Wetlands Functional Analysis for Site of Proposed Sheffield Gardens

Project Location:

Route 17K
Town of Montgomery
Orange County, NY

S/B/L
29-1-5.1, 5.2, 5.3, 5.4, and 5.5

Prepared By:

ECOLOGICAL ANALYSIS, LLC
633 Route 211 East
Suite 4 Box 4
Middletown, New York 10941
(845) 495-0123

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SHEFFIELD GARDENS

Existing Conditions – Wetland Functions and Values

Wetlands provide several functions and values that were evaluated for the onsite wetlands during the project planning process for the Sheffield Gardens property. The basis for the following existing conditions characterization of the four site wetlands is the published methodology[1] of the US Army Corps of Engineers (USACOE), New England District. This qualitative, descriptive methodology was adopted by the USACOE in 1999 to provide a useful evaluation of the physical characteristics of wetlands. It defines Wetland Functions to be "self-sustaining properties of a wetland ecosystem that exist in the absence of society." Wetland Values are associated with the physical properties of a wetland that have potential societal impacts.

The eight functional characteristics utilized in this methodology include:

1. Groundwater recharge/discharge;
2. Flood flow alteration;
3. Fish and shellfish habitats;
4. Sediment/toxicant/pathogen retention;
5. Nutrient removal/retention/transformation;
6. Production export;
7. Sediment/shoreline stabilization;
8. Wildlife habitats.

The five values characteristics utilized in this methodology include:

1. Recreation (Consumptive and Non-Consumptive);
2. Educational/Scientific;
3. Uniqueness/Heritage;
4. Visual Quality/Aesthetics;
5. Threatened/Endangered Species Habitat.

A Wetland Function-Value Evaluation Form was filled for each of the wetland areas and for the adjoining portions of the open water pond on the Sheffield Gardens project site. These forms are presented in this section. Each of the onsite wetland areas identified on these forms are either representative in entirety of one of the flagged wetlands identified on this property or are portions of one of those wetlands, where a wetland has been further delineated into each of its primary habitat classifications.[2]

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[1] USACOE. 1999. Wetland Functions and Values – A Descriptive Approach. Pub No. NAEEP-360-1-30a. 32 pp.

[2] Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deep-water Habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

FUNCTIONAL CATEGORIES:

1) GROUNDWATER RECHARGE/DISCHARGE
2) FLOOD FLOW ALTERATION
3) FISH AND SHELLFISH HABITATS
4) SEDIMENT/TOXICANT RETENTION
5) NUTRIENT REMOVAL
6) PRODUCTION EXPORT
7) SEDIMENT/SHORELINE STABILIZATION
8) WILDLIFE HABITATS

1) GROUNDWATER RECHARGE/DISCHARGE:

This function considers the potential for a wetland to serve as a groundwater recharge and/or discharge area.

RATIONALE REFERENCE NUMBERS:

1. Public or private wells occur downstream of the wetland.
2. Potential exists for public or private wells downstream of the wetland.
3. Wetland is underlain by a stratified drift aquifer.
4. Gravel or sandy soils present in or adjacent to the wetland.
5. Fragipan does not occur in the wetland.
6. Fragipan, impervious soils, or bedrock does occur in the wetland.
7. Wetland is associated with a perennial or intermittent watercourse.
8. Signs of groundwater recharge are present.
9. Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet.
10. Wetland contains only an outlet, no inlet.
11. Groundwater quality of stratified drift aquifer within or downstream of wetland meets drinking water standards.
12. Quality of water associated with the wetland is high.
13. Signs of groundwater discharge are present (e.g., springs).
14. Wetland shows signs of variable water levels.

2) FLOOD FLOW ALTERATION:

This function considers the effectiveness of a wetland in reducing flood damage by water retention for prolonged periods following precipitation events and the gradual release of floodwaters.

RATIONALE REFERENCE NUMBERS:

1. Area of this wetland is large relative to its watershed.
2. Wetland occurs in the upper portions of its watershed.
3. Effective flood storage is small or non-existent upslope of the wetland.
4. Wetland watershed contains a high percent of impervious surfaces.
5. Wetland contains hydric soils which are able to absorb and detain water.
6. Wetland exists in a relatively flat area that has flood storage potential.
7. Wetland has an intermittent outlet, ponded water, or signs are present of a variable water level.
8. During flood events, this wetland can retain higher volumes of water than under normal or average rainfall conditions.
9. Wetland receives and retains overland or sheet flow runoff from surrounding upland
10. In the event of a large storm, this wetland may receive and detain excessive flood water from a nearby watercourse.
11. Valuable properties, structures, or resources are located in or near the floodplain downstream from the wetland.
12. The watershed has a history of economic loss due to flooding.
13. This wetland is associated with one or more watercourses.
14. This wetland watercourse is sinuous or diffuse.
15. This wetland outlet is constricted.
16. Channel flow velocity is affected by this wetland.
17. Land uses downstream are protected by this wetland.
18. This wetland contains a high density of vegetation.

