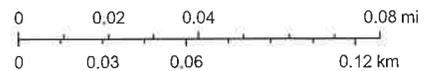
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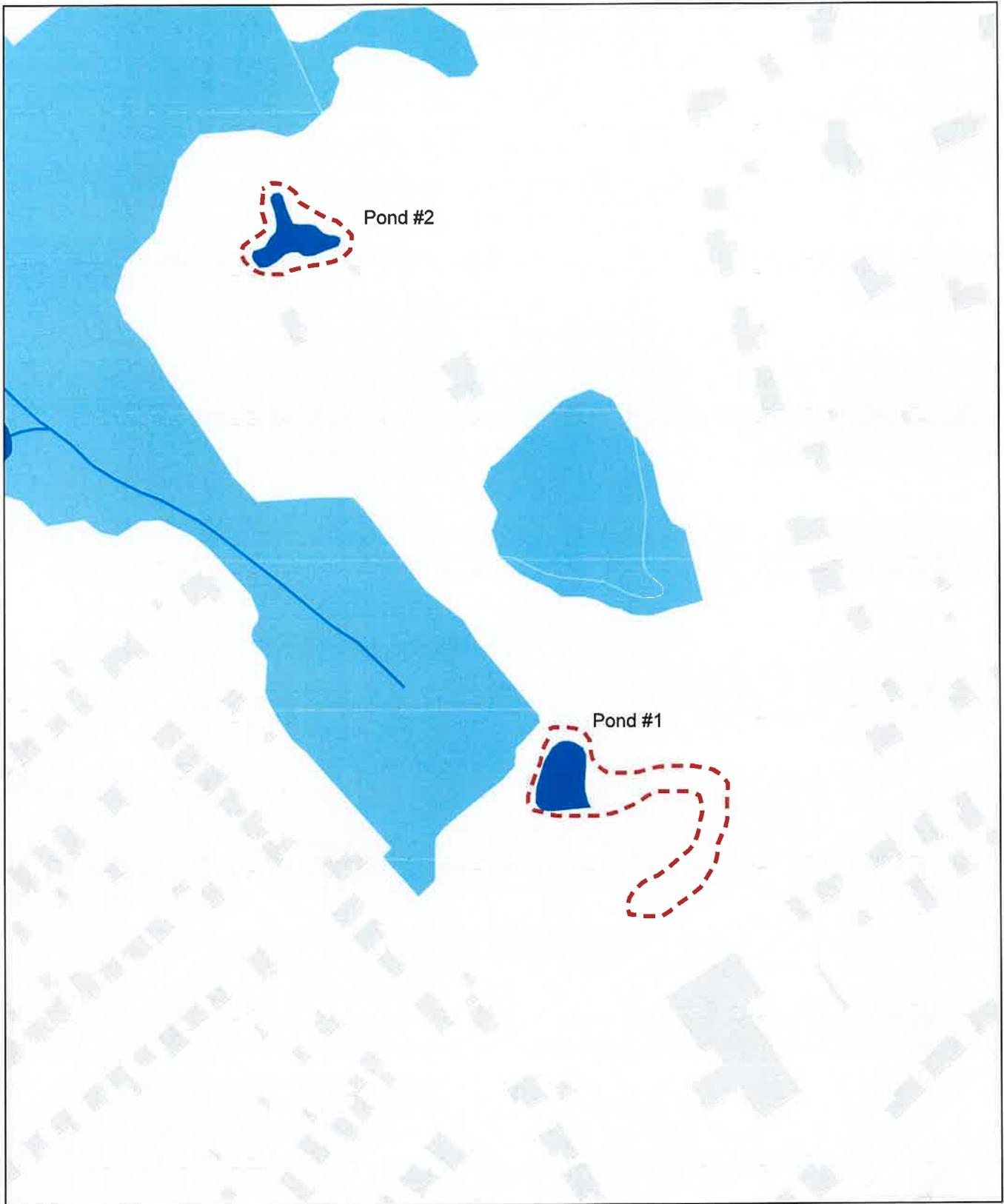
- Water Bodies
- Wetlands (2012)
- Override 1
- Municipalities
- Streams
- Stream/River
- Artificial Path

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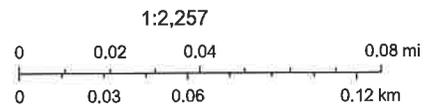
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Sayen Wetlands



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- Water Bodies
- Wetlands (2012)
- Streams
- Stream/River
- Override 1
- Artificial Path
- Municipalities



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APPENDIX A

QUALIFICATIONS OF AUTHOR

ROBERT C. POPPERT, PP, AICP

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Hamilton, NJ 089690
609-433-5421
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EDUCATION

Master of City and Regional Planning (MCRP), Urban Policy and Policy Development, 1997, Edward J. Bloustein School of Planning and Public Policy, Rutgers University, New Brunswick, NJ.

