Shepgarten

Wetland Mitigation Bank

<u>Addendum No. 4</u> to the

WFI-B Umbrella Mitigation Banking Instrument

LKS-SG-2022-001

WFI HOLDINGS-B LLC

248 Southwoods Center
Columbia, IL 62236

June 27, 2022

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AQUATIC AND FORESTED WETLAND

INTRODUCTION

Pursuant to its WFI-B Umbrella Mitigation Banking Instrument (**UMBI**), WFI-B is establishing mitigation bank sites in multiple watersheds throughout the USACE St. Louis District of Illinois. The proposed Shepgarten Wetland Mitigation Bank (hereinafter, **SWMB** or the **Bank Site**) is located in an unprotected floodplain of Shoal Creek in Clinton County, Illinois. The Bank Site is a total of 79.97 (+/-) acres situated on a parcel of land that consists of prior converted cropland, river channel and degraded wooded riparian corridor adjacent to Shoal Creek. The approximate center of the Bank Site is located at Latitude 38.54168°, Longitude -89.53714°.

The wetland mitigation bank plan will result in the re-establishment and enhancement of emergent and forested wetlands.

The Bank Site property was selected by WFI Holdings-B LLC (the **Sponsor**) because of its potential for beneficial water quality and wildlife habitat improvements to the watershed. Some of the attractive qualities of the Bank Site as a mitigation parcel include: the low lying existing agricultural fields and the ability to reduce fragmentation through the development of the mitigation bank.

The Bank Site is ecologically suitable for forested and emergent wetland re-establishment. It is directly adjacent to a perennial creek (Shoal Creek) that has a suitable riparian buffer. It is capable of supporting wetlands because there is sufficient hydrology that flows across the site, which consists entirely of hydric soils. As a result, the Bank Site has great potential for increasing forested habitat along the stream system.

The Bank Site's location near Shoal Creek will create important benefits for the watershed as agricultural and highway runoff will be filtered as it flows across the Bank Site. Additionally, occasional floodwaters from Shoal Creek will be filtered in the established wetlands, which will also store flood waters and provide substantial wildlife benefits.

The onsite wetlands will decrease the amount of nutrients traveling to downstream waters and the expanded riparian buffers will reduce the amount of sediment moving through the system.

This area can be ecologically improved by managing early successional woody species in order to stimulate the growth of the existing and more ecologically valuable late successional woody species and by the planting of tree and shrub species to increase species richness. Restoring wetland areas will also increase habitat opportunities for species that require or frequent shallow ephemeral wetlands that include amphibians, reptiles, invertebrates, birds, and mammals.

One of the most important components of the Bank Site is its proximity to Shoal Creek, within the Lower Kaskaskia watershed and more specifically, the Shoal/Lower Kaskaskia Service Areas

(LKS). Thus, this meets a need for sites mitigated in the regional watershed where impacts have been made and natural habitat lost due to human activity.

GUIDELINES AND RESPONSIBILITIES

The following information is to establish guidelines and responsibilities for the establishment, use, operation, and maintenance of SWMB. The Bank Site will be used for compensatory mitigation for unavoidable impacts to waters of the United States including wetlands, which result from activities authorized under Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act, and other Federal, State or local wetland regulatory programs provided such use has met all applicable requirements and is authorized by the appropriate authority.

The Bank Site is proposed on a parcel situated adjacent to Shoal Creek in the Shoal watershed, Clinton County, Illinois. Wetlands Forever, Inc. will be the management company and perform the services specified herein for SWMB.

The Bank Site is situated and developed to address the loss of forested and emergent wetland habitat. The Bank Site is compatible with adjacent land use, contributes to important local stream, terrestrial and wooded forest wetland functions, will be ecologically self-sustaining, and protected in perpetuity by an approved U.S. Army Corps of Engineers Conservation Easement.

BANK DEVELOPMENT

The entire property consists of hydric soils and lies within the floodplain of Shoal Creek. A wetland site evaluation was conducted by a wetland biologist and determined that the soils were hydric, and the farmed portion is a prior converted cropland area. Historically, this property was and is hydrologically connected over a wide range of storm events to Shoal Creek within the Shoal watershed. The Bank Site will total 79.97 acres that will be developed with multiple types of habitat features: hardwood bottomland forest (62.08 acres), emergent habitat (17.89 acres), and hydrologic and water quality wetland functions.

The 62.08 acres of forested wetlands will consist of hard and soft mast trees in three distinct components: re-establishment (49.98 acres), enhancement (5.42 acres), and preservation (6.68 acres). The vegetation types will follow elevational gradients that both exist and are to be created. Forrest Keeling Nursery, RPM trees will be used to promote a hard-mast producing hardwood bottomland forest.

The emergent wetland component of 17.89 acres will consist of a very shallow basin in selected low elevation areas in historic depressional floodplain scars that will support a variety of herbaceous vegetation throughout the year and may support migratory and endemic wetland species along Shoal Creek.

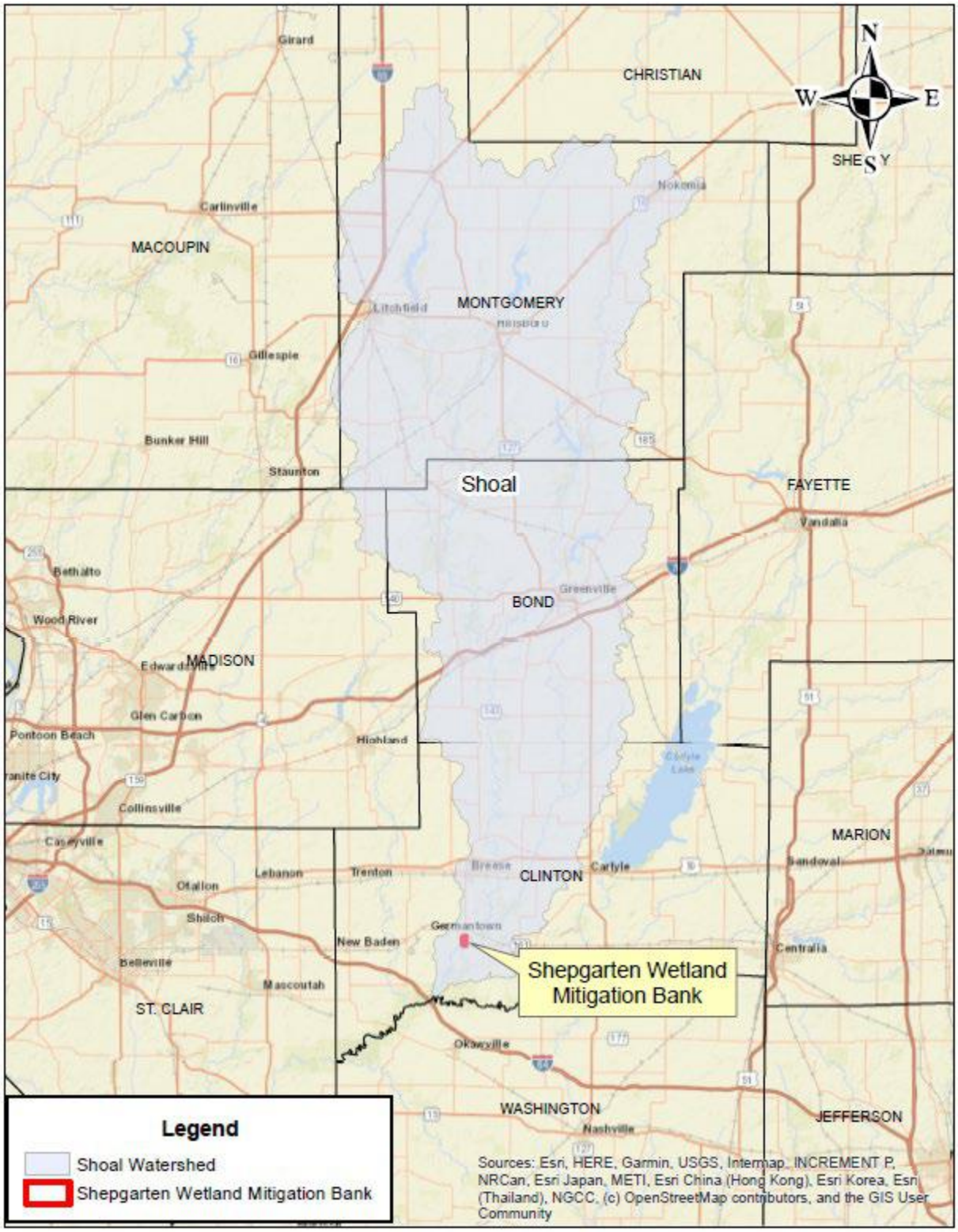
The hydrology of the Bank Site is intended to increase durations in low lying floodplain areas within the site and improve the hydrologic regime. The depth, duration, and extent of flooding in the restored wetland will primarily be driven by flood pulses from Shoal Creek and constructed emergent wetlands to increase the wetland hydroperiod of the area. Flood entry followed by

seasonal drying through the summer and fall will sustain productivity by recycling vegetation and nutrients. The current plan will result in the re-establishment of a diverse wooded and emergent wetland adjacent to a stream riparian corridor to enhance ecological functions and values for Shoal Creek.

OPERATION AND LONG-TERM MANAGEMENT

SWMB is considered Private commercial (Entrepreneurial). The ownership requests that SWMB be State of Illinois certified. The long-term management of SWMB will be managed by HeartLands Conservancy and is intended to be self-sustaining due to its location and design. The enhancements made to the property will aid in increasing hydrologic connectivity.

Figure 1 – Location in Shoal Watershed



WATERSHED APPROACH TO MITIGATION BANK

Shoal Creek is a major tributary to the Kaskaskia River in Southern Illinois, Reference Figure 2 "Watershed". Through the utilization of multiple documents from the State of Illinois, the USGS and the EPA, the following review has led to the identification of wetland and stream types and locations for restoration efforts associated with the Shoal watershed for future mitigation impacts.

A. Major Goals of the Watershed

State watershed needs identified wetland quality has likely declined statewide over the course of several decades (Stafford et al. 2010). These declines are not consistent throughout the state and among natural divisions; they are exacerbated by many factors along large rivers (Mills et al. 1966, Bellrose et al. 1979, 1983), but may impact all wetland systems. Thus, these restoration features support a more productive wetland community:

- Manage wetlands to promote native plant communities by removing, reducing or controlling invasive species, especially: Phragmites, purple loosestrife, reed canary-grass, Eurasian water milfoil, water hyacinth, narrow-leaf cattail, and others;

- Increase mast producing hardwoods (i.e., oak, hickory, pecan) within floodplain sites that will support these tree species;

- Reduction of undesirable plant species (river bulrush, cattail, perennial smartweed, etc.) in managed wetlands, manage for desirable seed producing annual plants;

- Increase historically abundant habitats, and duplicate historic habitat complexity and juxtaposition within wetlands (Stafford et al. 2010);

- Reduce sediment inputs into streams, rivers, and wetlands from row crop field through minimum tillage, vegetated waterways, buffers, and wetland restoration; and

- Maintain and increase water control in lakes and wetlands within river floodplains through managed or partial connections which will isolate habitats from growing-season floods yet allow movement of aquatic species when appropriate.

B. Mitigation Site Evaluation

The proposed SWMB consists of 79.97 (+/-) acres that lies within Clinton County, Illinois, reference Appendix 1. The site encompasses Shoal Creek which is a tributary to the Kaskaskia River.

WFI Holdings-B LLC has the property under contract. The property has multiple types of habitat management within its boundaries. Currently, the major type of management on the site is agricultural row cropping.

This Bank Site is well suited to support forested and emergent wetland function types. This property supports major criteria for wetland functions, they are as follows:

- Property consists of hydric soils;
- Hydrology is present from Shoal Creek;
- Adjacent property (reference site) supports obligate and facultative wet vegetation; and
- Along the forested tree lines natural regeneration can be seen associated with bottomland hardwoods.

These attributes meet the goals of multiple Federal and State of Illinois watershed documents and will improve overall forested and emergent wetland habitats and water quality attributes within the region.

C. Mitigation Site Threats

The short- and long-term threats of the mitigation site are few due to the site location and planned construction techniques. The major short-term threats (1 to 10 years) to the Bank Site consist of invasive species and poor tree survivability due to potential climate change (specifically drought). The utilization of cover crops and annual maintenance over the next 7+ years will effectively reduce the possibility of invasive vegetative species establishing on the site. The potential threat of climate change, reducing survivability of the forest establishment, is slight due to the quality of the trees being planted and the construction technique of short hydroperiod wetlands being utilized in those plantings.

The mitigation area is within the floodplain of Shoal Creek and the hydrologic regime is the most important factor influencing wetland type or class, including inhabitant plant species and community makeup with the occurrence of cyclical wet and dry periods.

The tree planting will incorporate the construction of berms and / or mounds that trees will be planted upon specifically to promote the growth of hard mast species. Planting on berms and / or mounds will increase survivability of container trees by promoting root development due to air space associated with the mounds. Secondly, it may reduce mechanical damage caused by major precipitation events and freezing in the Fall / Winter of the year. Using container trees (app. 4 feet in height) planted on berms and / or mounds will reduce the frequency and duration of seedlings being overtopping during the growing season.

Long-term threats to the site would be altered forest management and acts of God relating to natural climatic occurrences (flood, drought, fire, tornados). As the Conservation Easement holder, HeartLands Conservancy will be able to identify altered forest management that is a detriment to the mitigation area within one calendar year. Thus, this management would be addressed immediately and should reduce any long-term effects to the forested mitigation area. Through the use of high-quality plant stock and construction techniques, the natural effects of flooding and drought are reduced. The natural effects of fire and tornados are more difficult to address, however, due to natural regeneration and the utilization of preservation at the site, a natural seed source will be present.

Figure 2 – Watershed Map

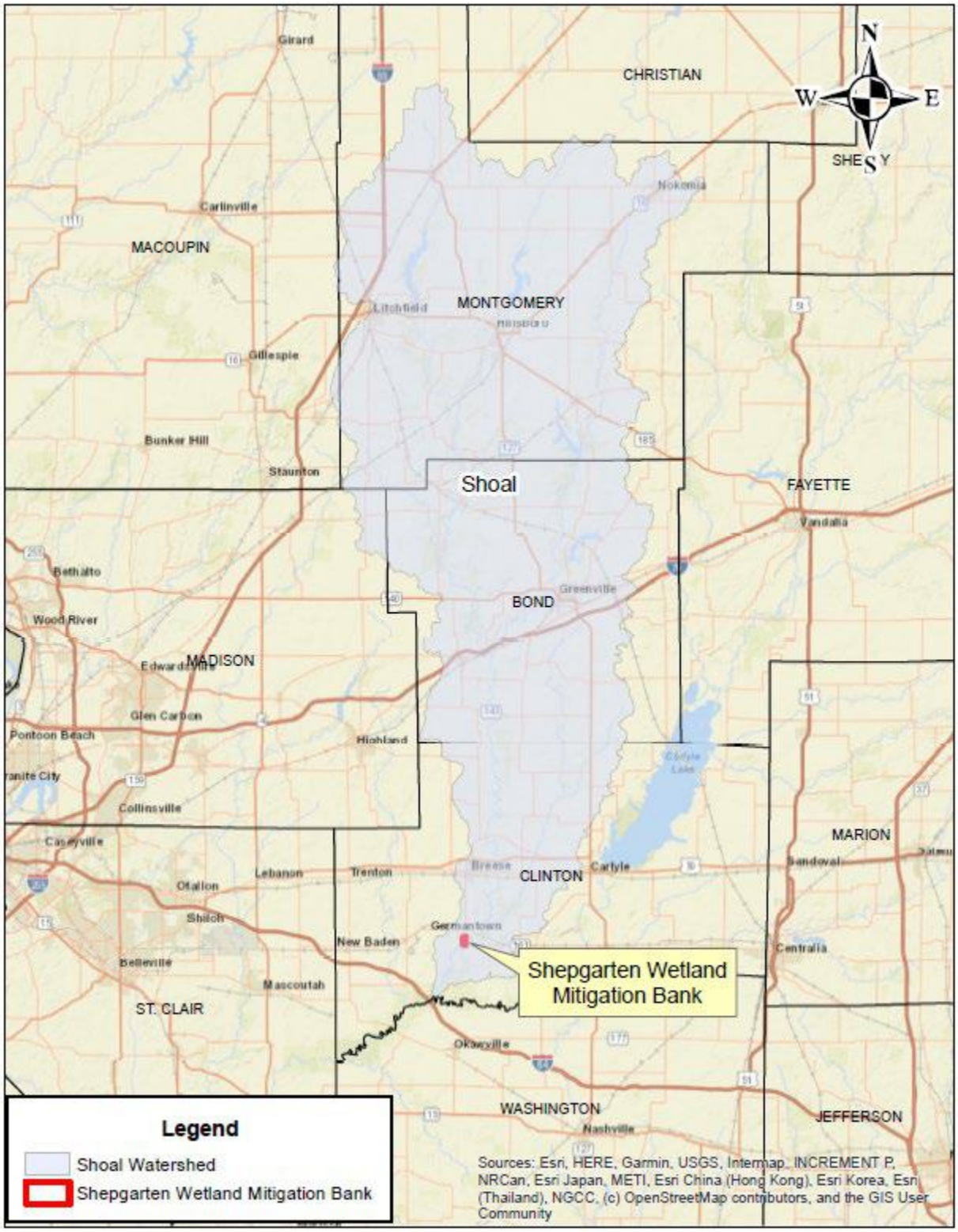
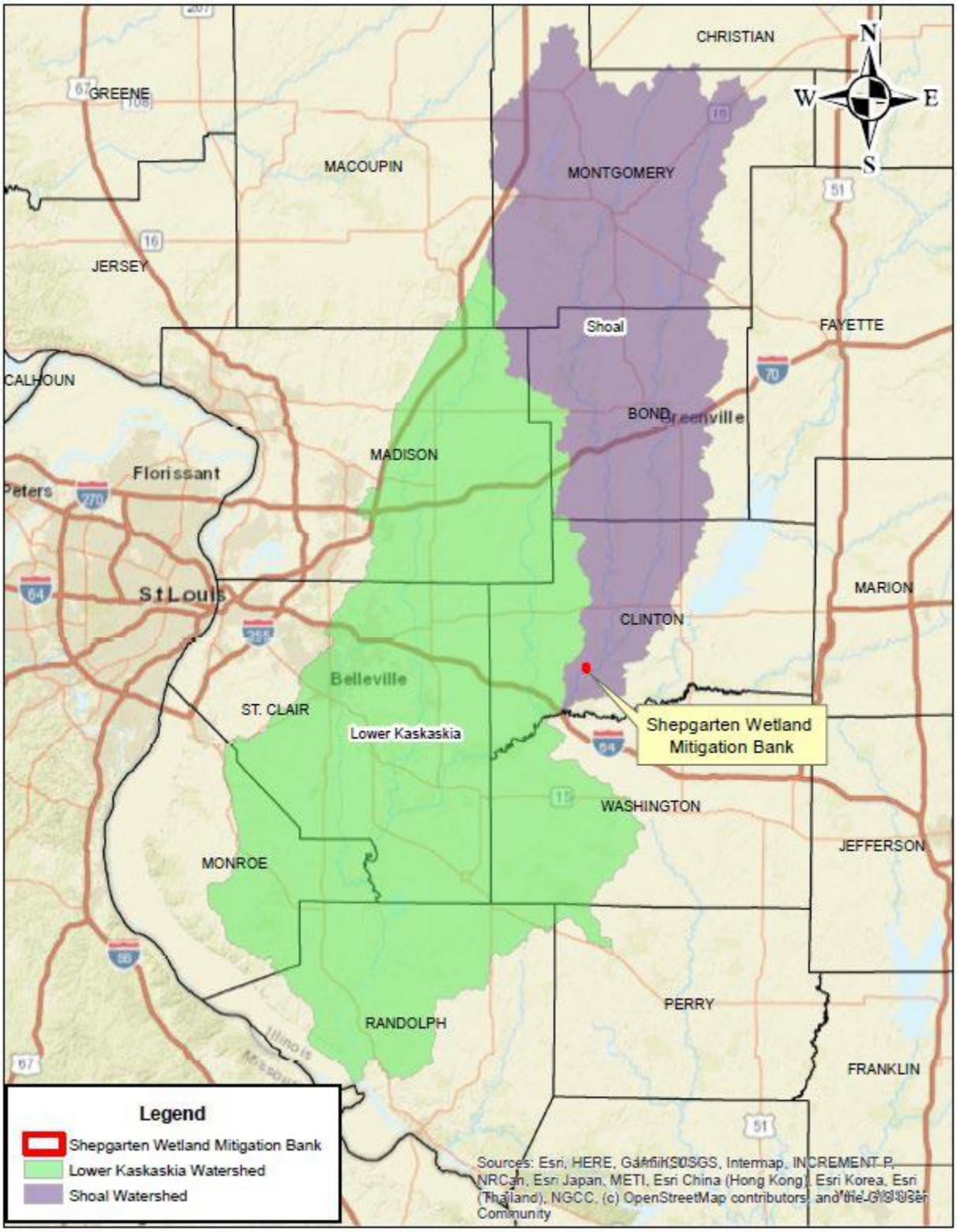


Figure 3 – Service Area



LOWER KASKASKIA/SHOAL AND ASSOCIATED HYDROLOGIC UNIT MAPS FOR ILLINOIS

The Hydrologic River Basin Numbers “07140204” and “07140203”

Counties:
Macoupin
Madison
Bond
St. Clair
Clinton
Washington
Randolph
Monroe
Montgomery
Perry

MITIGATION PLAN REQUIREMENTS FOR SHEPGARTEN

SECTION A – Goals and Objectives

GOAL – Wetland Mitigation Bank

Re-establish wetland habitat quality and quantity for wetland dependent wildlife and hydrophytic native plant species.