3) FISH AND SHELLFISH HABITATS:

This function considers the use of a wetland, and its intermittent or perennial watercourses, by fish and shellfish populations.

RATIONALE REFERENCE NUMBERS:

1. Wetland is stocked with fish.
2.. Evidence of fish populations is observed.
3. Forest land dominant in the watershed above this wetland.
4. Vegetation or other objects providing cover is present.
5. Size of this wetland is able to support large populations of fish/shellfish.
6. Wetland has sufficient size and depth in open water areas so as not to freeze solid during winter.
7. Spawning areas are present (sandy shoreline, submerged vegetation, or gravel beds).
8. Food is available to fish/shellfish populations within this wetland.

→ STOP HERE IF THIS WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE

9. Wetland is part of a larger, contiguous watercourse.
10. Watercourse width (bank to bank) is more than 50 feet.
11. Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish populations.
12. Streamside vegetation provides shade for the watercourse.
13. Barriers to anadromous fish (such as dams, waterfalls, road crossing) are absent from the stream reach associated with this wetland.
14. The watercourse is persistent.
15. Man-made streams are absent.
16. Watercourse flow velocities are not too excessive for fish inhabitation.
17. Defined stream channel is present.

4) SEDIMENT/TOXICANT RETENTION:

This function considers the reduction or prevention of the degradation of water quality. It relates to the effectiveness of a wetland as a trap for sediments, toxicants, or pathogens in runoff water from surrounding uplands or upstream areas. Dissolved or suspended matter in the inflowing water can be retained, removed, or modified by biotic and abiotic processes occurring within the wetland.

RATIONALE REFERENCE NUMBERS:

1. Potential sources of excess sediment are in the watershed above the wetland.
2. Potential or known sources of toxicants are in the upper watershed.
3. Opportunity for sediment trapping by slow moving water or deepwater habitat are present in this wetland.
4. Fine grained mineral or organic soils are present.
5. Long duration water retention time is present in this wetland.
6. Public or private water sources occur downstream.
7. The wetland edge is broad and intermittently aerobic.
8. The wetland is known to have existed for more than 50 years.
9. Drainage ditches have not been constructed in the wetland.
10. Wetland has a high degree of water and vegetation interspersion.
11. Dense vegetation provides opportunity for sediment trapping and/or signs of sediment accumulation by dense vegetation is present.

→ STOP HERE IF WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE.

12. Wetland is associated with an intermittent or perennial stream or a pond.
13. Channelized flow velocities are observed to decrease in the wetland.
14. Effective floodwater storage in wetland is occurring. Areas of impounded open water are present.
15. No indicators of erosive forces are present. No fast water velocities are present.
16. Diffuse water flows are present in the wetland.

5) NUTRIENT REMOVAL:

This function considers the effectiveness of a wetland as a trap for nutrients in runoff water, and the ability of the wetland to process these nutrients into other forms or trophic levels.

RATIONALE REFERENCE NUMBERS:

1. Wetland is large relative to the size of its watershed.
2. Deep water or open water habitat exists.
3. Overall potential for sediment trapping exists in the wetland.
4. Potential sources of excess nutrients are present in the watershed above the wetland.
5. Wetland is ponded or has saturated soils for most of the season.
6. Deep organic/sediment deposits are present.
7. Slowly drained fine-grained mineral or organic soils are present.
8. Dense vegetation is present.
9. Emergent vegetation and/or dense woody growths are dominant.
10. Opportunity for nutrient removal exists.
11. Vegetation diversity/abundance sufficient to utilize nutrients.

→ STOP HERE IF WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE.

12. Waterflow through this wetland is diffuse.
13. Water retention/detention time in this wetland is increased by constricted outlet or thick vegetation.
14. Water moves slowly through this wetland.

6) PRODUCTION EXPORT:

This function evaluates the effectiveness of a wetland to produce food or usable products for consumer species of wildlife.