Bachelor of Science (BS), Environmental Planning and Design, 1995, Cook College, Rutgers University, New Brunswick, NJ. Environmental Resource Monitoring Certificate, Cook College, Rutgers University, 1995.

PROFESSIONAL EXPERIENCE

Hamilton Township Division of Planning, Hamilton Township, Mercer County NJ.
August 2008 to present: Township Planner and Municipal Housing Liaison

Responsibilities currently include:

- Review of land development applications (site plan and subdivision) and “c” and “d” variance application reviews
- Securing grants in the fields of forestry, redevelopment, transportation planning, public safety, recreation and parks, streetscape improvements, energy efficiency and conservation, open space acquisition, brownfields
- Prepare and oversee budgets and expenditure reports for project such as awarded grants, capital projects, affordable housing development and land acquisitions.
- Affordable Housing administrator/Municipal Housing Liaison – oversee various projects aided by consulting affordable housing attorney and professional planner
- Open Space administrator – oversee land acquisition, Open Space Inventory updates, liaison to NJDEP Green Acres, land stewardship and mapping
- Capital project planning, budget development, permitting and construction monitoring – Sayen Gardens Streamside Ramble, Anchor Thread Park, 2012 and 2018 Safe Routes to School, Energy Efficiency and Conservation Block Grant and various recreational trails and bikeways projects
- Co-authored planning documents – 2002 and 2008 Master Plan reexamination, 2003 Open Space and Recreation Master Plan, 2005 Planners Report - Hamilton Township’s R-120 zones, 1999 Off-Tract Traffic Improvement Study for Quakerbridge Road Corridor plan, 2019 updates to Central Area and Sloan/Quakerbridge Road Transportation Improvement Districts (TID), 2011 Comprehensive Master Plan, 2011 Bicycle and Pedestrian Study, 2019 Housing Element and Fair Share Plan, Area in Need of Rehabilitation for Lalor Street (2020) and Route 33 (2015) and Area in Need for Redevelopment Whitehorse Circle (2019) and Patterson Avenue (2020) and 2021 Master Plan reexamination.

- Authored planning documents – 2009 Open Space and Recreation Plan update, Recreation and Open Space Inventory (2005 to 2019)
- Part of Economic Development team tasked with processing new development applications, new construction, re-tenants and rehabilitation of existing buildings. Attract new business into Hamilton Township.
- Retain relationships with outside agencies such as NJDOT, DCA, NJDEP, Mercer County Soil Conservation, Mercer County.
- Preparation of land use and zoning ordinances
- Provide expert testimony to the Hamilton Township Zoning and Planning Boards as well as Township Council.

August 2003 to August 2008: Principal Planner and Municipal Housing Liaison

August 2003 to October 1999: Senior Planner

July 1998 to October 1999: Assistant Planner

PROFESSIONAL REGISTRATIONS

New Jersey Professional Planner #005663

American Institute of Certified Planners #017375

PROFESSIONAL AFFILIATIONS

American Planning Association (2/1998 to present)

NJ Shade Tree Foundation (1/2001 to present)

PROFESSIONAL CERTIFICATE PROGRAMS

Tree Care During Construction Workshop, Mercer County Soil Conservation District (2000-2003, 2005)

CONTINUING PROFESSIONAL EDUCATION – COOK COLLEGE RUTGERS UNIVERSITY

Hazardous Tree Identification (8 hours – 12/2001)

Arboriculture Advances: Tree Care in the 21st Century (8 hours -12/2002)

NJ's Tree Autopsy Workshop (8 hours 9/2004)

Volunteer: 201 Bacterial Leaf Scorch Survey Team, NJ Division of Parks and Forestry

CORE Training Accreditation, NJ Shade Tree and Community Forestry Assistance Act (2004) - certificate #998

CHAIRMAN, HAMILTON TOWNSHIP SHADE TREE COMMISSION (JANUARY 2006 TO PRESENT)