OBJECTIVE

- Increase food, shelter and breeding habitat for wildlife.
- Increase bottomland hardwood diversity, quality and hard mast tree dominance.
- Reduce forest fragmentation for "area sensitive" neo-tropical species.
- Maintain and enhance the wetland hydroperiod to increase wetland functions and values.

GOAL – Wetland Mitigation Bank

Create areas of emergent and forested wetlands.

OBJECTIVE

- Nutrient removal/transformation.
- Reduce nutrient loading and increase nitrate fixation.
- Provide substrate for aquatic invertebrates as well as habitat for amphibians, reptiles, birds and mammals.

GOAL – Wetland Mitigation Bank

Compensatory mitigation site for wetland areas in the Lower Kaskaskia and Shoal watersheds.

OBJECTIVE

- An appropriate form of compensation where no feasible on-site mitigation opportunity exists.
- Where it can be clearly demonstrated that off-site mitigation would be more environmentally beneficial.
- Projects with minor impacts, and linear projects, which when considered cumulatively, would result in more than minimal impact.

GOAL – Wetland Mitigation Bank

Develop a wetland mitigation site to create and improve habitat conditions favorable for area sensitive, rare, threatened and endangered species endemic to the Service Area.

OBJECTIVE

- Restore, enhance and preserve a wooded riparian corridor adjacent to Shoal Creek and its tributaries that are connected to the flood pulse of the Lower Kaskaskia River.
- Restore woody and herbaceous vegetation to create a continuum of plant species.

SECTION B – Site Selection

The SWMB has been sited on a parcel adjacent to Shoal Creek which supports the Shoal watershed, Clinton County, Illinois. The site lies south of Germantown, Illinois. Reference Figure 2. The general layout of the site consists of an area located south of Highway 161 running through Clinton County, Illinois, along Shoal Creek, reference Figure 4.

The Bank Site is situated and developed to address the loss of forested and emergent wetland habitat. The Bank Site is compatible with adjacent land use (wooded wetland and agriculture), contributes to important local stream, terrestrial and wooded forest functions, will be ecologically self-sustaining, and will be protected in perpetuity by an approved U.S. Army Corps of Engineers Conservation Easement.

The entire property consists of hydric soils and lies within the floodplain of Shoal Creek. Historically, this property was and is hydrologically connected over a wide range of storm events to Shoal Creek within the Shoal watershed. The site will be developed with multiple types of habitat features: restoration, enhancement, and preservation of forested wetlands, and re-establishment of depressional areas that support emergent vegetation. The vegetation types will follow very gentle grades that both exist and are to be created. The hard-mast producing hardwood bottomland forest will focus on reducing fragmentation and linking multiple habitats together. Emergent wetland will be created and will consist of a higher hydrologic regime over the year and may support migratory and endemic wetland species during the fall and spring migrations during timely hydrologic events in the Shoal watershed.

The hydrology of the Bank Site is intended to increase durations in low lying floodplain areas within the site and improve the hydrologic regime. The utilization of mounds and depressional scars will increase the duration of saturation and inundation over and across the Bank Site. The depth, duration, and extent of flooding in the restored wetland will primarily be driven by flood pulses from Shoal Creek. Flood entry followed by seasonal drying through the summer and fall will sustain productivity by recycling vegetation and nutrients. The current plan will result in the re-establishment of a diverse forested and emergent wetland adjacent to a stream corridor to enhance ecological functions and values for Shoal Creek and the Shoal watershed.

The Bank Site will be developed to restore habitat that will support sustainability within the existing site and link adjacent habitat types for an increase in habitat function and connectivity.

The siting of the SWMB will support aquatic habitat diversity, habitat connectivity, the existence of threatened or endangered species related to prior habitat loss, and other landscape scale functions.

SITE SOIL TYPES

The property consists of hydric soil in the floodplain of Shoal Creek. The Bank Site consists of two major hydric soil types- Petrolia Silty Clay Loam (3288A) and Birds Silt Loam (3334A).

Petrolia Silty Clay Loam Series consists of fine-silty poorly drained soils formed in silty alluvium on flood plains. Slope ranges from 0-2 percent. Shrink swell potential is moderate. This soil is frequently flooded. It is frequently ponded. A seasonal zone of water saturation is at 6 inches above to 2.0 feet below the surface. This soil meets hydric criteria (mapping units 3288A).

Birds Silt Loam Series consists of somewhat poorly drained soils formed in silty alluvium on flood plains. Slope ranges from 0-2 percent. Shrink swell potential is low. This soil is frequently flooded. It is frequently ponded. A seasonal zone of water saturation is at 1.0 to 3.0 feet below the surface. This soil meets hydric criteria (Mapping Units 3334A).

See Figure 4, Soil Survey Map

Figure 4 – Soil Survey Map

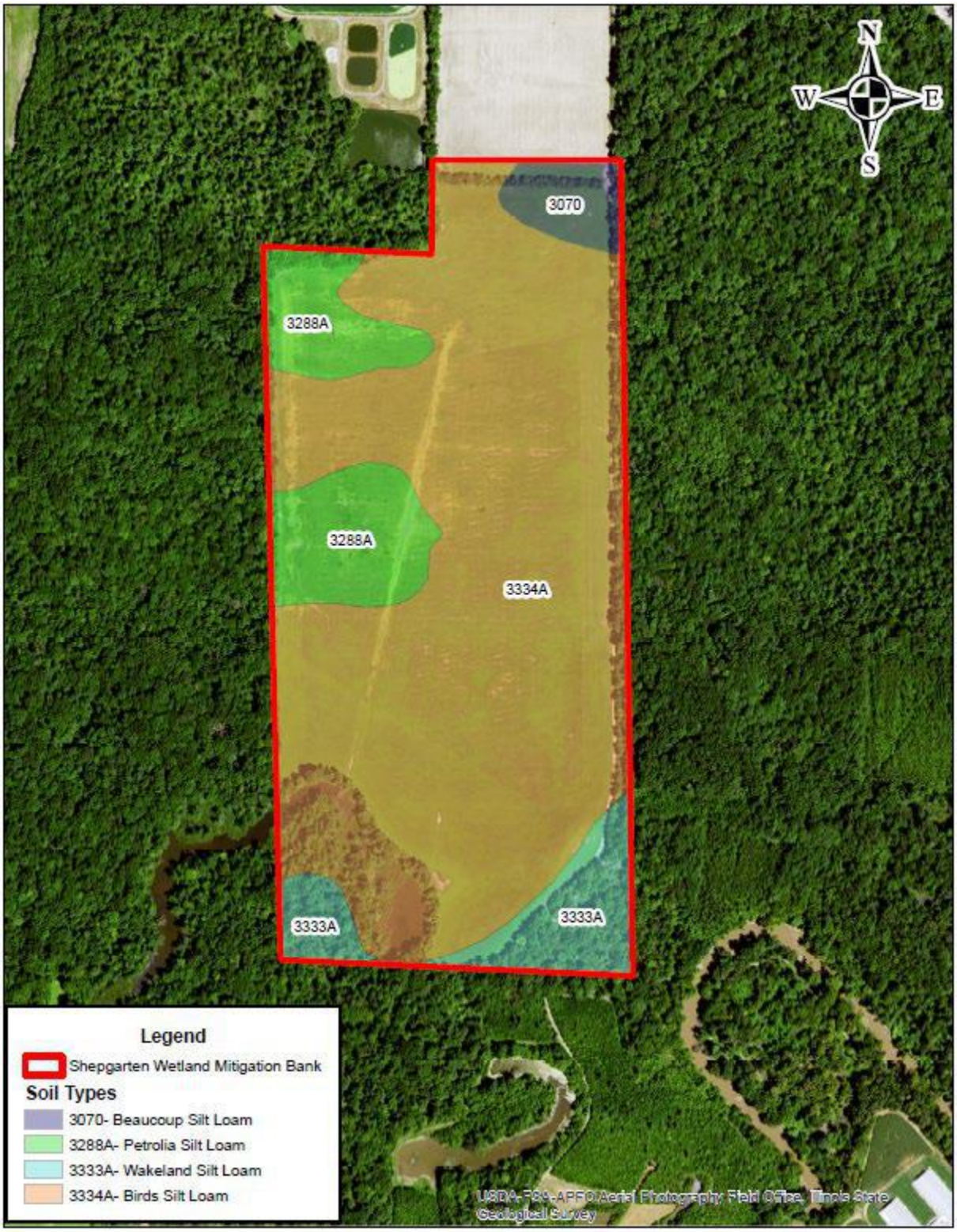


Figure 5 – Aerial of Mitigation Bank Site

SECTION C – Site Protection Instrument

Whereas, WFI Holdings-B LLC has under contract a parcel of land which is situated in Clinton County, Illinois. A title commitment identifying ownership and easements related to the property is located in Appendix 2.

This tract of land is located in and being a part of fractional Section 2, Township 4 North, Range 7 West of the Third Principal Meridian, Clinton County, Illinois.

The Bank Site totals 79.97 (+/-) acres, made up of Prior Converted Cropland, that will be restricted property in perpetuity.

WFI Holdings-B LLC proposes to execute a conservation easement that has been modeled on the Corps of Engineers, Office of Counsel Approved Conservation Easement document (Appendix 3).

A signed and notarized copy of the conservation easement and associated exhibits will be sent to the St. Louis District, Corps of Engineers Regulatory Branch for review prior to commencement of any permitted work or within 60 days of the issuance of this permit whichever occurs first. The recordation record will be sent to the Corps of Engineers, St. Louis District, Regulatory Branch and to the conservation easement grantee (Third Party) – HeartLands Conservancy, Belleville, Illinois, along with a copy of the executed easement mailed to the Corps' St. Louis District Regulatory Office.

Per the COE Approved Conservation Easement, Item 3 for Permitted Activities – Reference Long Term Management Plan for specific land use management activities that are permitted.

Signage will be posted around the perimeter of the Conservation Easement with adequate frequency, visibility, and proper height for viewing. Signage will be constructed of suitable materials to withstand climatic conditions. Signs will include the following language:

WETLAND MITIGATION AREA
DO NOT DISTURB
PERMIT NO. CE MVS-XXXX-XXX

SECTION D – Baseline Information

OVERVIEW

The Bank Site is classified as agricultural row cropping.

Project Description: the proposed SWMB will consist of 49.98 acres of re-established forested wetlands and 17.89 acres of emergent wetlands all replacing the prior converted agricultural field. Enhancement and preservation of forested wetlands will consist of 5.42 acres and 6.68 acres, respectively.

The wetland and waterbody delineation determined that the Bank Site's soils were hydric throughout the entire area. The soils consisted of four main classifications as identified in the USDA Soil Survey: Petrolia, Birds, Beaucoup and Wakeland series, and the sample sites identified similar soils. Due to the agricultural activities associated with the site, there was little to no vegetation observed. However, in adjacent wetland habitats, hydrophytic vegetation was present. Sufficient hydrology was observed within the site, but the hydrology is altered by agricultural management actions consisting of ditching and linking areas together for the purpose of draining the tillable acres of the Bank Site.

Agricultural row cropping is taking place on all of the farm ground within the Bank Site. There are forested areas along the eastern and southern boundaries that consist of approximately 12.10 acres that include an existing oxbow feature. The surface area within the SWMB boundaries is relatively flat and low lying with an Elevation 418.0 (+/-), reference Figure 6 for topographic map.

The site was delineated outlining 15.19 acres of PFO and PEM. This has been predominantly farmed for the past 10 years. The following breakdown of delineated areas is provided for information relating to the Mitigation Bank Site:

1. Wetland A: This forested wetland, which includes an oxbow feature / buttonbush slough (6.68 acres), located in the southwest corner of the site will receive preservation actions.
2. Wetland B: This emergent wetland (0.20 acres) located in the southwest corner adjacent to Wetland A will receive re-establishment actions.
3. Wetland C: This emergent wetland (7.73 acres) located along the western boundary of the site will receive re-establishment actions.
4. Wetland D: This emergent wetland (0.24 acres) located in the northeast corner of the site will largely be excluded from the Bank Site.
5. Wetland E: This emergent wetland (0.30 acres) located in the center of the site will receive re-establishment actions.
6. Wetland F: This emergent wetland (0.04 acres) located in the southeast corner of the site will receive re-establishment actions.

This site will be enhanced and re-established to bottomland hardwood forest and emergent wetland habitats. Reference Appendix 7 for the Wetland Delineation. The wetland determinations will identify the area that will be mapped, reference Figure 7.

Forest Inventory Summary

A forest inventory was done on this property, owned by Brian Becker, on February 17, 2022. This property is located in Clinton County, Illinois, just south of Germantown. The property consists of approximately 5.42 acres of early successional bottomland forest. This property is in the floodplain of the Shoal Creek. For this inventory, random sample plots within the interior of the forest were measured using a 10 Basal Area Factor prism.

Description of Stand Condition

This property consisted primarily of early successional bottomland tree species. No invasive species were found on the property.

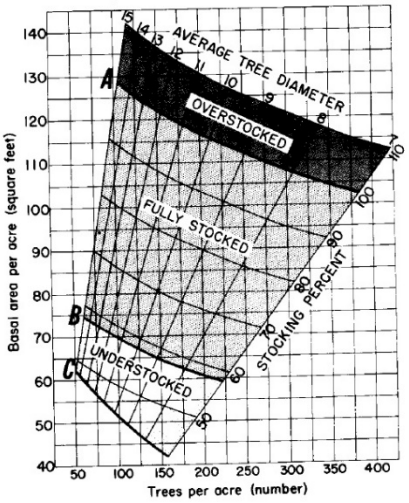
There was very little oak in the stand and almost no oak regeneration. The lack of oak species in this stand is from the amount of competition from faster growing species such as maple, ash, and hackberry. Oaks need ample sunlight to reach the canopy. If they never receive this space for growth, they will stay suppressed in the understory and eventually die out.

Higher-quality oak timber and regeneration exist on adjacent properties, including swamp white oak, bur oak, and pin oak. This provides concrete evidence that this stand is capable of growing higher-grade oak timber.

Emerald Ash Borer (EAB) is present on neighboring properties. The Emerald Ash Borer is a non-native invasive beetle that burrows into ash trees. They feed on the cambium of the tree, eventually girdling the tree which restricts the flow of nutrients to and from the roots and canopy. This will kill the tree in a very short amount of time.

Inventory Data:

Species	Trees/ Acre	BA/Ac.	Ave. Diameter	Vol./Ac.
Black Walnut	2	3	16	213
Boxelder	147	23	5	68
Elm	17	3	6	0
Green Ash	10	3	8	0
Hackberry	484	27	3	902
Hickory	35	13	88	190
Silver Maple	59	40	11	1,428
Totals (Doyle)	**753**	**113**	**5**	**2,800**



The table above is the Gingrich Stocking Chart. This chart is used to determine the adequate stocking levels for a healthy forest. From the inventory data, you can see that this stand is Over-Stocked (>115% stocking or above A-Level stocking line), meaning there are too many trees in the area to sustain a healthy forest ecosystem. In a healthy forest, the proper stocking should be above the B-Level (60-100%), also known as Fully-Stocked. This means that the dominant, mature trees in this forest do not provide adequate sunlight to reach the forest floor, resulting in little to no oak/hickory regeneration in the understory.

Reducing the Basal Area/Acre in this stand from 113 BA/Acre to around 80 BA/Acre is imperative for any kind of hard mast tree species regeneration. Opening the canopy and creating space in the understory is an important objective to achieve a healthy oak/hickory hardwood forest in the future.

Stand Management Objectives:

- Conduct a Forest Stand Improvement (FSI) to remove undesirable and unhealthy trees in the forest to create growing space for native oak and hickory species. Target 80 Basal Area/Acre.
- Create Group Openings (¼ - 1 acre in size) within the interior of the forest to allow pockets of oak seedlings to grow into the canopy;
- Maintain these Group Openings by conducting yearly maintenance, including Crop Tree Release to provide ample growing space for desired tree species (oak, hickory, pecan);
- Maintain the forest stand in the B-Level stocking, which is the ideal stocking for a healthy productive forest (see **Gingrich Stocking Table** above).

Stand Management Recommendations:

To enhance this forest stand, oak species will need to be regenerated, whether artificially or naturally. Natural regeneration is already proving unsuccessful due to the competition from maples and other shade tolerant, fast-growing species. **Group Openings** (approximately ¼-1 acre in size each) will be designed to promote the existing oak seedlings that have been suppressed due to lack

of sunlight and competition from shade tolerant tree species. In each of the Group Openings, 10-25 (depending on size of group opening) oak, hickory, and pecan RPM saplings will be planted in conjunction with the existing seedlings.

Yearly maintenance will need to be done in the Group Openings to ensure adequate oak survivability. If no management is done after these openings are created, there is a likely chance that other soft mass tree species (Silver Maple, Cottonwood, Sycamore) could grow over top of desired oak species and eventually kill them out. Clearing a 10-15 foot radius around these oaks will provide enough sunlight to allow apical growth.

Timber Harvest Approval and Harvest Projections:

Removing approximately 30 basal area / acre of undesirable tree species around hard mast producing tree species will open up the canopy enough to allow more sunlight to reach the forest floor.

Best Management Practices (**BMP**'s) will be used to minimize negative impacts to the soil and surrounding desirable trees. BMP's are designed to protect forests, soil, and water resources while still utilizing the forest product. All forestry management will be conducted and approved by a professional forester.

Wildlife Value:

There are plenty of den trees (trees with open cavities) throughout this forest stand. While den trees are bad for timber value, they provide excellent nesting and brooding habitat for animals such as raccoons, opossums, squirrels, and several bird species. Trees with exfoliating bark are beneficial for bat species, such as Indiana Bat (Myotis sodalis) and Northern Long-Eared Bats (Myotis septentrionalis). These bat species use the exfoliating bark for roosting habitat between April and November. Typically, in the beginning of November, the bats will fly to caves and bluffs to hibernate for the winter months. No bat trees will be cut during the spring/summer months to ensure proper habitat for roosting bat species. Any forest management techniques will seek to reduce any impacts with trees associated with bat habitat. In any type of timber activity, these den trees would remain to provide nesting and cover for these animal species. These forestry practices would also provide ground cover due to all the debris to hit the forest floor. The slash that remains from the treetops and small sawtimber will be stacked to create cover for wildlife species such as deer, turkey, rabbits, etc.