RATIONALE REFERENCE NUMBERS:

1. Wildlife food sources are present within this wetland.
2. Detritus development is present within this wetland
3. Evidence of wildlife use found within this wetland.
4. Higher trophic level consumers are utilizing this wetland.
5. Fish or shellfish are present within this wetland.
6. High vegetation density is present.
7. Wetland exhibits high degree of plant community structure/species diversity.
8. Nutrients are exported via wetland watercourses (permanent outlet present).
9. Flushing of relatively large amounts of organic plant material occurs from this wetland.
10. Wetland contains flowering plants that are used by nectar-gathering insects.
11. High production levels occur, however, no visible signs of export.

7) SEDIMENT/SHORELINE STABILIZATION:

This function considers the effectiveness of a wetland to stabilize streambanks and shorelines, reducing erosional forces on adjacent uplands.

RATIONALE REFERENCE NUMBERS:

1. Indications of erosion or siltation are present.
2. Topographical gradient is present in wetland.
3. Potential sediment sources are present up-slope.
4. Potential sediment sources are present upstream.
5. No distinct shoreline or bank is evident between open water and the wetland or upland.
6. A distinct shoreline bank with dense roots throughout is present between the open waterbody or stream and the upland.
7. Wide wetland (≥10') bordering a watercourse, lake, or pond.
8. High flow velocities through the wetland.
9. The watershed is of sufficient size to produce channelized flow.
10. Open water fetch is present.
12. Dense vegetation is bordering streams or open water bodies associated with this wetland.
13. High percentage of energy-absorbing emergent vegetation and/or shrubs border watercourse or open water bodies associated with this wetland.
14. Vegetation is comprised of a dense, resilient herbaceous layer that stabilizes sediments and shorelines during minor flood events or other potentially erosive events.
15. Vegetation is comprised of large trees and shrubs that withstand major flood events or erosive incidents and stabilize the shoreline during major flood events or other potentially erosive events.

8) WILDLIFE HABITATS:

This function considers the effectiveness of a wetland's vegetation, soil, and hydrology to provide habitats for various types and populations of animals typically associated with wetlands or wetland edges, for both resident and/or migratory species.

RATIONALE REFERENCE NUMBERS:

1. Wetland is not degraded by human activity.
2. Presence of disturbance-intolerant species is indicated.
3. Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds NYSDEC stream Class A or Class B standards.
4. Wetland is not fragmented by development.
5. Upland surrounding this wetland is undeveloped.
6. More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., brushland, woodland, active farmland, or idle land) at least 500 feet in width.
7. Wetland is contiguous with other wetland systems or connected by a watercourse or lake.
8. Wildlife overland corridors to other wetlands are present.
9. Wildlife food sources are within this wetland or are nearby.
10. Wetland exhibits a high degree of interspersion of vegetation classes and/or open water.
11. Two or more islands or inclusions of uplands within the wetland are present.
12. Dominant wetland class includes deep or shallow marsh or wooded swamp.
13. More than three acres of shallow permanent open water (less than 6.6 feet deep), including streams in or adjacent to wetland, are present.
14. Wetland exhibits a high density of wetland vegetation.
15. Wetland exhibits a high degree of plant species diversity.
16. Wetland exhibits a high degree of diversity in plant community structure.
17. Wildlife and birdlife, or signs of their presence, observed.
18. Seasonal uses vary for wildlife, and wetland appears to support varied population diversity/abundances during different seasons.
19. Wetland contains or has potential to contain a high population of insects.
20. Wetland contains or has potential to contain substantial populations of amphibians.
21. Wetland provides potential for supporting substantial birdlife.

VALUE CATEGORIES:

1) RECREATION
2) EDUCATIONAL/SCIENTIFIC VALUE
3) UNIQUENESS/HERITAGE
4) VISUAL QUALITY/AESTHETICS
5) THREATENED/ENDANGERED SPECIES HABITAT

1) RECREATION (Consumptive and Non-Consumptive):

This value considers the suitability of the wetland and associated watercourses to provide recreational opportunities such as hiking, canoeing, boating, fishing, hunting, and other active or passive recreational activities. Consumptive opportunities consume or diminish the plants, animals, or other resources that are intrinsic to the wetland. Non-consumptive opportunities do not consume or diminish these resources of the wetland.

RATIONALE REFERENCE NUMBERS:

1. Wetland is part of a recreation area, park, forest, or refuge.
2. Fishing is available within the wetland.
3. Hunting is permitted in the wetland.
4. Hiking occurs or has potential to occur within the wetland.
5. Wetland is a valuable wildlife habitat.
6. The watercourse, pond, or lake associated with the wetland is unpolluted.
7. High visual/aesthetic quality.
8. Access to water is available for boating, canoeing, or fishing.
9. The watercourse associated with this wetland is wide and deep enough to accommodate canoeing and/or non-powered boating.
10. Off-road public parking available at the potential recreation site.
11. The wetland is within a short drive or walk from highly populated areas.

2) EDUCATIONAL/SCIENTIFIC VALUE:

This value considers the suitability of the wetland as a site for an "outdoor classroom" or as a location for scientific study or research.

RATIONALE REFERENCE NUMBERS:

1. Wetland contains or is known to contain threatened, rare, or endangered species.
2. Little or no disturbance is occurring in this wetland.
3. Potential educational site contains a diversity of wetland classes which are accessible or potentially accessible.
4. Potential educational site is undisturbed and natural.
5. Wetland is considered to be a valuable wildlife habitat.
6. Wetland is located within a nature preserve or wildlife management area.
7. Signs of wildlife habitat enhancement present (bird houses, nesting boxes, etc.).
8. Off-road parking at potential educational site suitable for school bus access.
9. Potential educational site is within safe walking distance or a short drive to schools.
10. Potential educational site is within safe walking distance to other plant communities.
11. Direct access to perennial stream at potential educational site is available.
12. Direct access to pond or lake at potential educational site is available.
13. No known safety hazards exist within the potential educational site.
14. Public access to the potential educational site is controlled.
15. Handicap accessibility is available.
16. Site is currently used for educational or scientific purposes.

3) UNIQUENESS/HERITAGE:

This value considers the effectiveness of the wetland to provide certain special values, including archaeological sites, critical habitat for endangered species, a unique role in the local ecology, including any relative importance as a typical wetland for the region.

RATIONALE REFERENCE NUMBERS:

1. Upland surrounding wetland is primarily urban.
2. Upland surrounding wetland is developing rapidly.
3. More than 3 acres of shallow permanent open water.
4. Three or more wetland classes are present.
5. Deep and/or shallow marsh or wooded swamp dominate.
6. High degree of interspersion of vegetation and open water.
7. Well-vegetated stream corridor (15 feet on each side of the stream) occurs in this wetland.
8. Potential educational site is within a short drive or a safe walk from schools.
9. Off-road parking at potential educational site is suitable for school buses.
10. No known safety hazards exist within this potential educational site.
11. Direct access to perennial stream or lake exists at potential educational site.
12. Two or more wetland classes are visible from primary viewing locations.
13. Half an acre of open water or 200 feet of stream is visible from primary viewing locations.
14. Large area of wetland is dominated by flowering plants or plants that turn vibrant colors in different seasons.
15. General appearance of the wetland visible from primary viewing locations is unpolluted and/or undisturbed.
16. Overall view of the wetland is available from the surrounding upland.
17. Quality of the water associated with the wetland is high.
18. Opportunities for wildlife observations are available.
19. Historical buildings are found within the wetland.
20. Presence of pond or pond site and remains of a dam occur within the wetland.
21. Wetland is within 50 yards of the nearest perennial watercourse.
22. Visible stone or earthen foundations, berms, dams, standing structures, or associated features occur within the wetland.
23. Wetland contains critical habitat for a state- or federally-listed threatened or endangered species.
24. Wetland is known to be a study site for scientific research.
25. Wetland is a natural landmark or recognized by the state natural heritage inventory authority as an exemplary natural community.
26. Wetland has local significance because it serves several functional values.
27. Wetland has local significance because it has biological, geological, or other features that are locally rare or unique.
28. Wetland is known to contain an important archaeological site.
29. Wetland is hydrologically connected to a designated scenic river.
30. Wetland is located in an area experiencing a high wetland loss rate.

4) VISUAL QUALITY/AESTHETICS:

This value considers the visual and aesthetic quality or usefulness of the wetland.

RATIONALE REFERENCE NUMBERS:

1. Multiple wetland classes are visible from primary viewing locations.
2. Emergent marsh and/or open water are visible from primary viewing locations.
3. A diversity of vegetative species is visible from primary viewing locations.
4. Wetland is dominated by flowering plants or plants that turn vibrant colors seasonally.
5. Land use surrounding the wetland is undeveloped as seen from primary viewing locations.
6. Surrounding land use form contrasts visually with wetland.
7. Wetland views are absent of trash, debris, and other signs of disturbances.
8. Wetland is considered to be a valuable wildlife habitat.
9. Wetland is easily accessed.
10. Low noise level at primary viewing locations.
11. Unpleasant odors are not present at primary viewing locations.
12. Relatively unobstructed sight line exists through wetland.