Summary

Overall, this 5.42-acre forest stand would benefit from timber management to promote hard mast tree regeneration. The shade tolerant Silver Maple have outcompeted the oak species from the stand entirely. Opening small gaps in the canopy and planting some containerized oaks is the quickest way to add an oak component to this stand.

Environmental Site Assessment:

Based on the findings of the Phase I Environmental Site Assessment performed by ProGEA, Inc. in April 2022, there are no recognized environmental conditions (RECs), as defined by ASTM in connection with the Bank Site.

Phase 1 Cultural Resource Survey:

The Phase 1 Cultural Resource Survey performed by SCI Engineering in February 2022 located five cultural resource sites. No sites were considered significant. Therefore, SCI believes further investigations of the project area are unwarranted and recommends clearance of the project area.

RIAM Evaluation System:

The site evaluation will conduct a RIAM evaluation system used for large scale dynamics attributes and anticipated ecological lift, as detailed below.

Site Easements:

The Bank Site currently has multiple easements for various uses. The east-west ditch on the north end of the property is used by the neighboring Village of Germantown water treatment facility. The access easement on the north and west boundaries will be an unpaved route utilized by a neighboring landowner to access land-locked parcels. The access easement on the eastern boundary is a gravel road that serves adjacent land-locked parcels to the south. Finally, a 1-acre site is being carved out of the northeast corner of the property to provide the landowner with a potential future building site. All easements affecting the Bank Site have been excluded from the mitigation area (see Figure 8, Mitigation Plan Map).

Adjacent Landowner Information:

The Bank Site is predominately surrounded by forested wetlands within the floodplain of Shoal Creek. See below for list and map of adjacent landowners. Note that several landowners own multiple parcels adjacent to the Bank Site, and one landowner is related to the Bank Site's land host. Also adjacent to the Bank Site is a parcel containing the Village of Germantown sewer plant, although the portion of this parcel that actually touches the Bank Site is forested wetland.

1. **Roger and Marie Micheel:** 14.30 acres – agriculture
2. **Joan Theising:** 13.50 acres – wooded wetland / recreation
3. **Ryan and Sarah Strieker:** 10.00 acres – wooded wetland / recreation
4. **Steven Peters:** 38.00 acres – wooded wetland / recreation (brother-in-law of land host)
5. **Warren Strieker:** <1 acre – wooded wetland / recreation
6. **Warren and Colleen Strieker:** 30.90 acres – wooded wetland / recreation; appears to have a conservation / planted tree component
7. **Harold and Brenda Renschen:** 3.50 acres – wooded wetland / recreation
8. **Warren and Colleen Strieker:** 10.00 acres – wooded wetland / recreation
9. **Steven Peters:** 20.00 acres – wooded wetland / recreation (brother-in-law of land host)
10. **David and Sharon Ortmann:** 20.00 acres – wooded wetland / recreation

11. **Steven Peters:** 20.00 acres – wooded wetland / recreation (brother-in-law of land host)
12. **Roger and Marie Micheel:** 10.00 acres – wooded wetland / recreation
13. **Village of Germantown:** 20.00 acres – wooded wetland / sewer plant

Adjacent Landowner Information:

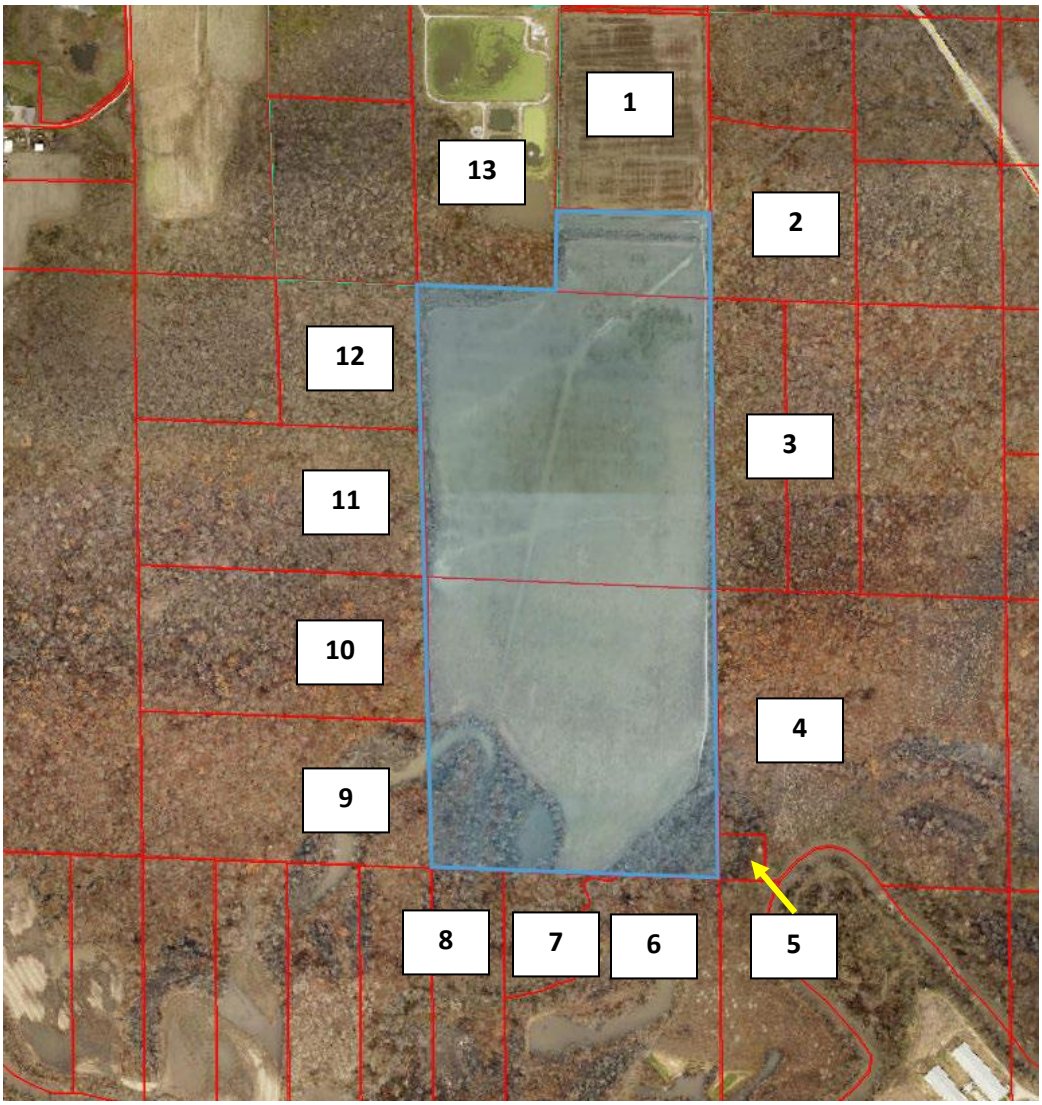


Figure 6 – Topographical Map of Mitigation Site

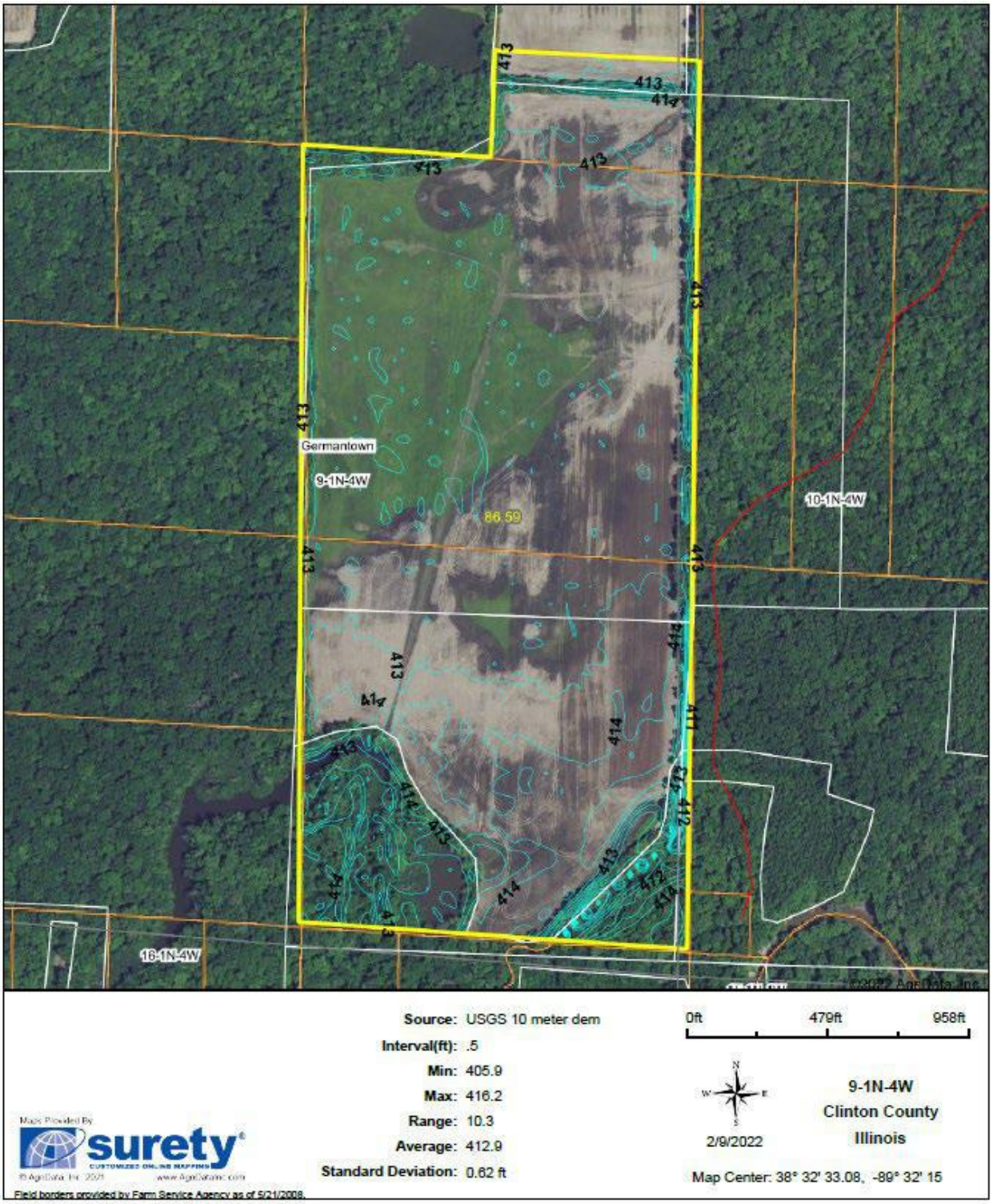
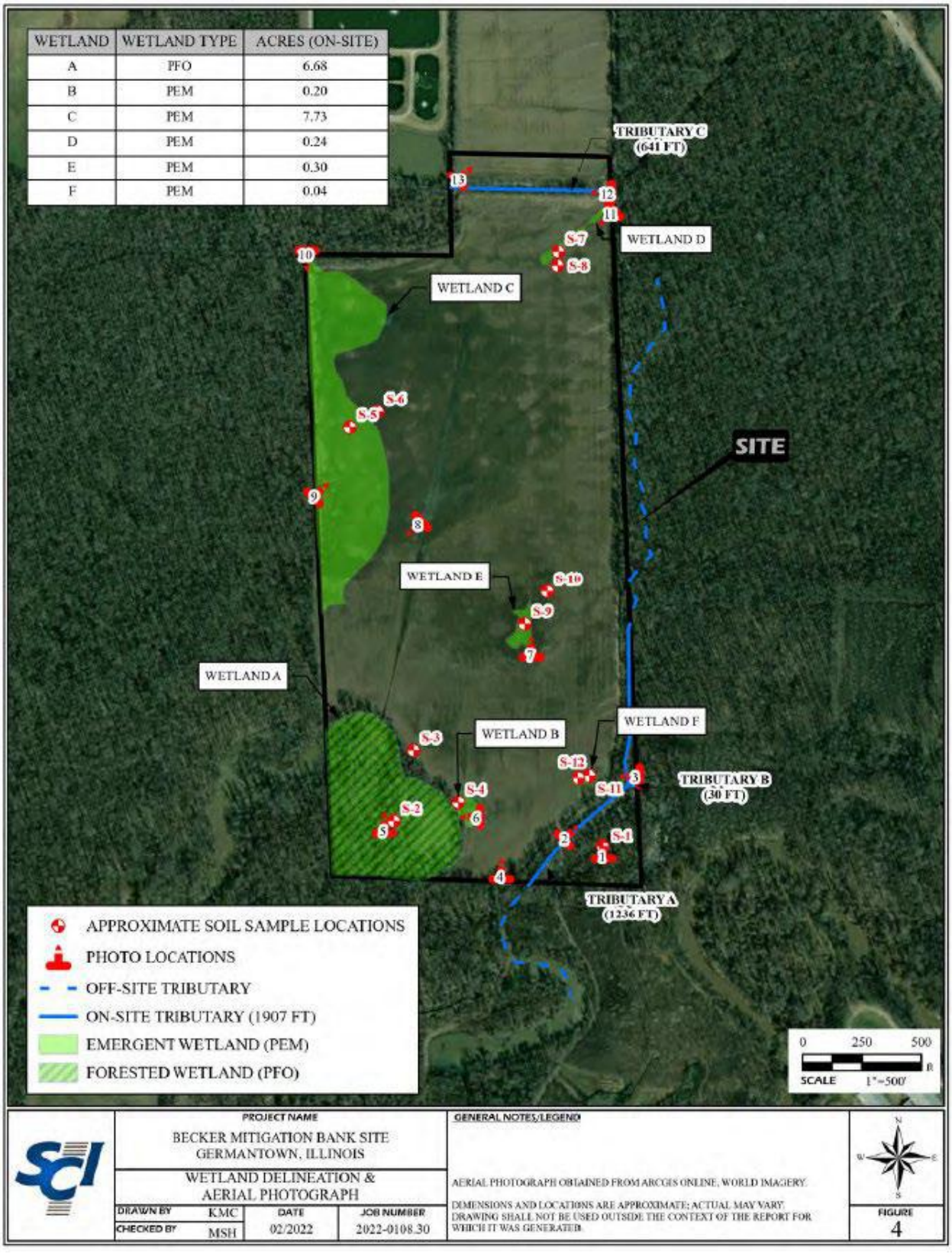


Figure 7 – Wetland Determination Sample Locations



BASELINE CONDITIONS EVALUATION PROCEDURE

The baseline conditions were evaluated using the Rapid Impact Assessment Method (RIAM) (Stein and Ambrose 1998). This functional assessment technique was selected because impacts to aquatic resources are assessed in a manner that is scientifically defensible, yet easy to implement by regulators, planners, and resource managers.

The six important ecological characteristics evaluated were endangered species habitat, structural diversity of habitat, spatial diversity of habitat, open space habitat, linear contiguity of habitat and adjacent habitats. The underlying goal of this ecological functional assessment technique is to evaluate the capacity of a habitat to perform a particular ecological function, such as provision of foraging or breeding habitat for birds or retention of suspended particulate matter. The goal of the impact assessment is to evaluate how a given activity has altered an ecosystem's capability to perform those functions. Impact assessment is integral to the U.S. Army Corps of Engineers regulatory program under Section 404 of the Clean Water Act of the United States. If the USACE used this Rapid Impact Assessment Method to assess the impacts of projects permitted under Section 404 it would be easy to determine if mitigation to the SWMB was a desirable alternative for the permittee.

Six criteria were used in evaluating existing habitat of a wetland to perform major functions to a given activity at the project site (Stein and Ambrose 1998) and given a pre- and post-project rating of A, B, C, D, or E for each evaluation criterion, with A representing site conditions similar to a reference standard and E representing the most degraded condition. The reference standards were based on conditions typically found at local unimpacted sites. Pre-project ratings were based on aerial photographs, site visits, site descriptions and biological assessments. Post project rating was based on the assumption of the result obtained, when a given activity occurred, by best professional judgment of simple indices and current site conditions. For each criterion, the pre-project ratings were compared to the post-project rating to obtain an *impact score,* which reflected the impacts of the project on that criterion. This score was obtained by counting the change in the number of indicator levels after the project was completed. Impact scores could range from negative 4 for most severe degradation to positive 4 for the most extreme enhancement. Impact scores of zero reflected site conditions that were the same following implementation of the permitted activity as they were prior to the project being done. Although a rating of A represents a higher functional level than a rating of B, the significance of this difference may be difficult to establish. To address this question of resolution, the -3 and -4 columns were combined into a *Substantial Adverse Impact* column, the -2 and -1 columns into an *Adverse Impact* column and 0 into a *Minimal Impact* column. The +1 and +2 columns are grouped into *Enhancement* column, and +3 and +4 columns into *Substantial Enhancement* column.

This example is the impact evaluation, for a 404 permit of a project, for construction of a four-lane road across a creek and installation of two 3-m by 4.3-m concrete box culverts within the creek impacting 0.6 ha of waters of the United States. Prior to construction of the road crossing, the creek consisted of well-developed riparian habitat, surrounding freshwater marsh, supported by run off from an upland source. Once installed, the culverts provided only 0.3 to 0.6 vertical clearances between the streambed and the bottom of the bridge, eliminating most riparian

vegetation from the site. The habitat that was eliminated was suitable for the federally endangered King Rail *(Rallus elegans)* and Decurrent False Aster *(Boltonia decurrens).*

EXAMPLE

Criterion	Pre Project Rank	Post Project Rank	Impact Score
Endangered species habitat	C	E	-2
Structural diversity of habitats	A	D	-3
Spatial diversity of habitats	A	E	-4
Open space habitat	A	E	-4
Adjacent habitats	B	B	0
Linear contiguity of Habitats	A	E	-4

SHEPGARTEN WETLAND MITIGATION BANK (SWMB)

The following evaluation is the SWMB site using the Rapid Impact Assessment Method (RIAM). Current conditions (Pre Project Rank) were based on aerial photographs, site visits and biological assessment and the Post Project Rating was based on the assumption of the results obtained when a given activity occurred, by best professional judgment.

SHOAL CREEK WETLAND MITIGATION BANK

FORESTED, RIPARIAN AND EMERGENT WETLANDS

	Pre-Project Rank	**Post-Project Rank**	**Impact Score**	
Criterion				
Endangered species habitat	E	D	+1	ENHANCEMENT
Structural diversity of habitats	D	A	+3	SUBSTANTIAL ENHANCEMENT
Spatial diversity of habitats	D	A	+3	SUBSTANTIAL ENHANCEMENT
Open space habitat	D	A	+3	SUBSTANTIAL ENHANCEMENT
Adjacent habitats	D	B	+2	ENHANCEMENT
Linear contiguity of habitat	D	B	+2	ENHANCEMENT

INDICATOR LEVELS FOR EACH EVALUATION CRITERION

Criterion: Endangered Species Habitat

A: At least one endangered species observed or known to use the area for breeding.

B: Multiple endangered species observed or known to use/forage in area.

C: Suitable habitat type for multiple endangered species OR one endangered species observed or known to use area.

D: Suitable habitat type for one endangered species, but no endangered species observed or currently known to use area.

E: No endangered species habitat.

Criterion: Structural Diversity of Habitats

A: Exemplary structural diversity in all vegetated areas. Riparian areas composed of three distinct strata: ground and shrub cover, understory, and canopy. Dense stands of mature willow, silver maple, green ash, oaks, and/or cottonwood, interspersed with understory and herbaceous shrubs. Little to no exotic plant species present.

B: Two distinct strata in all vegetated areas. Dominated by wetland-type understory interspersed with herbaceous shrubs. May include interspersed, isolated willows, cottonwoods, and etc. OR Grasses and shrubs with patches of structurally diverse riparian vegetation (i.e., three distinct strata). No more than 15% of the vegetated area dominated by exotic plant species.