5) THREATENED/ENDANGERED SPECIES HABITAT:

This value considers the ability of the wetland to offer habitat for state or federal threatened or endangered species habitat.

RATIONALE REFERENCE NUMBERS:

1. Wetland is known to contain threatened or endangered species.
2. Wetland contains critical habitat for threatened or endangered species.

Wetland Area "A" - Photographs and site location.

Spring view

Fall view

Wetland Function-Value Evaluation Form

Total area of wetland 0.650 ac Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Forest, vernal pool, athletic fields Distance to nearest roadway or other development 50 '

Dominant wetland systems present PFO1E Contiguous undeveloped buffer zone present Yes

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Upper

How many tributaries contribute to the wetland? None

Wetland I.D. Area A

Latitude 41.5222 Longitude 74.2139

Prepared by: BRF Date 1-9-2024

Wetland Impact:
Type None Area N/A

Evaluation based on:
Office X Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y	2, 4, 7, 10, 14	X	Wetland has little relief, retaining only shallow pockets of standing water.
Floodflow Alteration	Y	2, 3, 6, 7, 8, 9, 13, 15	X	Wetland discharges, at grade, to a culvert.
Fish and Shellfish Habitat	N			Wetland is not permanently flooded.
Sediment/Toxicant Retention	Y	4, 8, 12, 15, 16		Wetland discharges localized runoff input into an intermittent stream.
Nutrient Removal	Y	3, 5, 7, 10, 11, 12		Wetland receives nutrients from local surface runoff.
Production Export	Y	2, 3, 4, 8		Wetland is sparsely vegetated.
Sediment/Shoreline Stabilization	Y	15		Perimeter consists of established forest vegetation.
Wildlife Habitat	Y	1, 4, 5, 6, 7, 8, 9,17, 19		Sparsely vegetated and only intermittently flooded.
Recreation	N	6		Wetland is on private property.
Educational/Scientific Value	N	2,14		Wetland is on private property.
Uniqueness/Heritage	N	2, 26		Wetland has no known unique characteristics.
Visual Quality/Aesthetics	N	4, 12		Wetland is on private property with limited viewscape.
ES Endangered Species Habitat	N			Location not in vicinity of any known endangered species.
Other				

Wetland Area "B" - Photographs and site location.

Spring view

Summer view

Wetland Function-Value Evaluation Form

Total area of wetland 0.274 ac Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Forest, forested wetland Distance to nearest roadway or other development 150 '

Dominant wetland systems present PFO1E Contiguous undeveloped buffer zone present Yes

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Mid

How many tributaries contribute to the wetland? None

Wetland I.D. Area B

Latitude 41.5221 Longitude 74.2135

Prepared by: BRF Date 1-9-2024

Wetland Impact:
Type None Area N/A

Evaluation based on:
Office X Field X

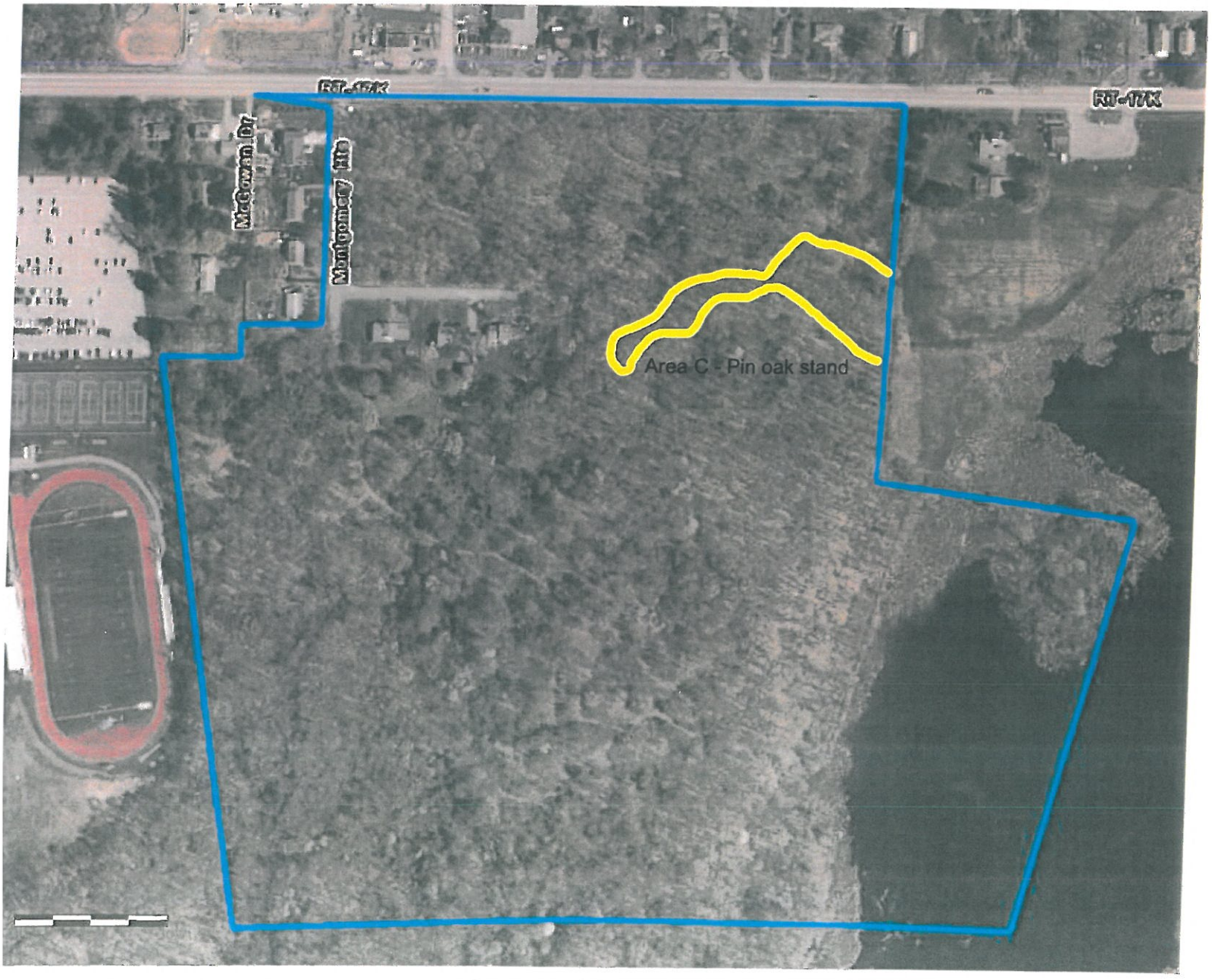
Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y	6, 14	X	Wetland has a prolonged water retention period.
Floodflow Alteration	Y	3, 6, 7, 8, 9	X	Wetland has a prolonged water retention period.
Fish and Shellfish Habitat	N			Wetland is not a permanent waterbody.
Sediment/Toxicant Retention	Y	4, 5, 8, 9		Wetland retains localized runoff for extended periods.
Nutrient Removal	Y	3, 5, 7		Wetland receives nutrients from local surface runoff.
Production Export	Y	1, 2, 3, 4		Wetland is in a localized depression, with no regular outflow.
Sediment/Shoreline Stabilization	Y	5, 15		Perimeter consists of established forest vegetation.
Wildlife Habitat	Y	1, 4, 5, 6, 7,8, 9, 17,20	X	Wood frog egg masses and adults observed in 2023.
Recreation	N	5		Wetland is on private property.
Educational/Scientific Value	N	2, 5,14		Wetland is on private property.
Uniqueness/Heritage	Y	2, 17, 18, 26		Wetland supports breeding vernal pool species.
Visual Quality/Aesthetics	N			Wetland is on private property with limited viewscape.
ES Endangered Species Habitat	N			Location not in vicinity of any known endangered species.
Other				

Wetland Area "C" Pin oak stand - Photographs and site location.

Spring view

Fall view



Wetland Function-Value Evaluation Form

Total area of wetland 1.0 ac Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? Yes

Adjacent land use Forested wetland, road, residential Distance to nearest roadway or other development 275'

Dominant wetland systems present POF1J Contiguous undeveloped buffer zone present Yes

Is the wetland a separate hydraulic system? Yes If not, where does the wetland lie in the drainage basin? N/A