C: Grasses and shrubs interspersed with isolated patches of wetland-type understory or interspersed with isolated willows and/or cottonwoods. OR Monoculture of willow and/or cottonwoods with no associated understory. No more that 35% of the vegetated areas dominated by exotic plant species.

D: Mainly one stratum of grasses and herbaceous shrubs interspersed with common hydrophytic vegetation, such as cattails. Up to 60% coverage with exotic plant species.

E: No existing habitat value (e.g., concrete, developed, fully infested with exotic species or artificially landscaped).

Criterion: Spatial Diversity and Coverage of Habitats

A: Diverse riparian vegetation (e.g., at least 3 different genera of riparian vegetation present) covering between 75% and 100% of the site.

B: Diverse riparian vegetation covering between 30% and 75% of the site (e.g., strips or islands of riparian habitat interspersed in open space).

C: Diverse riparian vegetation covering up to 30% of the site AND/OR greater than 50% of the site covered with a monoculture of riparian vegetation.

D: Monoculture of riparian vegetation covering up to 50% of the site, interspersed among grasses, exotics, or bare ground.

E: No existing riparian vegetation (e.g., covered with upland grasses and scrub, bare ground, infested with exotics).

Criterion: Undeveloped Open Space Habitat

A: 80%-100% open space habitat of any quality

B: 60%-80% open space habitat of any quality

C: 40%-60% open space of any quality

D: 20%-40% open space of any quality

E: 0%-20% open space. Fully urbanized, concrete, developed residential or commercial cut.

Criterion: Adjacent Habitat (Floodplain Land-Use)

A: Completely surrounded by transitional upland habitat.

B: Adjacent to transitional upland habitat on one side and grassland, agriculture, or low quality open space on other side.

C: Adjacent to transitional upland habitat on one side and urban setting on the other side.

D: Surrounded by degraded grassland, agriculture, or other low-quality open space on at least

one side.

E: Completely surrounded by urban setting.

Criterion: Linear Contiguity of Habitats

A: Completely contiguous with comparable habitat on both ends of the site.

B: Contiguous with comparable habitat on one end of the site and adjacent to a different type of open space habitat on the other end of the site.

C: Contiguous with comparable habitat on one end of the site, but adjacent to urban setting on the other end of the site.

D: Isolated within a different type of open space habitat.

E: Completely isolated within an urban setting or completely urbanized site.

PARAMETERS USED TO DEVELOP EVALUATION CRITERIA

Endangered Species Habitat. Species richness and abundance is a common measure of habitat health (Harris). Fauna use of an area is often measured by surveying for presence or indications of presence (*e.g., tracks*, burrows). However, project files seldom contained comprehensive pre-project species surveys, and surveying for existing species richness was not practical due to time constraints and temporal variability in fauna site occupation. Review of Section 404 permits requires evaluation of the potential for a project to adversely affect a federally listed or proposed endangered or threatened species or their critical habitat. Therefore, information regarding the presence of endangered species or their habitat was readily available in project files. **Most federally listed species are endangered due to loss of specialized habitat that they require; therefore, assessing the presence of endangered species or their habitat can provide a useful indicator of the demise of regionally significant ecosystem (Eng. 1984). In addition, impacts to endangered species habitat may indicate that similar impacts are occurring to other habitat specialists that use comparable areas.**

Structural Diversity of Habitats. The stratification of vegetation into layers, including shrub cover, understory, and canopy, provides a variety of different habitats. This allows a diversity of organisms representing different trophic levels to coexist in a single site, thereby supporting a more complex and resilient food web (Warner and Hendrix). For example, diverse ground cover provides habitat for many insects that form the base of the food web, allowing higher trophic level organisms to use understory and canopy habitat that may be present (Erman). Gosselink et al. report that structural diversity within a site has been correlated with faunal diversity, especially for birds. Warner reports that the presence of a floristic structure consisting of three strata indicates that appropriate soil, moisture, and topographic conditions exist to support a "healthy" riparian system. Structural diversity of the vegetated portions of the project site was used as surrogate for general habitat suitability for an assortment of common species. Conversely, exotic species such as *Arundo donax* (Hickman) and *Tamarix* spp. have minimal habitat value and prohibit natural vegetation from establishing on a site (Meents et al.). **Therefore, presence of exotics was assumed to provide limited habitat value for both the structural and spatial diversity criteria. Because riparian habitats are typically patchy (Faber and Holland), the ratings for this criterion were based on only the vegetated portions of each site.**

Spatial Diversity and Coverage of Habitats. Riparian habitats are typically patchy, with an interspersion of different ecotones (Faber and Holland. This interspersion allows the activities of animals in dry sites to be more closely coupled to those in wet sites. A mosaic of habitat types provides a richer, more continuous food source for mobile fauna than that of a homogeneous habitat. For example, Doyle found a strong correlation between the extent of herbaceous and deciduous shrub cover in riparian habitats and the abundance and diversity of small mammals. Habitat mosaics also allow animals to fulfill several life functions at a single site (*e.g.,* foraging, escape, reproduction) (Warner and Hendrix, Gosselink et al.). Alpha diversity (diversity within a site) has been correlated to the ability of a patch to support a complex food web and allow interior

species, with specific habitat requirements, to thrive in the face of competition from generalist (Harris, Klopatek). **Assessment of changes to the spatial diversity of a project site provided information about impacts to a site's capability to support a variety of different faunal species.**

Undeveloped Open Space Habitat. The structure of a landscape mosaic influences the ability of organisms to move between discontinuous habitat patches (Wiens et al.). Movement may be more difficult through certain types of landscape, thus limiting accessibility to neighboring patches. Urban land uses, such as roads, housing or commercial development, act as barriers to movement and decrease the overall regional availability of habitat (Klopatek, Harris). **Therefore, project sites that contain appreciable open space habitat can provide areas for performance of life functions may be present regardless of the site's spatial or structural diversity. In addition, the portion of a project site that remains open space habitat can provide a metric for the conversion of natural landscape to urban landscape.**

Adjacent Habitat (Floodplain Land-Use). The ecological value of riparian habitats depends on their integration as units within the surrounding landscape (Gosselink et al.). Many organisms have complex life histories in which different stages required distinct habitats within a regional landscape to meet their life requirements (Harris). Therefore, continuity between riparian and upland habitat increases use by fauna and provides safe passage between riparian areas and adjacent upland (Gosselink et al.). Furthermore, the greater the edge area between riparian habitat and developed areas, the greater the potential negative impact from adjacent upland land-use (Warner and Hendrix). Additionally, many riparian plants require adjacent uplands as a floodplain for establishment of their propagules during flooding events (Scott et al). These floodplains also provide refuge for fauna during flooding (Gosselink et al.). **Therefore, changes to adjacent land-use are an important consideration for impacts to the quality of riparian habitat.**

Linear Contiguity of Habitats. Fragmentation and habitat loss are dominant causes of the decrease in biotic diversity of wetland species (Harris). Theories of island biogeography assert that disjunct patches connected by strips of protected habitat are preferable to isolated patches, and these corridors facilitate movement between patches (Diamond, Noss). This theory has been supported by the observation that many animals have a home range that exceeds the size of an individual habitat patch and require a means to move unmolested from one habitat patch to another. Without a system of travel corridors that allows these animals passage from one refuge to another, they will probably not occur in future landscapes (Harris). Even if partially disturbed, riparian corridors are vital to the successful migration of neotropical birds and other organisms (Croonquist and Brooks). In addition, habitat connectivity helps small populations (such as endangered species) maintain demographic and genetic integrity in the face of the isolation caused by habitat fragmentation (Frankel and Soule). Changes to linear contiguity affect not only corridors but also contribute to overall habitat fragmentation and decreases in patch size. This can be detrimental for resident as well as migrant species (Harris). **Therefore, impacts to linear contiguity are key parameters when assessing the impacts of permitted projects.**

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SITE HYDROLOGY

The entire Bank Site is connected to all hydrologic events associated with Shoal Creek within Clinton County, Illinois. Hydrologic events on Shoal Creek regularly flood this area. Hydric soils across the entire site, observations of flooding, drainage patterns, soil saturation and hydrophytic plant species all indicate that the area has the required hydrology to support a wetland community.

Though the Bank Site has hydrologic conditions available, the current management is designed to increase agricultural production. Existing ditches utilized during agricultural production will be either removed or abandoned to assist in restoring hydrology within the Bank Site.

Hydrograph: Baseline Data

The Bank Site is located adjacent to Shoal Creek; approximately 12.1 miles upstream of the Bank Site is USGS Gage 05594000 on Shoal Creek near Breese, IL. The drainage area at this site is 900 square miles. Approximately 9.5 miles downstream of the Bank Site is USGS Gage 05594100 on the Kaskaskia River near Venedy Station (which is 2,200 feet below the confluence of Shoal Creek and the Kaskaskia River). The Bank Site is positioned adjacent to Shoal Creek near the midpoint between these two gages, which are 21.58 miles apart.

Interpolation of Gage Data for an Elevation:

A water surface profile has been developed by interpolating between these two points of measured elevations to determine the water surface elevation at Shepgarten. The "maximum daily mean values" for the period 2015 – 2021 (converted to Mean Sea Level (MSL) elevation from the USGS gage datum) indicated the highest maximum gage heights occur at both gages in the month of May as follows: 432.52 (Breese) and 402.20 (Venedy). The distance between these two gages is 21.58 river miles. Thus, the average water surface profile can be interpolated to have a gradient of 1.4 feet per mile (432.52 minus 402.20, divided by 21.58).

The Breese Gage, representing 56.3% of the distance between gages, has a gage zero elevation of 413.49. Its maximum daily gage height in May is 19.03, producing an elevation of 432.52. It is 12.1 miles upstream of the Bank Site; multiplying this distance by the estimated gradient of 1.4 feet per mile equals 16.94. When this is subtracted from the maximum daily gage height elevation of 432.52, we can interpret that the associated water surface profile elevation is 415.58 at the Bank Site.

Similarly, the Kaskaskia Gage, representing 43.7% of the distance between gages, has a gage zero elevation of 402.20. It is 9.5 miles downstream of the Bank Site, generating 13.3 feet using the estimated gradient of 1.4 feet per mile. Adding 13.3 to the gage zero elevation of 402.20 produces an estimated elevation of 415.50 at the Bank Site, which is extremely close to the estimated elevation using the Breese Gage.

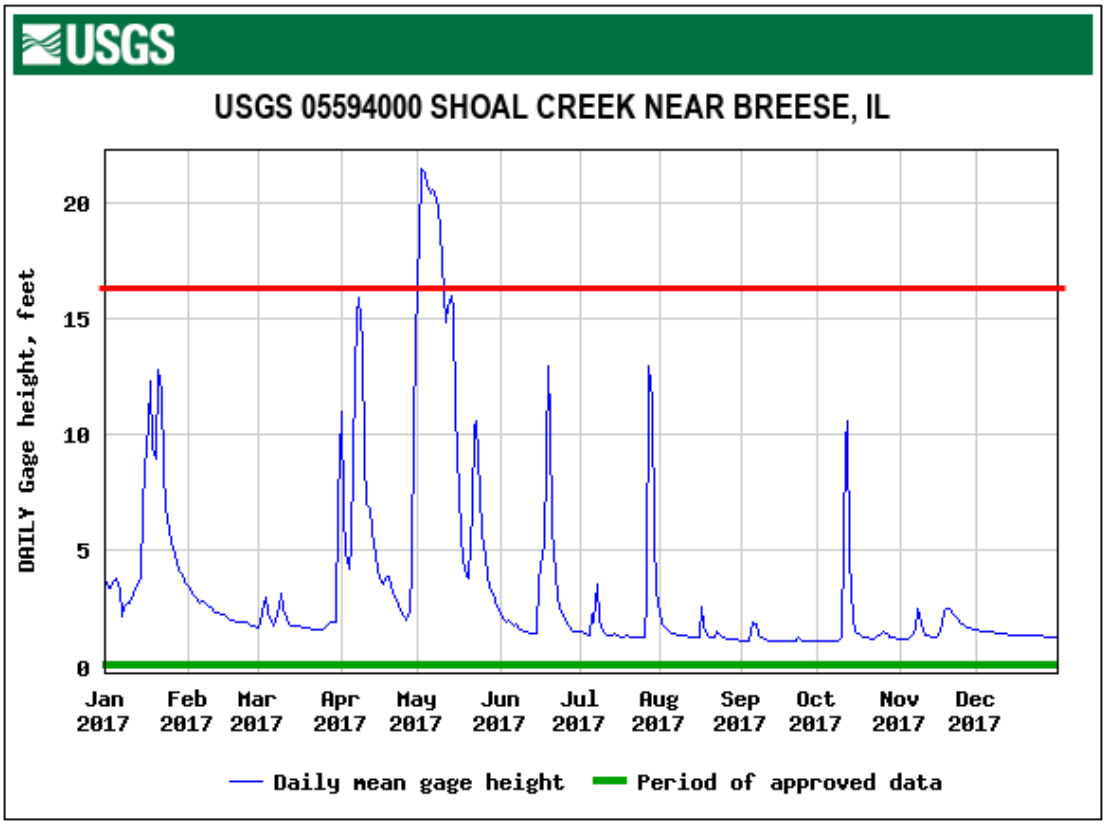
Hydrograph: Breese Gage

Because the Kaskaskia River is a flood-controlled river and releases from Shelbyville Lake / Carlyle Lake and Crooked Creek, it has some influencing factors that may not be impacting the Bank Site, so the Breese Gage was used to generate a hydrograph for the Bank Site.

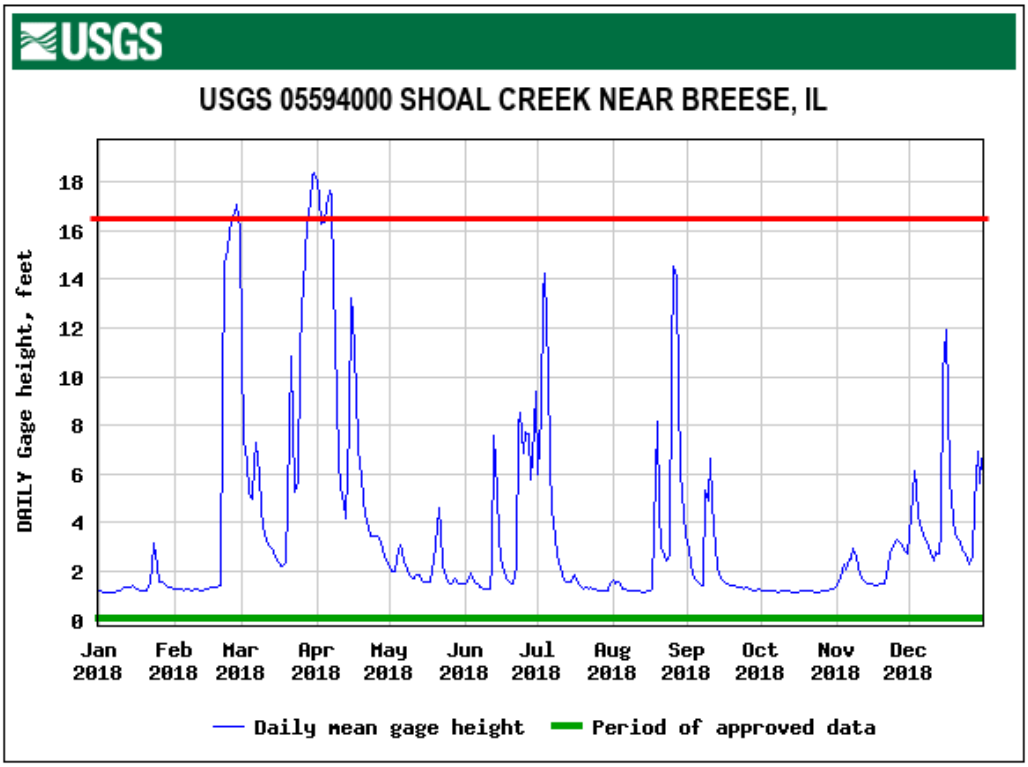
This analysis suggests that a Breese Gage height reading of 16.35 or greater will be associated with flooding at Shepgarten: estimated water surface elevation of 415.58, less the Bank Site average ground elevation of 412.9 (reference Figure 6 – Topography Map), equals 2.68 feet. The maximum daily gage height of the Breese Gage is 19.03; subtracting the 2.68 feet equals a gage reading of 16.35.

Below are annual charts for the period 2017-2021 showing that this gage consistently exceeds a reading of 16.35 (solid red line) during the early- to mid-growing season, and therefore, the Bank Site appears to have sufficient hydrology available to support the proposed wetland habitats.

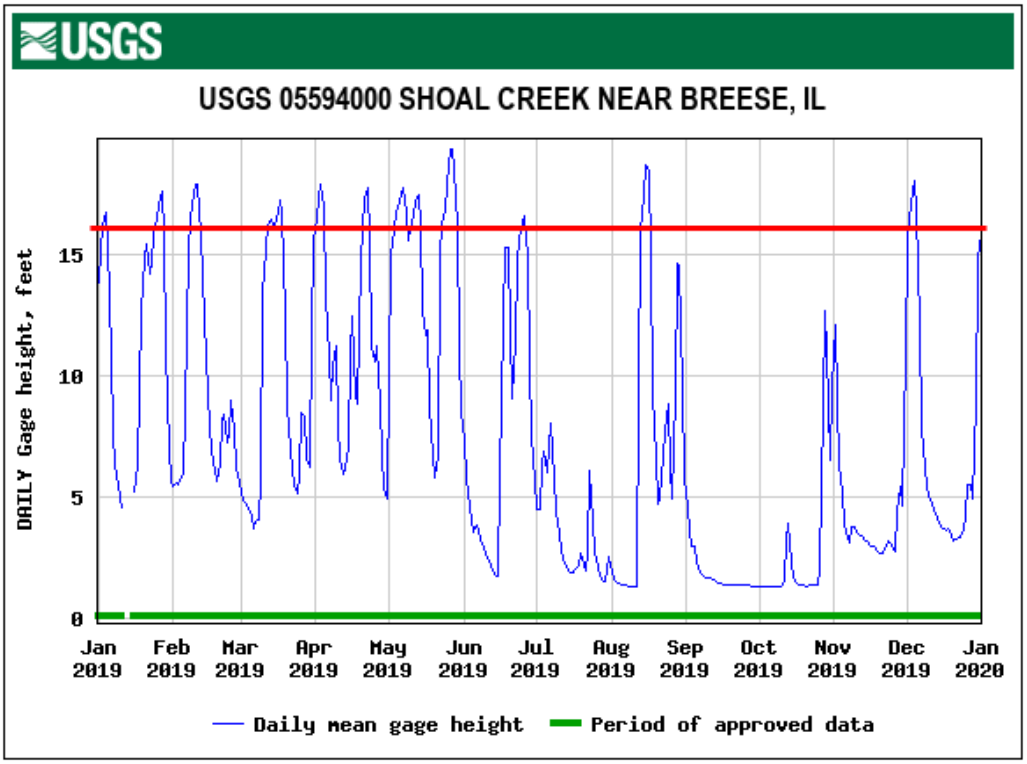
2017:



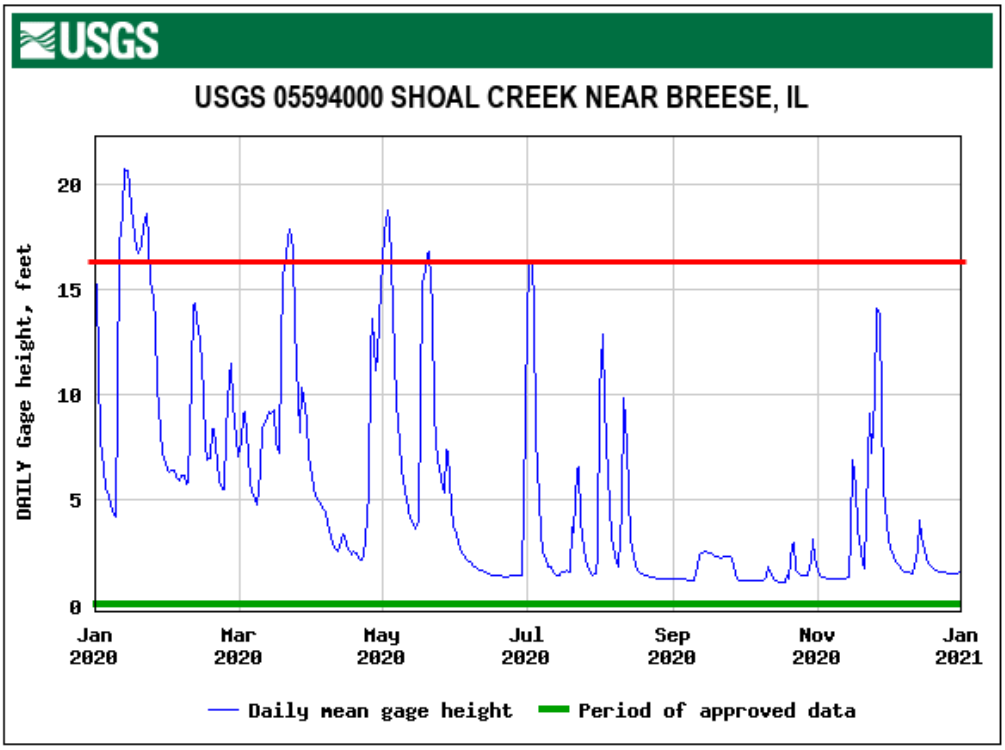
2018:


USGS
USGS 05594000 SHOAL CREEK NEAR BREESE, IL
DAILY Gage height, feet
18
16
14
12
10
8
6
4
2
0
Jan 2018
Feb 2018
Mar 2018
Apr 2018
May 2018
Jun 2018
Jul 2018
Aug 2018
Sep 2018
Oct 2018
Nov 2018
Dec 2018
Daily mean gage height
Period of approved data

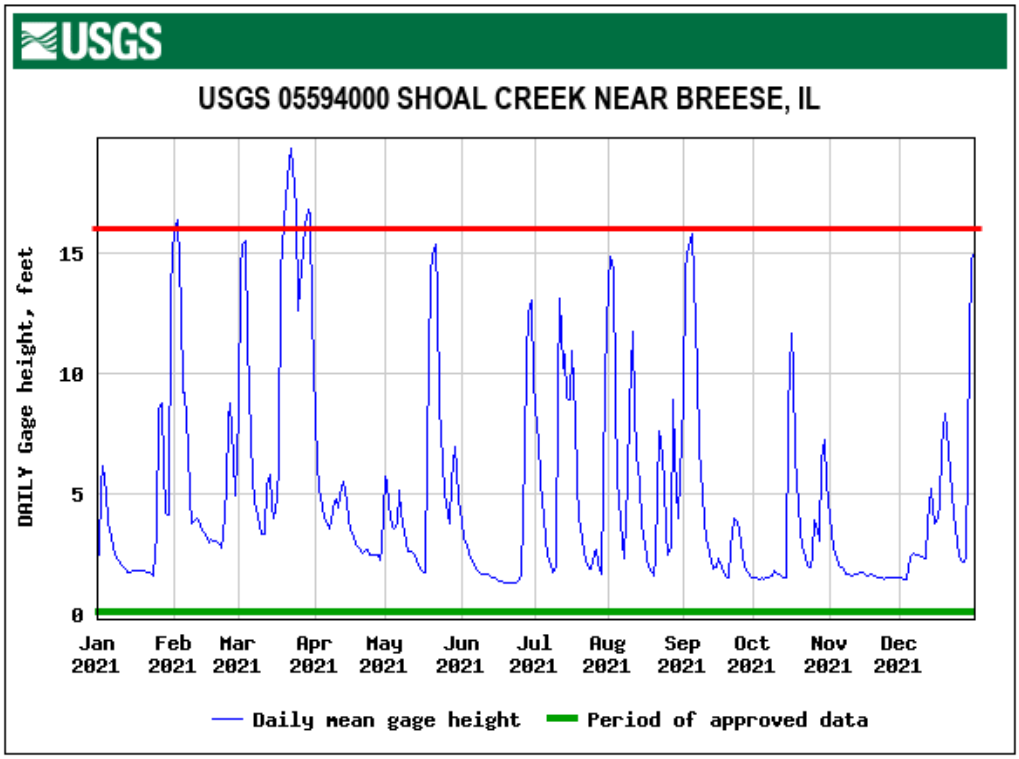
2019:


USGS
USGS 05594000 SHOAL CREEK NEAR BREESE, IL
DAILY Gage height, feet
15
10
5
0
Jan 2019
Feb 2019
Mar 2019
Apr 2019
May 2019
Jun 2019
Jul 2019
Aug 2019
Sep 2019
Oct 2019
Nov 2019
Dec 2019
Jan 2020
Daily mean gage height
Period of approved data

2020:


USGS
USGS 05594000 SHOAL CREEK NEAR BREESE, IL
DAILY Gage height, feet
20
15
10
5
0
Jan 2020
Mar 2020
May 2020
Jul 2020
Sep 2020
Nov 2020
Jan 2021
Daily mean gage height
Period of approved data

2021:


USGS
USGS 05594000 SHOAL CREEK NEAR BREESE, IL
DAILY Gage height, feet
15
10
5
0
Jan 2021
Feb 2021
Mar 2021
Apr 2021
May 2021
Jun 2021
Jul 2021
Aug 2021
Sep 2021
Oct 2021
Nov 2021
Dec 2021
Daily mean gage height
Period of approved data

SECTION E - Determination of Credits

One of the goals of the WFI-B Umbrella Mitigation Banking Program Instrument is to restore ecological integrity to Bank Sites using designs that re-establish natural / historic functions to former wetlands and restore / re-establish original physical attributes to accommodate watershed effects. For Shepgarten specifically, this objective is informed by historical aerials which identify the majority of the site as forested during the past 80+ years. Thus, the Sponsor proposes utilizing the processes of re-establishment, enhancement, and preservation through positively manipulating the affected soils, vegetation and hydrology on the Bank Site. These actions will improve the physical, chemical and biological traits of the Bank Site. This site has experienced greater than 40 years of soil elevations being flattened or leveled; elimination of native vegetation (forested and wetland species) diversity; and reductions of duration of hydrology through ditching and draining area to Shoal Creek for the sole purpose of manipulating the site for improved agricultural yields. Our plan is to re-establish this site into a functioning bottomland hardwood mast producing forest with supporting habitats such as emergent and enhanced forested wetlands to increase diversity at the Bank Site.

In analyzing this site over its historical changes, the proposed objectives and actions to be taken on this site depict a restoration plan that re-establishes the site to natural/historic functions along Shoal Creek rebuilding this former aquatic resource to both new functional acres and an overall higher functioning wetland. A representation of the quality of the older growth forest in the area can be found directly adjacent to the Bank Site; see below for photos taken on the adjacent parcel to the east, followed by historic aerials of the Bank Site.

Adequate Oak Stocking on adjacent parcel to the east:

Representative DBH (diameter at breast height) of oaks on adjacent parcel to the east:

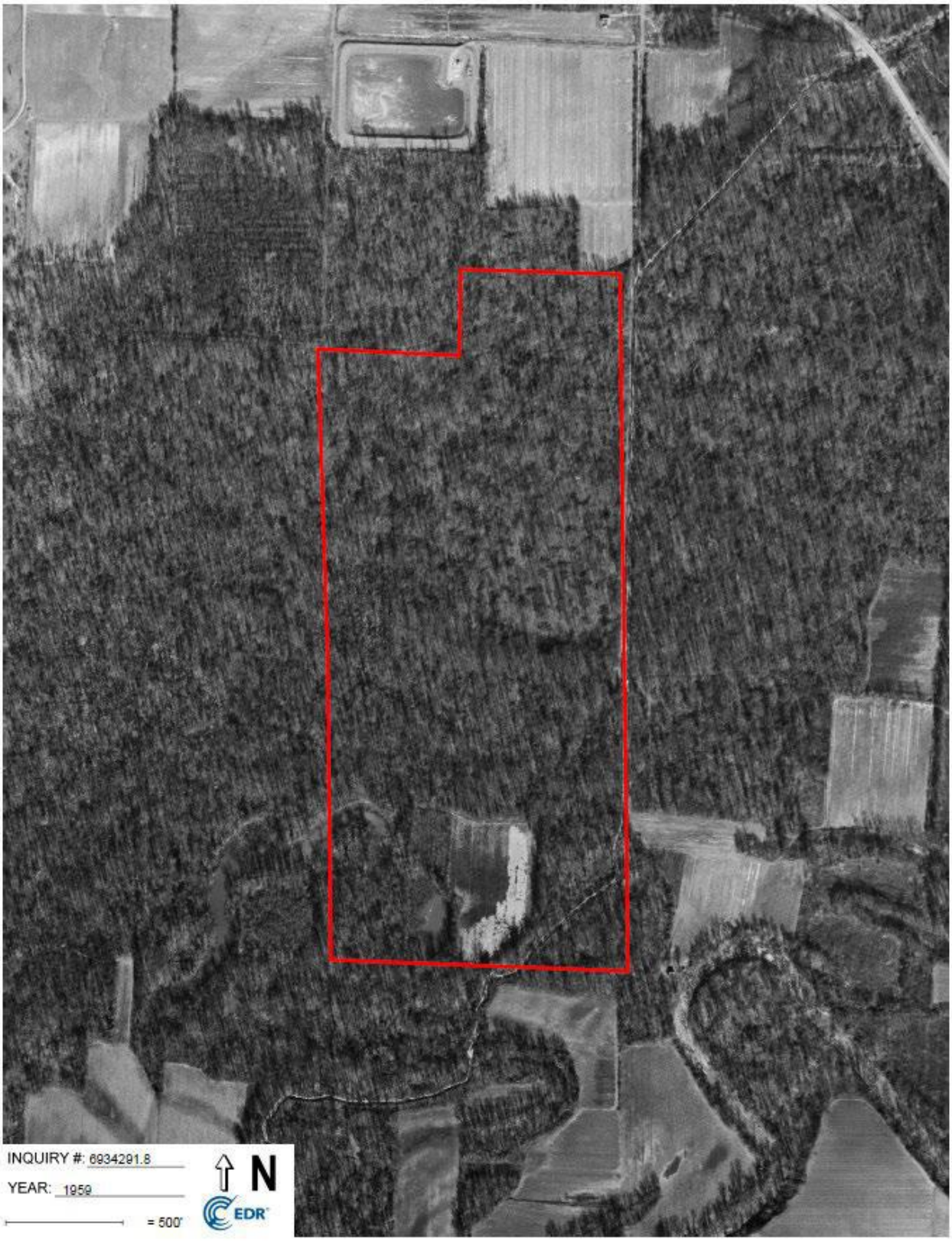
Example of Swamp White Oak regeneration on adjacent parcel to the east:

Example of Bur Oak regeneration on adjacent parcel to the east:

Example of Pin Oak regeneration on adjacent parcel to the east:

Aerial: 1938

Aerial: 1959



Aerial: 1981


INQUIRY #: 6934291.8
YEAR: 1981
= 500'
N
EDR
Subject boundary not shown because it exceeds image extent or image is not georeferenced.

Aerial: 1998

Aerial: 2017

The same methodology will be used to assess both credits and debits. The Sponsor determined that an appropriate functional assessment methodology is impractical to employ, thus acreage will be used as a surrogate for measuring function for the wetland habitats in concert with the Bank Site's Performance Standards.

The number of credits (acres/credits) reflect the difference between historic site conditions from 80+ years ago to conditions with re-establishment actions of the Bank Site.

SWMB will generate 71.25 wetland credits.

BREAKDOWN OF CREDIT RATIOS:

FORESTED

Re-establishment (100%): 49.98 acres = 49.98 credits

Justification: The credit justification is based on the agricultural acreage being removed from row cropping, planting native vegetation at a greater than 51% of the area with bottomland hardwoods and modifications to increase hydrologic conditions at the site. Hydrology will be modified through berms and mounds that provide added elevation thus modifying hydrology as it is associated with forested restoration. Secondly, hydrology will be modified through connecting historical depressional floodplain areas to drainage patterns within the Bank Site. Additionally, hydrology will be modified through eradication of agricultural ditches. This planting increases the Floristic Quality Index (FQI) of the acres and reduces forest fragmentation along Shoal Creek. There are two small emergent wetlands delineated with the forested area that will succeed to a forested wetland. When complete, this activity will result in a net gain in aquatic resource area and function.

EMERGENT

Re-establishment (100%): 17.89 acres = 17.89 credits

Justification: The credit justification is based on the agricultural acreage being removed from row cropping. The emergent areas will be converted to historic floodplain depressional areas and removed from agricultural row cropping. There is one area delineated as emergent wetland measuring 7.73 acres that annually experiences agricultural management, thus is an insignificant emergent area and will receive significant functional increases along with expansion. The modification of this area through small berm construction and connectivity to an interior tributary will result in increased growth and increase of native vegetation species diversity due to a modified hydrograph in this area. When complete, this activity will result in a net gain in aquatic resource area and function.

ENHANCED FORESTED

Enhancement (50%): 5.42 acres = 2.71 credits

Justification: This credit justification is based on the existing forested acreage being restored into a healthier oak/hickory bottomland forest. This forest stand is significantly overstocked and of low quality – there is virtually no oak component due to overstocking of faster growing species preventing adequate sunlight needed to promote oak regeneration. Additionally, this forest stand has a meaningful green ash component, and it is anticipated that these trees will succumb to the emerald ash borer in the near-term as evidenced by the significant mortality of green ash in the immediate vicinity of the Bank Site along Highway 161. Finally, over 75% of the forest stand is dominated by just two species (hickory and silver maple), resulting in minimal plant diversity. This forest lacks the ability to sustain a healthy ecosystem and requires multiple actions to create 1) proper B-level stocking, 2) increased plant diversity and quality, 3) enhanced wildlife habitat, and 4) an environment in which future generations of oak and hickory species will have a fighting chance to reach canopy level to become dominant trees in the future.

This project will reduce the Basal Area by removing competition via thinning and releasing techniques associated with Forest Stand Improvement (FSI) or selective Timber Harvest guidelines which will greatly benefit the overall health and vigor of the forest. This will create openings in the canopy, allowing sunlight to hit the forest floor, enhancing future generations of nut producing tree species. In addition to removing competition for future oak/hickory species, existing dead snags and den trees will provide additional habitat for nesting and brooding species. The planting of oak/hickory trees will take place within these specific openings in the canopy. This project will create approximately 7 cavity trees per acre, targeting declining trees that are already present in the stand. This planting increases the Floristic Quality Index (FQI) of the acres and reduces forest fragmentation along Shoal Creek. When complete, this activity will result in a net gain in aquatic function.

PRESERVED FORESTED

Preservation (10%): 6.68 acres = 0.67 credits

Justification: The credit justification is based on the preservation of the existing forested wetland acreage. This area has a strong stand of well-established hickory species, as well as a remnant oxbow with a buttonbush component, that was delineated as a forested wetland (see wetland delineation). The Sponsor has determined that the most appropriate course of action is to preserve this acreage in its existing state and to protect it in perpetuity with a permanent conservation easement, as its inclusion within the mitigation bank will support other restoration efforts to reduce forest fragmentation along Shoal Creek. The preservation acreage is small relative to the total Bank Site acreage (less than 10%) and meets the five criteria for preservation outlined in the *St. Louis District Guidance for Determining Wetland Credit for Compensatory Mitigation Projects based on Mitigation Activity Type*, as defined below:

1. **The resources to be preserved provide important physical, chemical, or biological functions in the watershed.**

   These 6.68 acres consist of high-quality, mature stands of hickory, as well as a remnant oxbow feature with a well-established buttonbush component, with no observed invasive species. The features of this acreage are unique and highly desirable from a functional wetland perspective. Additionally, the large number of hickory trees (as identified in the forestry inventory analysis), including shellbark and shagbark, provide excellent bat habitat for sensitive bat species such as Indiana Bat and Northern Long-Eared Bat.

2. **The resources to be preserved contribute significantly to the ecological sustainability of the watershed. In determining the contribution of those resources to the ecological sustainability of the watershed, the district engineer must use appropriate quantitative assessment tools, where applicable.**

   As an existing high quality forested wetland consisting primarily of climax oak-hickory forest, and a historic oxbow feature with a strong buttonbush component within the floodplain of Shoal Creek, the 6.68-acre resource certainly contributes to the ecological sustainability of the watershed by providing an environment for nutrient cycling, carbon storage, increased biodiversity, wildlife movement corridors, water storage and filtration, and reduced vulnerability to invasive species, to name a few. Its inclusion in the Bank Site provides a vital seed source for natural regeneration (particularly hickory), as well as a buffer from adjacent properties. Generating a floristic quality index (FQI) may be an appropriate and applicable measure in determining this resource's contribution to the ecological sustainability of the Shoal watershed.

3. **Preservation is determined by the district engineer to be appropriate and practicable.**

An IRT site visit was conducted on May 4th, 2022; all IRT members present (Tyson Zobrist, USACE; Matt Mangan, USFWS; and Kyle Birkwald, IDNR) agreed that preservation of these 6.68 acres is appropriate and practicable.

4. **The resources are under threat of destruction or adverse modifications.**

   One of the primary threats to this resource is the potential for logging, which exists due to the stand's high-quality timber. Specifically, the highly desirable hickory component makes up nearly 65% of the volume per acre per the forestry inventory analysis. Although any adverse modification would likely need to be authorized by the USACE permit process, this threat of destruction is only completely mitigated if these acres are included in the Bank Site and therefore protected under the Bank Site's permanent conservation easement.

5. **The preserved site will be permanently protected through an appropriate real estate or other legal instrument (e.g., easement, title transfer to state resource agency or land trust).**

   Including this 6.68-acre resource within the Bank Site ensures that it will be permanently protected under the same conservation easement as the rest of the re-established and enhanced acres of SWMB.

TOTAL CREDITS GENERATED FOR SWMB:

Wetland Credits: 71.25

Habitat Type	**Acreage**	**Total Credits**
Forested (PFO)	49.98	49.98
Emergent (PEM)	17.89	17.89
Enhanced Forested (PFO)	5.42	2.71
Preserved Forested (PFO)	6.68	0.67
Wetland: Total	**79.97**	**71.25**

SECTION F – Mitigation Work Plan

Project Description: SWMB is made up of prior converted cropland. The Bank Site will have a cumulative acreage of 79.97 (+/-) acres of restricted property in perpetuity.

Whereas, under this Banking Instrument, the Sponsor will establish and/or maintain 79.97 (+/-) acres of wetland habitat in accordance with the provisions of this Banking Instrument and the Bank Mitigation Work Plan and shall then maintain the Bank in such condition for a minimum of 7 years in accordance with the Bank Closure Procedures.

Excluded easement areas associated with access (details in Section D, Baseline Information) will have no adverse impacts to the Bank Site. In general, the easement areas will look to maintain the existing hydrology regime on the site, thereby not affecting the hydrology on the easements.

In Appendix 4 there are various construction maps and features for this project.

FORESTED WETLANDS

To prepare for unpredictable flooding and duration, the plan calls for a mix of vegetation that can tolerate a wide range of water levels. The proposed plan for improving hydrology across the Bank Site is to establish mounds for tree planting survivability. Mounds are created by modifying unconnected berms created on site, as described below. The construction of mounds will create microhabitats in and around the mounds that receive tree plantings, which provides additional hydrology duration during precipitation and short-term flood events.

Construction Feature Techniques:

In addition to in-situ planting (at existing elevations), the following tillage techniques will be utilized during the construction of the Bank Site to provide microtopographic features and allow for the inclusion of less flood-tolerant tree species for greater planting diversity. Techniques utilized are determined by site-specific surface elevations, hydrology patterns across the Bank Site, and specific tree species being planted. The construction method for these techniques will utilize a tractor-pulled rice levee plow, excavator, or dozer to manage the in-situ material.

It is important to note that not all trees (and sites) require these techniques; rather, some areas of the Bank Site may benefit from employing these techniques. All constructed features will be detailed in an as-built report post-construction.

Unconnected Berms: The first tillage technique to be used by the Sponsor is to construct berms (raised beds) of existing soil materials. Constructed berms will be approximately seven (7) feet wide, forty-five (45) feet long, and six (6) inches tall. The unconnected berms shall be approximately forty (40) feet apart, allowing for flood flowage in and around the forested planting so that restriction of the natural drainage of the site or impounding water during high rainfall

periods of flooding does not occur. Row(s) of trees will be planted in-situ in between each berm to maintain required 20x20 foot spacing.

Mounds: Following this, mound construction is performed by modifying a constructed berm. A box blade (hydraulic) follows the alignment of the berm periodically raising and lowering the box blade to pick up berm material and place on another section of berm. This process (along with the tractor height and a harrow) breaks the constructed berm into mounds approximately 5 feet wide by 8 feet long with a height just over one foot. Then a cultipacker piece of equipment is similarly driven over the constructed mound that slightly compacts the mound to an elevation of approximately eight (8) inches (construction grade). This mound will settle an additional 2 inches over the next year to a final grade of approximately six (6) inches. These mounds are not connected to any other feature and allow floodwater to move in and around the feature freely.

Other features in managing hydrology will consist of removing agricultural drainage ditches. Spring and fall rainfall plus annual flooding will provide soil saturations to support hydrophytic vegetation without mechanical means or intervention by the Sponsor. These actions focus on providing a streamlined approach to reach a climax forest status in a shorter timeframe than the typical 180 years (+) normal successional model.

ENHANCED FORESTED WETLANDS

This forest stand (5.42 acres) requires a forest stand improvement (FSI). The FSI will eliminate undesirable or low C-value species (maples, box elder, and green ash), and the planting of containerized oak and hickory trees in the canopy openings left behind will result in an increase in tree species diversity and the increase in overall Floristic Quality Index rating. These openings (which are greater than 0.25 acres within this forested stand) will receive hard mast oak and hickory plantings as a regeneration component at approximately 10-20 trees per acre as deemed necessary. These forest management activities will provide improved wildlife habitat and other forestry benefits to improve and promote a healthier, more sustainable forest ecosystem.

Relating to bat species, specifically the Indiana bat *(Myotis sodalis)* and Northern Long-eared Bat *(Myotis septentrionalis)*, the Sponsor will forego actions in sensitive areas during roosting months as these species rely on trees with exfoliating bark to roost from April through October. In the winter months, bats migrate to caves and bluffs to hibernate for the winter.

The Sponsor will conduct a Forest Stand Improvement (FSI) using chainsaws to double-girdle undesirable trees; trees will not be harvested in the stand.

EMERGENT WETLANDS

The Emergent Wetlands component of the plan will consist of a new feature to extend saturation and standing water in historical low areas around the Bank Site. The first feature will be created through improving hydrology across the site; the restoration of historic depressional areas through elevational management of a small berm construction at less than 8 inches and the interior elevational enhancement of a depression to reflect historical low areas across the Bank Site. The minor excavation along an alignment will generate an emergent wetland feature that provides extended inundation for the Bank Site.

PRESERVED FORESTED WETLANDS

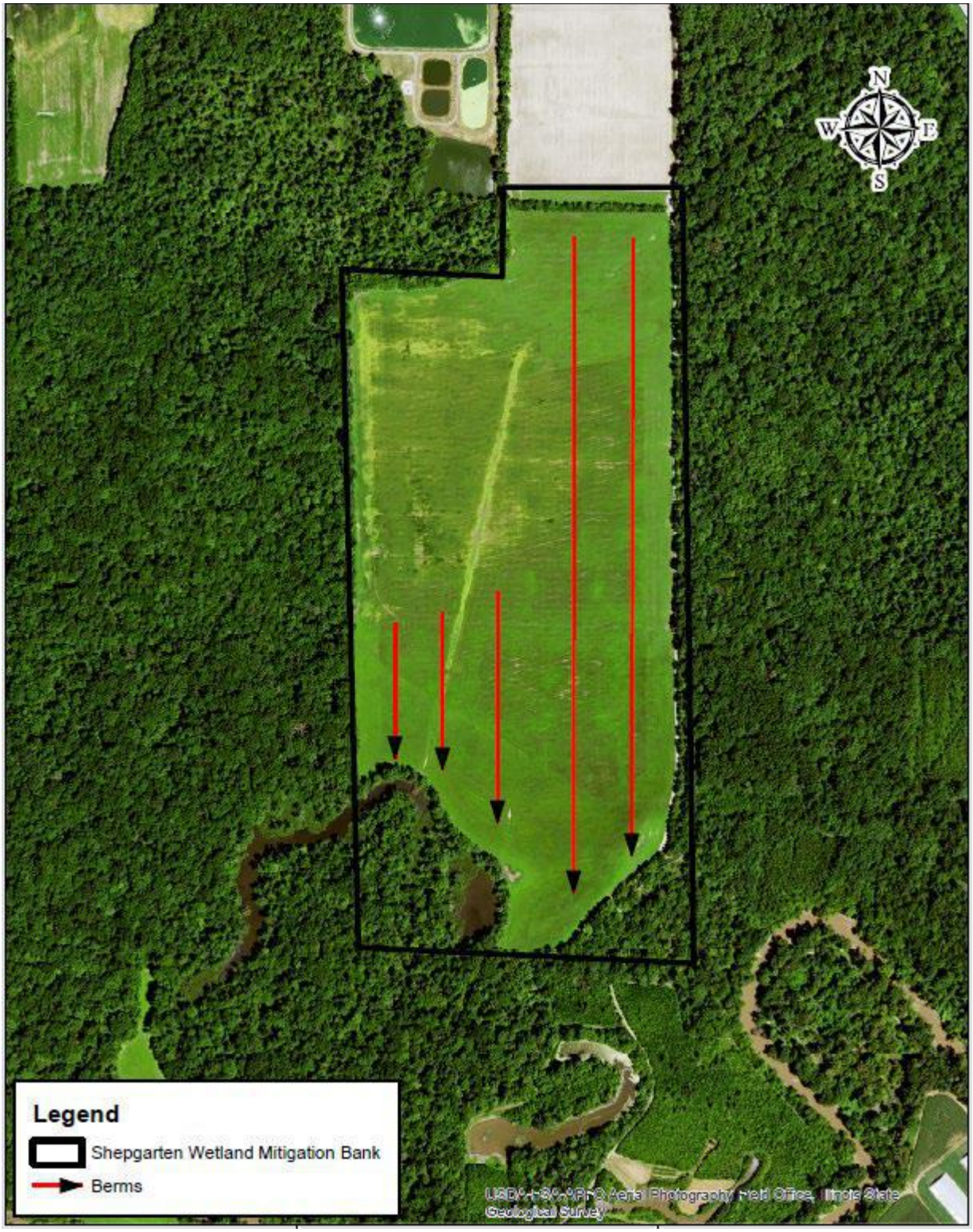
The Preserved Forested Wetlands component of the plan will consist of an existing stand of oak / hickory forest and a historical oxbow (6.68 acres) on the southwest corner of the Bank Site. The preservation of this area will support the overall goals of the Bank Site and connect new forested features with these historic highly functional wetland features of the landscape.

SITE RE-ESTABLISHMENT OF HYDROLOGY

As stated in the Baseline Conditions, the hydrograph in this area is directly related to the USGS gage 05594000 Shoal Creek near Breese, IL. The Bank Site is open to high water events associated with Shoal Creek. This could consist of flooding due to precipitation or high-water events from Shoal Creek. The Bank Site can also be subject to Kaskaskia River watershed hydrology, where long durational flooding on the Kaskaskia River may produce a backwater effect for Shoal Creek. This hydrograph will be managed to affect the depth, duration, and extent of flooding on the Bank Site.

Though the Bank Site has hydrologic conditions available, the historical management was designed to increase agricultural production. Existing drain ditches utilized during agricultural production will be modified through small berm construction (< 8 inches in height) to redirect interior water drainage across the site, thus extending duration of interior hydrologic conditions. Further, agricultural ditches will be filled or broken to support the extended duration of interior hydrology. This improvement to hydrology will result in the reestablishment of historical hydrology across the Bank Site and the increase of historical depressional drainage locations within the Bank Site. Reference figures below.

Figure 8 – Berm / Mound Construction



Approximately 30 rows of berms / mounds @ 40’ center

Figure 9 – Existing Drainage

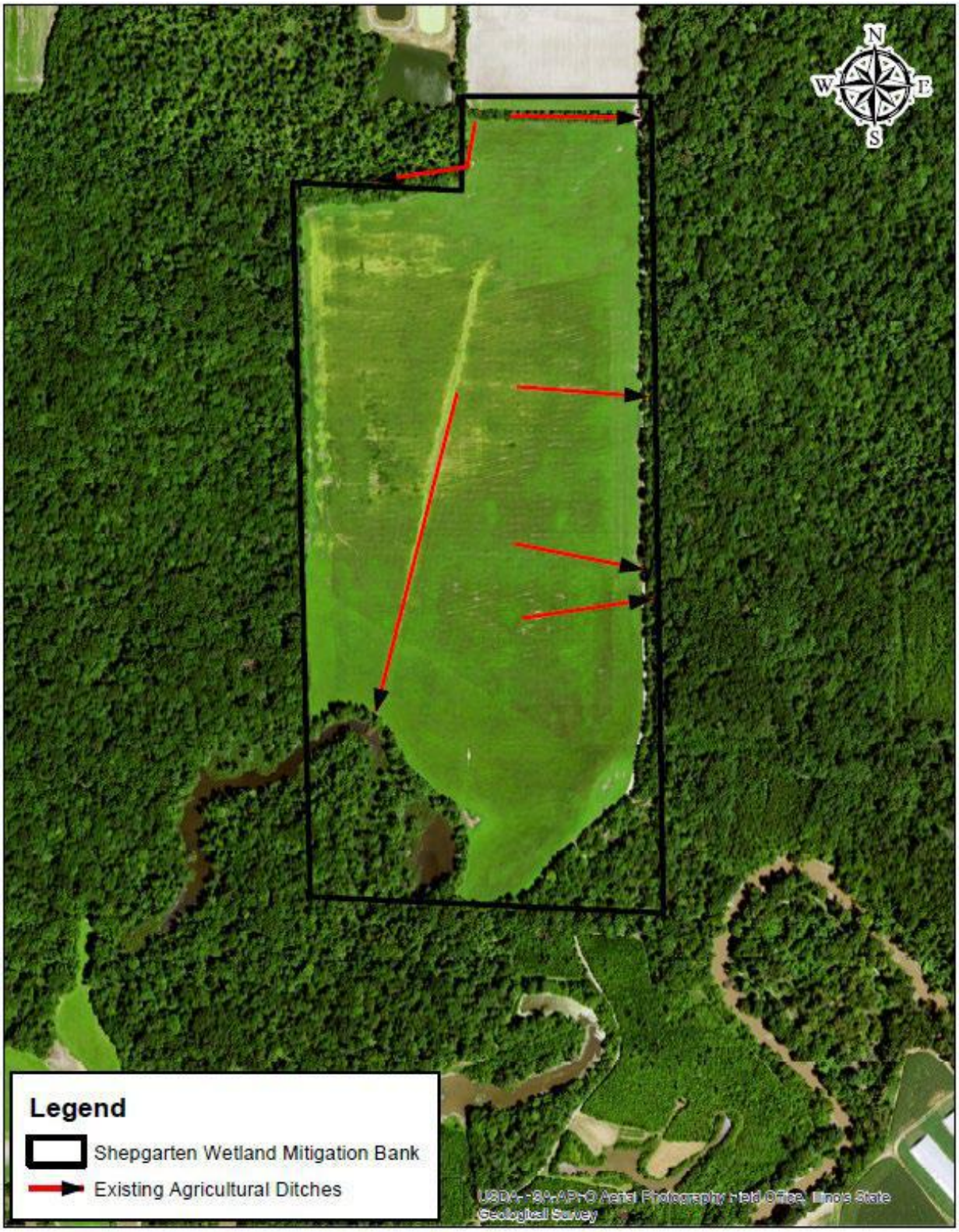
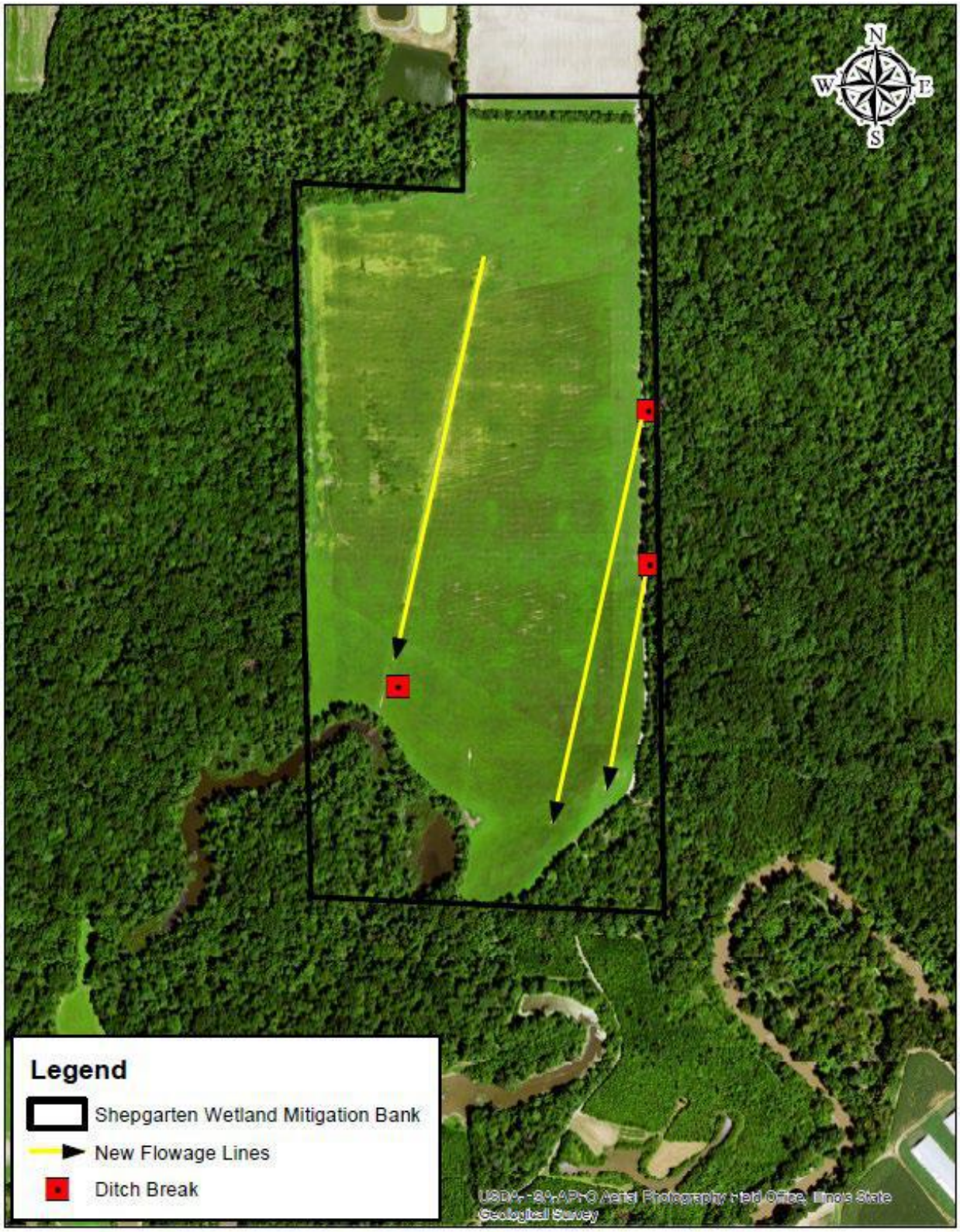


Figure 10 – Restored Hydrology



MITIGATION PLAN

Bottomland Hardwood Forest

Carya illinoinensis (Northern Pecan), Carya aquatica (Water Hickory), Quercus bicolor (Swamp White Oak), Quercus palustris (Pin Oak), Quercus nuttallii (Nuttall Oak), Quercus lyrata (Overcup Oak), Crataegus viridis (Green Hawthorne), Carya laciniosa (Shellbark Hickory), Platanus occidentalis (Sycamore), Celtis laevigata (Sugar Berry), Cephalanthus occidentalis (Button Bush), Forestoiera acuminata (Swamp Privit), Quercus phellos (Willow Oak), Diospyros virginaina (Persimmon), Taxodium distichum (Bald Cypress), Gymnocladus dioicus (Kentucky Coffee)

Tree Plantings

MAST BOTTOMLAND HARDWOOD PLANTINGS

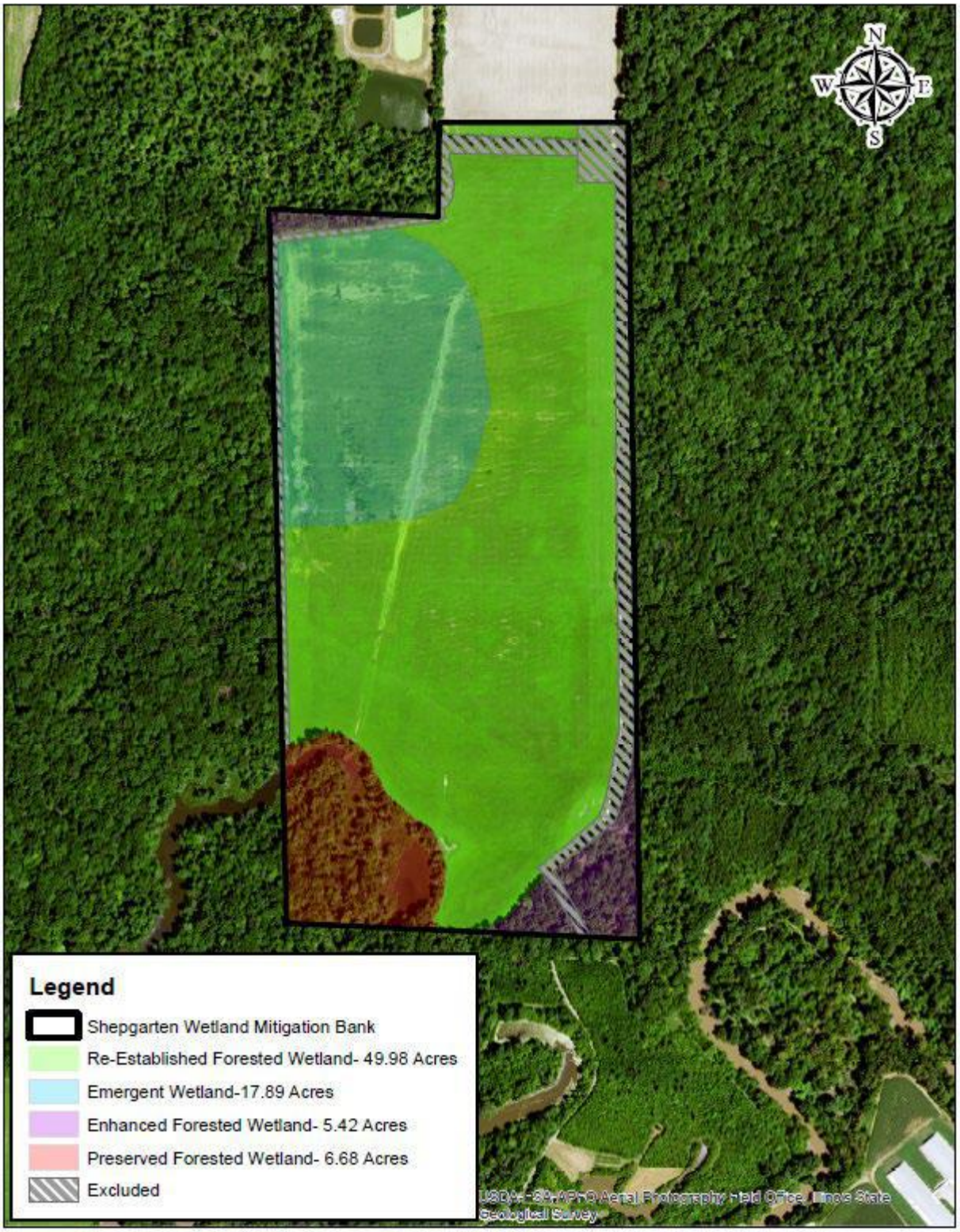
This area will follow all recommendations outlined in the WFI-B Umbrella Mitigation Banking Instrument (**UMBI**) for tree planting requirements. The forested planting equates to twenty foot by twenty foot (20 ft x 20 ft) spacing equaling 109 trees/acre.