How many tributaries contribute to the wetland? None

Wetland I.D. Area C - Pin oak stand

Latitude 41.5247 Longitude 74.2103

Prepared by: BRF Date 1-9-2024

Wetland Impact:
Type None Area N/A

Evaluation based on:
Office X Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y	6		Wetland observed partially and shallowly flooded on some site visits.
Floodflow Alteration	Y	2, 3, 6, 7, 8, 9		Wetland retains a low volume of stormwater runoff.
Fish and Shellfish Habitat	N			Wetland is not a permanent waterbody.
Sediment/Toxicant Retention	Y	4, 5, 8, 9		Local runoff is from undisturbed woodland.
Nutrient Removal	Y	3, 5, 7, 10	X	Wetland receives nutrients from local surface runoff.
Production Export	Y	1, 2, 4		Wetland is in a localized depression, with no regular outflow.
Sediment/Shoreline Stabilization	Y	2,15		Perimeter consists of established forest vegetation.
Wildlife Habitat	Y	1, 4, 5, 6, 7, 8, 9,19		Wetland is a sparsely vegetated, open habitat.
Recreation	N	11		Wetland is on private property.
Educational/Scientific Value	N	2,14		Wetland is on private property.
Uniqueness/Heritage	N	2, 5, 15, 16, 26		Wetland is a regionally common habitat.
Visual Quality/Aesthetics	N	2, 3		Wetland is on private property with limited viewscape.
ES Endangered Species Habitat	N			Location not in vicinity of any known endangered species.
Other				

Wetland Area "C" Cattail marsh - Photographs and site location.

Fall view (1)

Fall view (2)

Wetland Function-Value Evaluation Form

Total area of wetland 0.5 ac Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? Yes

Adjacent land use Forested wetland, road, residential Distance to nearest roadway or other development 0'

Dominant wetland systems present PEM1E Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? Yes If not, where does the wetland lie in the drainage basin? N/A

How many tributaries contribute to the wetland? None

Wetland I.D. Area C - Cattail marsh

Latitude 41.5254 Longitude 74.2094

Prepared by: BRF Date 1-9-2024

Wetland Impact:
Type None Area N/A

Evaluation based on:
Office X Field X

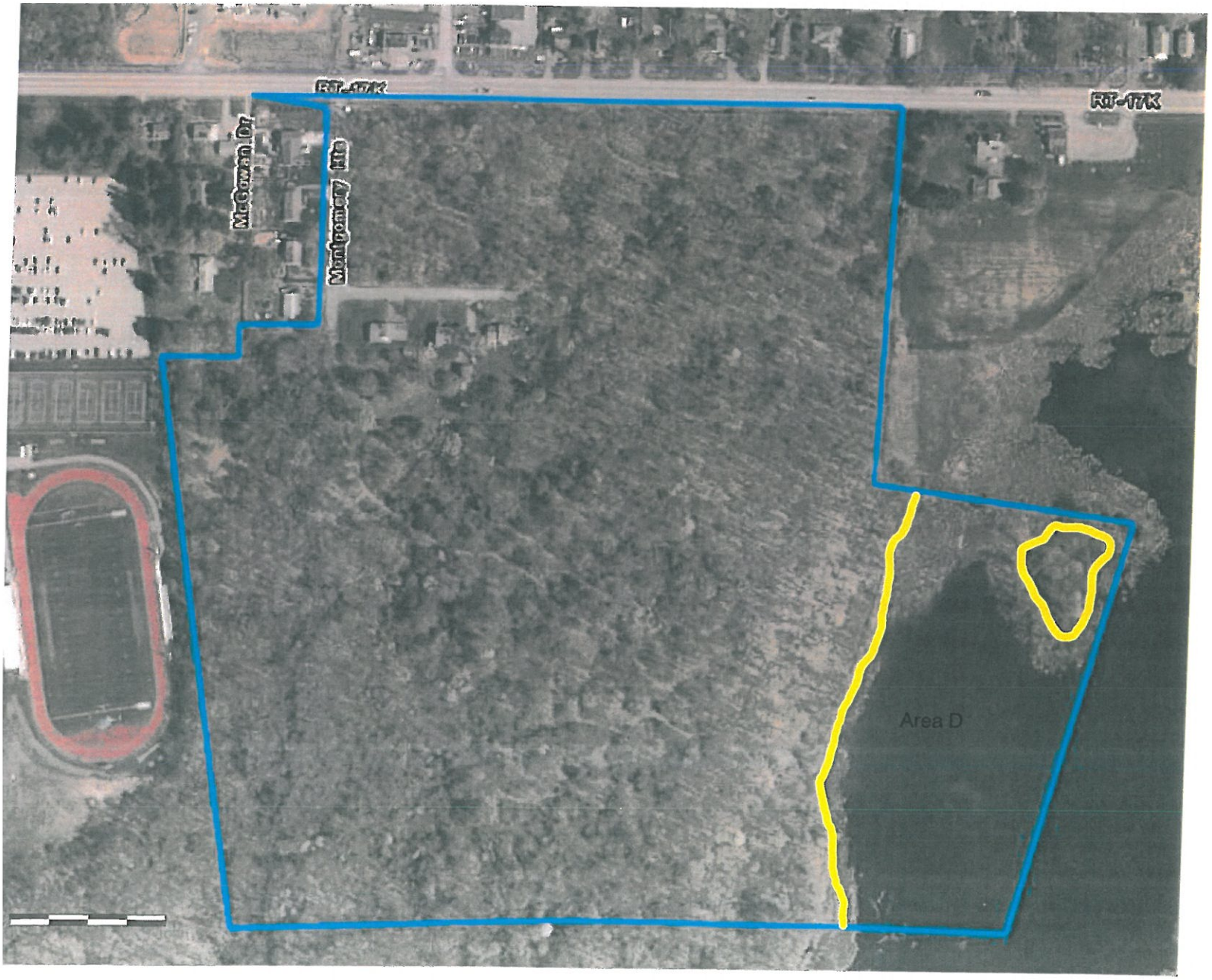
Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y	5, 6, 14	X	Wetland has a prolonged water retention period.
Floodflow Alteration	Y	3, 6, 7, 8, 9, 18		Wetland has a prolonged water retention period.
Fish and Shellfish Habitat	N			Wetland is not a permanent waterbody.
Sediment/Toxicant Retention	Y	4, 5, 9, 10, 11	X	Wetland retains localized runoff for extended periods.
Nutrient Removal	Y	3, 5, 6, 7, 8, 9,10,11		Wetland receives nutrients from local surface runoff.
Production Export	Y	1, 2, 3, 4, 6, 7, 11		Wetland is in a localized depression, with no regular outflow.
Sediment/Shoreline Stabilization	Y	6, 13, 14		Perimeter consists of established forest vegetation.
Wildlife Habitat	Y	4, 8, 9, 12,14,17,19, 20	X	Prolonged water retention period allows for frog/toad egg laying.
Recreation	N			Wetland is on private property.
Educational/Scientific Value	N	2,14		Wetland is on private property.
Uniqueness/Heritage	N	2, 18, 26		Wetland is a regionally common habitat.
Visual Quality/Aesthetics	N	2, 6		Wetland is on private property with limited viewscape.
ES Endangered Species Habitat	N			Location not in vicinity of any known endangered species.
Other				