Forested Wetland Area = 49.98-acres x 109 trees/acre = 5,448 trees (+/-)

Emergent Wetland

Botanical Name	Common Name	PLS Oz/Acre
Permanent Grasses/Sedges		
Bolboschoenus fluviatilis	River Bulrush	1.00
Carex comosa	Bristly Sedge	2.50
Carex lacustris	Common Lake Sedge	0.50
Carex lurida	Bottlebrush Sedge	4.00
Carex stricta	Common Tussock Sedge	1.00
Carex vulpinoidea	Brown Fox Sedge	2.00
Eleocharis palustris	Great Spike Rush	1.00
Juncus effusus	Common Rush	1.00
Leersia oryzoides	Rice Cut Grass	3.00
Schoenoplectus acutus	Hard-Stemmed Bulrush	2.50
Schoenoplectus pungens	Chairmaker's Rush	1.50
Schoenoplectus tabernaemontani	Great Bulrush	6.00
	Total	26.00
Temporary Cover		
Avena sativa	Common Oat	512.00
	Total	512.00
Forbs/Shrubs		
Acorus americanus	Sweet Flag	1.00
Alisma subcordatum	Common Water Plantain	2.00
Asclepias incarnata	Swamp Milkweed	1.00
Boehmeria cylindrica	False Nettle	1.00
Cephalanthus occidentalis	Buttonbush	6.00
Decodon verticillatus	Swamp Loosestrife	0.50
Eutrochium maculatum	Spotted Joe-Pye Weed	0.50
Hibiscus spp.	Rose Mallow Species	4.00
Iris virginica v. shrevei	Blue Flag	6.00
Lobelia cardinalis	Cardinal Flower	0.25
Lobelia siphilitica	Great Blue Lobelia	0.25
Lycopus americanus	Common Water Horehound	1.00
Mimulus ringens	Monkey Flower	1.00
Peltandra virginica	Arrow Arum	16.00
Penthorum sedoides	Ditch Stonecrop	0.50
Persicaria spp.	Pinkweed Species	2.00
Pontederia cordata	Pickerel Weed	4.00
Sagittaria latifolia	Common Arrowhead	2.00
Sparganium eurycarpum	Common Bur Reed	6.00
Verbena hastata	Blue Vervain	1.00
	Total	56.00

Figure 11 – Mitigation Plan Map



Shepgarten Forested Wetland Tree Planting

*Tree Varieties	*Trees per Acre*	Forested Wetland:	
		Acres Planted	***Total Trees***
Pin Oak (Quercus palustris)	15	49.98	**749**
Sycamore (Platanus occidentalis)	5	49.98	**250**
Willow Oak (Quercus phellos)	5	49.98	**250**
Northern Pecan (Carya Illinoensis)	10	49.98	**500**
Swamp White Oak (Quercus bicolor)	5	49.98	**250**
Green Hawthorne (Crataegus viridis.)	5	49.98	**250**
Shellbark Hickory (Carya laciniosa)	5	49.98	**250**
Button Bush (Cephalanthus occidentalis)	10	49.98	**500**
Persimmon (Diospyros virginiana)	4	49.98	**200**
Overcup Oak (Quercus lyrata)	12	49.98	**599**
Water hickory (Carya aquatic)	4	49.98	**200**
Sugarberry (Celtis laevigata)	4	49.98	**200**
Nuttall Oak (Quercus nuttallii)	10	49.98	**500**
Swamp Privit (Forestiera acuminate)	4	49.98	**200**
Bald Cypress (Taxodium distichum)	7	49.98	**350**
Kentucky coffee (Gymnocladus dioicus)	4	49.98	**200**
Totals	**109**	**49.98**	**5,448**

***Hard mast trees for berm planting**

SECTION G – Operation and Maintenance Plan

The SWMB restoration area is designed to be self-sustaining once the mitigation work plan is complete. The SWMB's Operation and Maintenance will reflect the approved UMBI plans for the WFI-B UMBI.

WFI Holdings-B LLC will be responsible for maintenance activities until wetland performance standards are determined to be met.

Typical Maintenance Operations to include the following:

- Mowing
- Invasive species control utilizing herbicide spraying

SECTION H – Ecological Performance Standards

The SWMB's Ecological Performance Standards will reflect the approved UMBI plans for the WFI-B UMBI.

The performance standards listed below will be used to measure or assess whether the Bank Site is developing into the desired resource type and providing the expected functions. These performance standards will be applied to determine the success of this compensatory mitigation activity. **These Performance Standards will be utilized for Forested and Emergent habitat types only.**

The Bank Site should meet the standards for vegetative cover and hydrology outlined in Table 1 below. Please note that Table 1 details the performance standards for multiple resource types as approved in the UMBI. Those resource types specific to this Bank Site are highlighted in blue.

Table 1. Performance Standards

Target	1-3-year Performance Standards	4-7 (further) -year Performance Standards
Vegetative Success for Wetland Areas: Emergent (PEM)	At least 75% of the vegetative cover consists of native hydrophytic vegetation suitable for the proposed areas water regime and site potential. No single occurrence of invasive species shall exceed 0.25 contiguous acre in area even if the overall abundance of invasive species is less than 25%. **Hydrology:** No more than 5% of the wetland shall consist of a contiguous "unvegetated open water" area measured no later than September 15th of each monitoring year.	At least 75% of the vegetative cover consists of native hydrophytic vegetation suitable for the proposed areas water regime and site potential. Minimum of 10 hydrophytic plant species per acre. The 10 species must also be native perennial species. In addition, no single occurrence of invasive species shall exceed 0.10 contiguous acre in area even if the overall abundance of invasive species is less than 10%. **Hydrology:** No more than 5% of the wetland shall consist of a contiguous "unvegetated open water" area measured no later than September 15th of each monitoring year
Vegetative Success for Wetland Areas: Scrub-Shrub (PSS)	Performance standards for this habitat type will be proposed on a site-by-site basis and will generally mirror either the Emergent or Forested, depending upon site-specific parameters. No single occurrence of invasive species shall exceed 0.10 contiguous acre in area even if the overall abundance of invasive species is less than 10%.	
Vegetative Success for Wetland Areas: Forested (PFO)	Sponsor will comply with the St. Louis District Mitigation Tree Planting Guidance, Estimated Guidance from 2017. Note that only 20% of the surviving trees after monitoring may be from natural recruitment. In addition, trees re-planted within the previous two years will not count towards the survivability metric. No single occurrence of invasive species shall exceed 0.10 contiguous acre in area even if the overall abundance of invasive species is less than 10%. **Hydrology:** No more than 5% of the wetland shall consist of a contiguous "unvegetated open water" area measured no later than September 15th of each monitoring year	
Stream- In-Stream	Monitoring will include the establishment of eight fixed photo stations (pins) along the bank, 2 per reach. These pins will be measured in relationship to the current position of the bank toe or top of bank, which will show any erosion or deposition. Monitoring reports will note the presence of toe undercutting, lateral bank movement, and overall rock structure stability. Due to the method of stabilization and the existing bank conditions, some changes in bank conditions may continue to occur as the bank establishes a stable slope. The stabilization will be determined successful if the rock structures remain functionally in place following high flow events, and the bank line does not move beyond what would reasonably be expected for normal stream dynamics and morphology. To assess the performance of the grade control structures, a channel cross section will be taken at each photo station, when stream conditions allow, to monitor any changes in the shape of the stream channel.	Performance for the stream structures will be evaluated by the stability of the structures. Sites deemed not to create any instability for the stream channel shall the considered to meet performance standards for stream stability. A Rapid Bioassessment Protocol (RBP) determination will be utilized to determine overall ecologic lift for the in stream reaches. The RBP will be performed every year and be compared to the baseline RBP for the project. The RBP will be the main criteria for ecological performance. Specific stream performance standards beyond what are proposed in this document may be developed on a site-by-site basis as bank sites are proposed. A macroinvertebrates analysis may be conducted for each project, a baseline and at year 4 analysis can be evaluated for overall lift of macroinvertebrates.

Target	1-3-year Performance Standards	4-7 (further) -year Performance Standards
Stream- Riparian Area	Sponsor will comply with the St. Louis District Mitigation Tree Planting Guidance, Estimated Guidance from 2017. Note that only 20% of the surviving trees after monitoring may be from natural recruitment. In addition, trees re-planted within the previous two years will not count towards the survivability metric. No single occurrence of invasive species shall exceed 0.10 contiguous acre in area even if the overall abundance of invasive species is less than 10%.	
Buffer Areas	No single occurrence of invasive species shall exceed 0.10 contiguous acre in area even if the overall abundance of invasive species is less than 10%. Additional buffer performance standards may be added on a site by site basis depending upon site-specific parameters.	
RIAM	Between years five to seven, verify if pre-project assessment in Section D meets post project ranking as determined by best professional judgment.	

PLANTING PERFORMANCE STANDARDS

The SWMB's Planting Performance Standards will reflect the approved UMBI plans for the WFI-B UMBI.

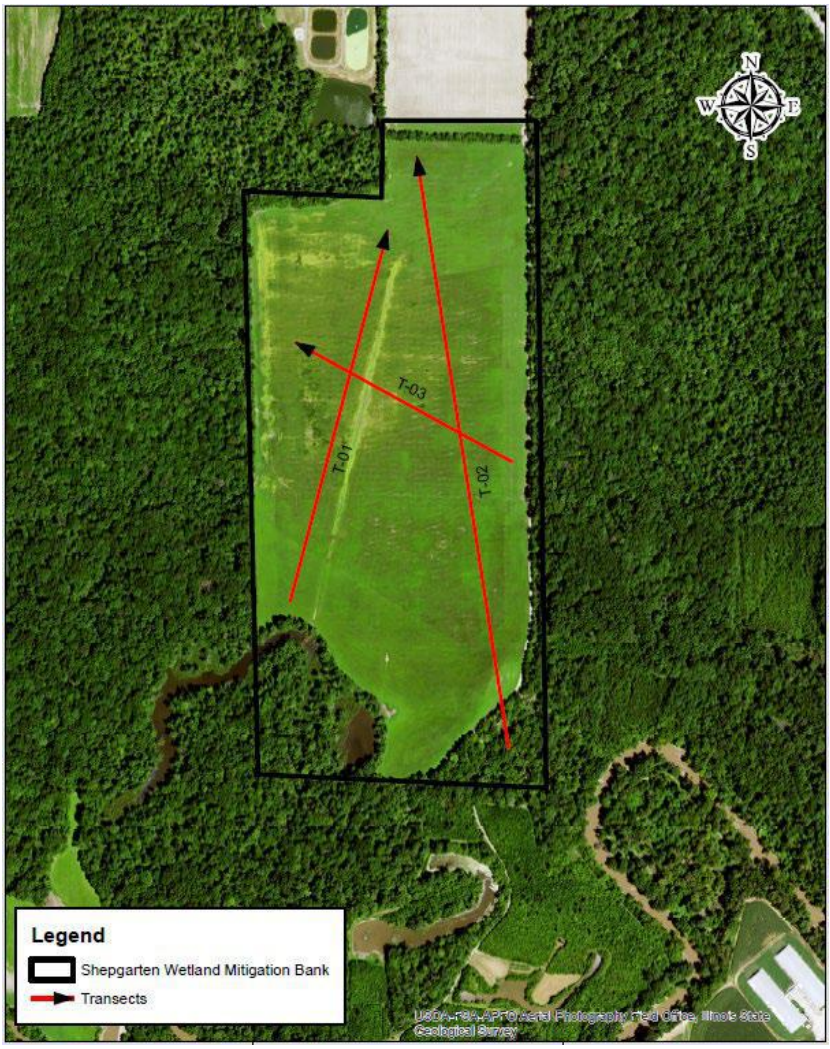
SECTION I – Monitoring Requirements

The SWMB's Monitoring Requirements will reflect the approved UMBI plans for the WFI-B UMBI.

A seven (7) year monitoring program will be initiated after installation of the planting material for each phase. The WFI Holdings-B LLC Environmental Scientist shall conduct all monitoring.

Monitoring will be conducted utilizing both a random and transect-based meander search. The transect meander search will follow defined transects that intersect specific wetland classes on the Bank Site, and will be performed to establish a baseline, verify hydrology, and as a final meander search.

The random meander search will be performed during regular annual monitoring events during approximately October / November. The samples will be randomly taken at approximately 200-foot intervals for classes that were seeded and / or planted.



SECTION J – Long-Term Management Plan

The SWMB's Long-Term Management Plan will reflect the approved UMBI plans for the WFI-B UMBI.

The Bank Site will have a long-term management plan that focuses on the survival and success of the forested and emergent wetlands being restored. Long-term management will be implemented after the performance standards are met.

Long Term Steward for SWMB: HeartLands Conservancy

Conservation Easement Holder for USACE: HeartLands Conservancy

STRUCTURE OF LONG-TERM FINANCING

Long-term financing for HeartLands Conservancy's services are referenced in Appendix 6. An endowment in the amount of $45,000 will be used for any maintenance requirements once the performance standards have been met after submittal of the closeout report. Based upon financing and anticipated forested management action, the non-diminishing endowment will have financial stability in perpetuity.

PROVISIONS FOR LONG-TERM MANAGEMENT AND MAINTENANCE
LONG-TERM CARE

The Bank Site has been designed to be self-sustaining, therefore, long-term care is deemed to be minimal once the project has met the specified performance standards. However, a management and maintenance plan is located in Appendix 5 to address the minimal management requirements of the project.

SECTION K – Adaptive Management Plan

The SWMB's Adaptive Management Plan will reflect the approved UMBI plans for the St. WFI-B UMBI.

SECTION L – Financial Assurances

The SWMB's Financial Assurances will reflect the approved UMBI plans for the WFI-B UMBI.

The Bank Site will have a plan of financial assurances and long-term management that focuses on the survival and success of the forested and emergent wetlands being restored. Financial Assurances will support the project during construction and monitoring while long-term management will be implemented after the performance standards are met.

CONSTRUCTION FINANCIAL ASSURANCES

The Sponsor agrees to provide the following financial assurances for the work described in the Banking Instrument and in Appendix 6, Financial Assurances.

The Sponsor will be the responsible party for the financial assurances of the Bank Site. These assurances will be of sufficient substance to ensure the proposed compensatory mitigation will be successfully completed in a manner consistent with the performance standards agreed upon by the MBRT and the Sponsor. Any financial instrument will be in place prior to commencement of any permitted activity associated with the Bank Site.

As seen in Appendix 6, the total construction and monitoring cost of the Bank Site through the monitoring period is anticipated to be $192,000, which includes construction expenses and yearly monitoring. To provide financial assurance protection for these costs, the Sponsor will purchase either a performance bond or a casualty insurance policy to protect the Bank Site in the event of non-compliance. This assurance will ensure sufficient funds are available to a third party should the Bank Site be deemed non-compliant and declared in default by the USACE. Funds would be made available to a third party to restore the Bank Site's compliance once a claim has been filed by the USACE. Upon execution of the MBI, the Sponsor will purchase this assurance through Conservation United to meet the short-term financial assurance requirements. An example draft bond form, and example draft insurance policy, can be found in Appendix 6.

STRUCTURE OF LONG-TERM FINANCING ENDOWMENT

HeartLands Conservancy has been identified as the long-term manager/steward.

An endowment in the amount of $45,000 will be completely funded to an interest accruing account at Project Close-out of SWMB. Based upon financing and anticipated forested management action, the non-diminishing endowment will have financial stability in perpetuity.

Long-term financing for HeartLands Conservancy's services are outlined above and referenced in Appendix 5.

- An Endowment will be established along with Financial Assurances component of the project;
- The Total Endowment funding at Project Close-Out will be $45,000 at an estimated return rate of 6% which generates $35,600/ten years.
- WFI Holdings-B LLC recommends a stepped funding strategy for this project's Endowment. The strategy will consist of two major activities; 1) A Fixed Annual Payment and 2) A Final Endowment Funding at Project Close-Out.
- Fixed Annual Payments in the amount of $2,000.00 per year
    - Timing of Annual Payment: within 90 days of beginning of calendar year for prior calendar year (example: annual payment for 2023 to be made by end of March 2024).
- Final Endowment Funding action to fund the remainder of Endowment
    - Timing of Final Endowment: Project Close-Out
    - Amount: equal to an amount to bring the endowment to a total of $45,000.
        - Total Endowment Funding ($45,000), less sum of Fixed Annual Payments, less sum of interest earned
        - Shall not exceed a maximum of Total Endowment Funding ($45,000) less sum of Fixed Annual Payments

- Total Endowment funding at time of Project Close-Out: $45,000;
- WFI Holdings-B LLC will fund a TSI/Pruning Management action at Close-out;

PROVISIONS FOR LONG-TERM MANAGEMENT AND MAINTENANCE

LONG-TERM CARE

The Bank Site has been designed to be self-sustaining, therefore, long-term care is deemed to be minimal once the Bank Site has met the specified performance standards. However, a management and maintenance plan is located in Appendix 5 to address the minimal management requirements.

SECTION M – Credit Release Schedule for the Bank Site

The SWMB's Credit Release Schedule will reflect the approved UMBI plans for the WFI-B UMBI. The SWMB generates 71.25 wetland credits.

Wetland Credits:

	Preservation		Re-Establishment / Enhancement			
Description	**Release %**	**Credits**	**Release %**	**Credits**	**Total (Annual)**	**Total (Cumulative)**
Bank Approval	100%	0.67	15%	10.59	**11.26**	11.26
Construction Complete	--	--	25%	17.65	**17.65**	28.91
Hydrology Confirmation	--	--	15%	10.59	**10.59**	39.50
Year 3 Performance Standards	--	--	15%	10.59	**10.59**	50.09
Year 4 Performance Standards	--	--	15%	10.58	**10.58**	60.67
Year 5-7 Performance Standards	--	--	15%	10.58	**10.58**	71.25
Total	**100%**	**0.67**	**100%**	**70.58**	**71.25**	

The Sponsor shall submit a statement to the Corps St. Louis District each time credits are debited, or additional credits are approved. If requested, the Corps will distribute the statement to other members of the MBRT. At a minimum, the Sponsor shall submit an annual ledger to the Corps for distribution to all members of the MBRT, showing all transactions at the SWMB for the previous year.

Please see below for example tracking logs.