Wetland Area "D" - Photographs and site location.

Shoreline view

Open pond view



Wetland Function-Value Evaluation Form

Total area of wetland 8.75 ac Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Forest, pond Distance to nearest roadway or other development 600 '

Dominant wetland systems present PEM1E, L1UB4, L2EM Contiguous undeveloped buffer zone present Yes

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Mid

How many tributaries contribute to the wetland? Two

Wetland I.D. Area D

Latitude 41.5222 Longitude 74.2089

Prepared by: BRF Date 1-9-2024

Wetland Impact:
Type None Area N/A

Evaluation based on:
Office X Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y	2, 5, 6, 7, 9, 12, 14	X	Wetland and pond are flooded, with a long retention period.
Floodflow Alteration	Y	1, 2, 3, 6, 7, 8, 9,10, 11, 13,15,17,18	X	Discharge restricted to one culvert, attenuating stormwater outflow.
Fish and Shellfish Habitat	Y	2, 3, 4, 5, 7, 8	X	Wetland merges into a semi-permanently flooded pond.
Sediment/Toxicant Retention	Y	3, 4, 5, 8, 10, 11	X	Wetland provides extended retention of stormwater inflows.
Nutrient Removal	Y	2, 3, 5, 6, 7, 8, 10,11, 12,13,14	X	Wetland receives nutrients from local surface runoff.
Production Export	Y	1, 2, 3, 4, 5, 6, 7, 8, 10		Shoreline, pond, and outlet channel are densely vegetated.
Sediment/Shoreline Stabilization	Y	7, 10, 12, 13, 14	X	Perimeter consists of established forest or emergent vegetation.
Wildlife Habitat	Y	4, 5, 6, 7, 8,9, 10, 12, 13, 14,15,16,17,18, 9, 20,21	X	Sparsely vegetated and only intermittently flooded.
Recreation	N	5, 7, 11		Wetland is on private property.
Educational/Scientific Value	N	2, 5,14		Wetland is on private property.
Uniqueness/Heritage	Y	2, 3, 4, 5, 6, 7, 12, 13, 15, 18, 26		Wetland has no known unique characteristics.
Visual Quality/Aesthetics	Y	2, 6, 8		Wetland is on private property with limited viewscape.
ES Endangered Species Habitat	N			Location not in vicinity of any known endangered species.
Other				