Shepgarten Wetland Mitigation Bank

Managed By: WFI Holdings-B LLC

INDIVIDUAL CREDIT DEBIT LOG

USACE Permit Number: CE-MVS-2022-xxxx

WFI Holdings-B LLC Tracking Code: LKS-SHEPGARTEN (SG)-2022-002

Type	Approved Credits	Debits this Transaction	Total Debits to Date	Balance of Credits
Wetland	71.25	0.0	0.0	71.25
Total	**--**	**0.0**	**0.0**	**71.25**

Shepgarten Wetland Mitigation Bank

Managed By: WFI Holdings-B LLC

WETLAND CREDITS YEARLY BALANCE LOG

Credits Yearly Balance	Name of Debitor and DA Permit Number	Wetland Credits Debited	Stream Credits Debited	WFI Holdings-B Tracking Code
2022	Company ABC	2.1	N/A	LKS-SG-2022-002
2022	Company XYZ	1.7	N/A	LKS-SG-2022-002
2023	Company 123	1.1	N/A	LKS-SG-2022-002
2023				
2024				
2025				

Lower Kaskaskia/Shoal Service Area

Managed By: WFI Holdings-B LLC

WETLAND CREDITS YEARLY BALANCE LOG

Credits Yearly Balance	Name of Debitor and DA Permit Number	Wetland Credits Debited	Stream Credits Debited	WFI Holdings-B Tracking Code
2021	Company ABC	2.1	150.0	LKS-SB-2021-001
2021	Company XYZ	1.7	0.0	LKS-SG-2022-002
2021	Company Bravo	2.2	0.0	LKS-SG-2022-002
2022	Company 123	1.1	1,250.0	LKS-SB-2021-001
2022				
2023				
2024				

WFI-B UMBI

Managed By: WFI Holdings-B LLC

WETLAND CREDITS YEARLY BALANCE LOG

Credits Yearly Balance	Name of Debitor and DA Permit Number	Wetland Credits Debited	Stream Credits Debited	WFI Holdings-B Tracking Code
2021	Company ABC	2.1	0.0	LKS-SB-2021-001
2021	Company XYZ	0.0	150	LKS-SB-2021-001
2021	Company Bravo	1.2	0.0	LKS-SG-2022-002
2021	Company Charlie	0.0	2.8	BM-??-2021-001
2022	Company 123	1.1	1,250	LKS-SB-2021-001
2022				
2023				
2024				

SECTION N – Default and Closure Provisions

The SWMB's Default and Closure Provisions will reflect the approved UMBI plans for the WFI-B UMBI.

SECTION O – FORCE MAJEURE

The SWMB's Force Majeure will reflect the approved UMBI plans for the WFI-B UMBI.

Appendix 1

Survey – Plat

[insert when complete]

Appendix 2

Title Commitment and Chain of Title

Community Title

397 N 4th St.

Breese, IL 62230

618-526-7750

Letter Report	
MIH Management Services , Attn: Amy Bourne	CTE File Number: BR220169 Order Regarding: Brian J. Becker and Carol C. Becker

Issue Date: March 7, 2022

	From	To
Search Period :	Parcel 1: From January 3, 1918 Parcel 2: From July 11, 1922	February 24, 2022

Legal Description:

PARCEL 1

The Northeast Quarter of the Southeast Quarter, and 5.7 acres off of the South end of the East Half of the Southeast Quarter of the Northeast Quarter, all in Section 9, Township 1 North, Range 4 West of the Third Principal Meridian.

Also, an easement for roadway purposes along and across the east twenty feet of the East Half of the Southeast Quarter of the Northeast Quarter of Section 9, Township 1 North, Range 4 West from the south right-of-way line of Rt. 161 to the North line of the South 5.7 acres of the said East Half of the Southeast Quarter of the Northeast Quarter.

Except any interest in the coal, oil, gas and other mineral rights underlying the land which have been heretofore conveyed or reserved in prior conveyances, and all rights and easements in favor of the estate of said coal, oil gas and other minerals, if any.

Situated in Clinton County, Illinois

IDENT: 93R4215

PPN: 12-11-09-400-004 & 12-11-09-200-016

PARCEL 2

The Southeast Quarter of the Southeast Quarter of Section Nine (9), Township One (1) North, Range Four (4) West of the Third Principal Meridian, Clinton County, Illinois.

Except any interest in the coal, oil, gas and other mineral rights underlying the land which have been heretofore conveyed or reserved in prior conveyances, and all rights and easements in favor of the estate of said coal, oil gas and other minerals, if any.

IDENT: 96R5398

PPN: 12-11-09-400-007

Property Address	Parcel Number
Unknown, Germantown, IL 62245	12-11-09-400-004

Property Address	Parcel Number
Unknown, Germantown, IL 62245	12-11-09-200-016

Property Address	Parcel Number
Unknown, Germantown, IL 62245	12-11-09-400-007

Last Grantee of Record:

Brian Becker a/k/a Brian J. Becker and Carol Becker a/k/a Carol C. Becker, as joint tenants with right of survivorship and not as tenants in common

Items of Record:

PARCEL 1:

1. **Trustee's Deed executed by John T. Welling, Trustee of the Estate of John Welling Sr., deceased to Veronika Welling, dated December 31, 1917 and recorded January 3, 1918 in Book 43 Page 624 as Document No. 28761.**

2. **Warranty Deed executed by John T. Welling and Mary Welling, his wife to Joseph T. Micheel, dated March 21, 1932 and recorded July 19, 1932 in Book 65 Page 402 as Document No. 46984.**

3. **Warranty Deed executed by Veronika Welling, maiden, to John T. Welling, dated December 11, 1918 and recorded June 29, 1943 in Book 77 Page 51 as Document No. 84577.**

4. **Executor's Deed executed by Elizabeth M. Micheel, as executrix of the Last Will and Testament of Joseph T. Micheel, deceased, to Elizabeth M. Micheel, a widow never having remarried, dated September 13, 1973 and recorded September 18, 1973 in Deed Record 164 Page 408 as Document No. 218755.**

5. **Warranty Deed executed by Elizabeth Micheel, a widow, not since remarried to Marvin G. Hemker and Janet C. Hemker, husband and wife, as joint tenants, not as tenants in**

common, dated April 30, 1981 and recorded April 30, 1981 in Deed Record 210 Page 318 as Document No. 251360.

6. Warranty Deed executed by Marvin G. Hemker and Janet C. Hemker, husband and wife to Brian Becker and Carol Becker, husband and wife, as joint tenants with right of survivorship and not as tenants in common, dated July 23, 1993 and recorded July 27, 1993 as Document No. 93R4215.

7. Easement executed by Joseph T. Micheel and Elizabeth Micheel, his wife to Illinois Power Company, an Illinois Corporation, its successors and assigns, dated Jun 12, 1956 and recorded October 9, 1956 in Book 94 Page 274 as Document No. 153073.

8. Oil and Gas Lease executed by Elizabeth M. Micheel, a widow to C. E. Brehm, dated August 31, 1973 and recorded September 27, 1973 in Oil and Gas Record 223 Page 255 as Document No. 218839.

PARCEL 2

9. Executor's Deed executed by Frank Duing, Jr., Executor of the Last Will and Testament of Christine Duing, deceased to Josephine Duing, dated July 8, 1922 and recorded July 11, 1922 in Book 52 on Page 622 as Document No. 34957.

10. Warranty Deed executed by Josephine Duing and Frank Duing, Jr. to Frank Duing Jr., an undivided one-half interest, dated April 5, 1923 and recorded October 8, 1924 in Book 58 Page 635 as Document No. 38001.

11. Executor's Deed executed by Walter H. Duing, Executor of the Wills of Josephine Duing and Frank Duing, deceased to Edward T. Hemann and Marie E. Hemann, his wife, as joint tenants and not as tenants in common, dated March 21, 1966 and recorded April 20, 1966 in Deed Record 132 Page 397 as Document No. 191767.

12. Warranty Deed executed by Edward T. Hemann and Marie E. Hemann, his wife to Vincent C. Horstmann and Marie A. Horstmann, not in tenancy in common, but in joint tenancy, dated March 1, 1968 and recorded March 6, 1968 in Deed Record 139 Page 272 as Document No. 198833.

13. Warranty Deed executed by Vincent C. Horstmann and Marie A. Hemann, husband and wife, each individually and as the spouse of each other to Hollis Tull Lumber Co., an Illinois corporation, dated August 5, 1975 and recorded September 10, 1975 in Deed Record 177 Page 5 as Document No. 226357.

14. Warranty Deed executed by Hollis Tull Lumber Company, Inc., an Illinois corporation to Louis Taylor, dated March 12, 1976 and recorded March 18, 1976 in Deed Record 180 Page 321 as Document No. 228515.

15. Warranty Deed executed by Louis Taylor to Norbert Peters, Michael Peters, Steven Peters and Dale Peters, as joint tenants and not as tenants in common, dated June 25, 1977 and recorded July 11, 1977 in Deed Record 189 Page 202 as Document No. 234553.

16. Heirship Affidavit - Norbert J. Peters, Deceased recorded June 7, 1993 as Document No. 93R3165.

17. **Warranty Deed executed by Michael Peters, Steven Peters, Dale Peters, Yvonne Prater, Carol Becker, Dianne Michels, Donna Horstmann a/k/a Donna Ottensmeier, Patrick Peters and Florence C. Peters, being the sole heirs at law and devisees/legatees of Norbert Peters a/k/a Norbert J. Peters, deceased to Brian J. Becker and Carol C. Becker, husband and wife, as joint tenants with rights of survivorship and not as tenants in common, dated September 6, 1996 and recorded September 13, 1996 as Document No. 96R5398.**

18. **Oil and Gas Lease executed by Vincent Horstmann and Marie Horstmann, his wife to C. E. Brehm, dated August 31, 1973 and recorded September 27, 1973 in Oil and Gas Record 223 Page 257 as Document No. 218840.**

PARCELS 1 & 2

19. **Grant of Roadway Access Easement executed by Brian Becker and Carol Becker, husband and wife to Warren P. Strieker and Coleen M. Strieker, husband and wife, dated April 24, 1999 and recorded April 27, 1999 as Document No. 99R2940.**

20. **Easement For Drainage Purposes executed by Brian J. Becker and Carol C. Becker to The Village of Germantown, Illinois, dated May 11, 2001 and recorded May 15, 2001 as Document No. 01R3143.**

21. **Easement executed by Brian J. Becker and Carol C. Becker, husband and wife to owners of real estate described in Exhibit "A" (see document), and their successors and assigns, dated May 11, 2001 and recorded May 15, 2001 as Document No. 01R3180.**

22. **Memorandum Of Option To Purchase Conservation Easement by and between Brian J. Becker and Carol C. Becker, husband and wife, and WFI Holdings-B, LLC, a Delaware limited liability company, dated January 15, 2022 and recorded January 27, 2022 as Document No. 2022R00444.**

23. **Existing unrecorded leases and tenancies and all rights thereunder of the lessees and tenants and of any person claiming by, through or under lessees.**

24. **Any and all easements, restrictions, outstanding oil, gas and mineral rights, and rights to aboriginal antiquities of record, but omitting restrictions, if any, based on race, color, religion,sex, handicap, familial status, or national origin.**

25. **All rights and easements in favor of the holder of any interest in the mineral estate or any party claiming by, through, or under said holder.**

26. **Rights of the Public, the State of Illinois, the County, the Township and the Municipality in and to that part of the premises taken, used, or dedicated for roads or highways.**

27. **Rights of way for drainage ditches, drain tiles, feeders, laterals and underground pipes, if any.**

28. **Easement for public and quasi-public utilities, if any.**

29. **No examination has been made of the mineral title. Coverage shall not be construed as including the title to minerals underlying the subject premises.**

30. **Attention is directed to ordinances and regulations relating to connections, charges, liens**

for use of any public sewerage, water or other utility system serving the land referred to herein. We call attention to the fact that all sewer and utility bills should be obtained from the offices supplying the service. We indicate only recorded liens.

31. **Rights of dower, curtesy, homestead or other marital rights of spouse, if any.**

32. **Taxes for the year 2020 are assessed in the amount of $736.66 and are now paid. Permanent Parcel # 12-11-09-400-004**

33. **Taxes for the year 2020 are assessed in the amount of $125.40 and are now paid. Permanent Parcel # 12-11-09-200-016**

34. **Taxes for the year 2020 are assessed in the amount of $601.74 and are now paid. Permanent Parcel # 12-11-09-400-007**

35. **There were no Liens or Judgments found of record in the Recorder of Deeds Office in Clinton County, Illinois.**

The Company has delivered this Commitment and/or Policy to the proposed insured and/or insured by electronic means. All signatures contained herein are to be effective under the provisions of Section 5-110 of the Illinois Electronic Commerce Security Act (5 ILCS 175/5-110).

This Report is given for informational purposes only, is not a guarantee or opinion of title, and does not insure any of the interested parties. A title commitment and policy would require a further search of the public records. The parcel ID numbers and legal description provided have been taken from the last items of public record in the applicable county. Any liability for any damage relating to the information provided in this Report, and/or the requested recording of any document related to this Report is strictly limited to the amount paid.

Highland Community Title, LLC (Breese)

By Melinda Kimler

Appendix 3

Conservation Easement

Prepared by and return to:
Atty. Jonathan Luljak
MICHAEL BEST & FRIEDRICH LLP
790 N. Water Street, Suite 2500
Milwaukee, WI 53202
(414) 271-6560

CONSERVATION EASEMENT

THIS DEED OF CONSERVATION EASEMENT is given this_____ day of _____, 2022, ("Effective Date") by BRIAN J. BECKER and CAROL C. BECKER, husband and wife, having an address of 11424 State Route 161, Bartelso, Illinois 62218 ("Grantor") to HEARTLANDS CONSERVANCY, an Illinois non-profit corporation, having an address of 29 E. Main Street, Belleville, Illinois 62220 ("Grantee"). As used herein, the term "Grantor" shall include any and all heirs, successors, or assigns of the Grantor, and all subsequent owners of the Property (as hereinafter defined), and the term "Grantee" shall include any successor or assignee of Grantee.

WITNESSETH:

WHEREAS, Grantor is the sole owner in fee simple title of certain lands situated in _____ County, ILLINOIS, including ____ acres more particularly described on Exhibit A attached hereto, depicted on the survey attached hereto as Exhibit B, and incorporated herein ("Property"), and

WHEREAS, Department Permit No. [MVS-xxxx-xxx] of the U.S. Army Corps of Engineers ("Corps") (hereinafter referred to as the "Permit") authorizes certain activities which affect waters of the United States; and

WHEREAS, the Permit requires that Grantor preserve, enhance, restore, or mitigate wetlands or uplands located on the Property and under the jurisdiction of the Corps; and

WHEREAS, Grantor, in consideration of the issuance of the permits to construct and operate the permitted activity, and as an inducement to Grantee and the Corps to issue the Permit, is willing to grant a perpetual Conservation Easement over the Property.

NOW THEREFORE, in consideration of the above and mutual covenants, terms conditions, and restrictions contained herein, together with other good and valuable consideration, the adequacy and receipt of which is hereby acknowledged, Grantor hereby voluntarily grants and conveys a perpetual Conservation Easement for and in favor of Grantee upon the Property, which shall run with the land and be binding upon the Grantor, and shall remain in full force and effect forever.

The scope, nature, and character of this Conservation Easement shall be as follows:

1. **Purpose:** The purpose of this Conservation Easement is to retain and maintain land or water areas on the Property in their natural, vegetative, hydrologic, scenic, open, agricultural, or wooded condition and to retain such areas as suitable habitat for fish, plants, or wildlife. Those wetland or upland areas that are to be restored, enhanced, or created pursuant to the Permit shall be retained and maintained in the restored, enhanced, or created condition required by the Permit.

2. **Rights of Grantee:** The following rights are conveyed to Grantee and the Corps by this easement:

a. The right to take action to preserve and protect the environmental value of the Property;

b. The right to prevent any activity on or use of the Property that is inconsistent with the purpose of this Conservation Easement, and to require the restoration of areas or features of the Property that may be damaged by any inconsistent activity or use;

c. The right to enter upon and inspect the Property in a reasonable manner and at reasonable times to determine if Grantor is complying with the covenants and prohibitions contained in this Conservation Easement; and

d. The right to proceed at law or in equity to enforce the provisions of this Conservation Easement, and to prevent the occurrence of any of the prohibited activities hereinafter set forth.

3. **Prohibited Uses:** Except for restoration, creation, enhancement, maintenance, and monitoring activities, or surface water management improvements, which are permitted or required by the Permit, the following activities are prohibited on the Property:

a. Construction or placing of buildings, roads, signs, billboards or other advertising, utilities, or other structures on or above the ground, or the construction or placing of structures below the ground that may impact the surface of the Property, however nothing contained herein shall prohibit Grantor from installing hunting blinds;

b. Dumping or placing of soil or other substance or material as landfill, or dumping or placing of trash, waste, or unsightly or offensive materials;

c. Removal or destruction of trees, shrubs, or other vegetation, except as may be

permitted by the Permit, and except for the removal of nuisance, exotic, or non-native vegetation in accordance with a maintenance plan approved by Grantee;

d. Planting of nuisance, exotic, or non-native plants as listed by the State of ILLINOIS;

e. Exploration for, or extraction of, oil or gas in such a manner as to affect the surface, or excavation, dredging, or removal of coal, loam, peat, gravel, soil, rock, or other material substance, except as may be permitted or required by the Permit;

f. Use of motorized and non-motorized vehicles, the keeping or riding of horses, grazing, livestock confinement, or other surface use that may affect the natural condition of the Property, except for vehicle use for purposes of maintenance and upkeep, or as otherwise may be permitted or required by the Permit; provided, however, vehicle use as necessary to remove wild game harvested from the Property is not prohibited;

g. Tilling, plowing, planting of crops, digging, mining, or other activities that are or may be detrimental to drainage, flood control, water conservation, water quality, erosion control, soil conservation, or fish and wildlife habitat preservation, including but not limited to ditching, diking, and fencing, except as permitted or required by the Permit;

h. The extraction of water from the Property or adjacent properties owned by Grantor, or the impoundment of water on the Property or on adjacent properties owned by Grantor, so as to affect the hydrology of the Property;

i. Acts or uses detrimental to the aforementioned retention and maintenance of land or water areas;

j. Acts or uses detrimental to the preservation of the structural integrity or physical appearance of sites or properties of historical, architectural, archaeological, or cultural significance; and

k. The subdivision of the Property.

4. **Reserved Rights:** Grantor reserves all rights as owner of the Property, including the right to engage in uses of the Property that are not prohibited herein and that are not inconsistent with any Corps rule, criteria, permit, or the intent and purposes of this Conservation Easement.

5. **Taxes:** Grantor shall pay any and all applicable real property taxes and assessments levied by competent taxing authority on the Property.

6. **Maintenance:** Grantor and Grantee agree that the party identified as the Long Term Steward in the Final Mitigation Banking Instrument associated with the Permit (the "Long Term Steward") shall operate, maintain and keep up the Property consistent with the purpose of this Conservation Easement and as required by the Permit. The Long Term Steward shall remove from the Property any nuisance, exotic, or non-native plants as listed by the State of ILLINOIS and shall

maintain the hydrology of the Property as it currently exists or as otherwise required by the Permit.

7. **Hazardous Waste:** Grantor covenants that as of the Effective Date it has not received written notice of any hazardous substances or toxic waste that exists or has been generated, treated, stored, used, disposed of, or deposited in or on the Property, nor has Grantor received written notice of any underground storage tanks on the Property. Grantor shall be responsible for any and all necessary costs of remediation of any hazardous materials on the Property of which Grantor has received written notice as of the Effective Date.

8. **Public Access:** No right of access by the general public to any portion of the Property is conveyed by this Conservation Easement, and Grantor further covenants not to hold any portion of the Property open to general use by the public except with the written permission of the Corps and Grantee.

9. **Liability:** Grantor shall continue to retain all liability for any injury or damage to the person or property of third parties that may occur on the Property arising from ownership of the Property. Neither Grantor, nor any person claiming by or through Grantor, shall hold Grantee or the Corps liable for any damage or injury that may occur on the Property.

10. **Recording Requirements:** Grantor shall record this Conservation Easement in the official records of Clinton County, Illinois, and any party shall have the right to re-record it at any time Grantee or the Corps may require to preserve their rights. Grantor shall pay all recording costs, fees and taxes necessary at any time to record this Conservation Easement in the public records. Grantor shall thereafter insert a reference to the terms and restrictions of this Conservation Easement ("Restrictions") in any subsequent deed or other legal instrument by which Grantor divests himself/herself/itself of any interest in the Property, and shall provide a photocopy of the recorded Conservation Easement to the new owner(s).

11. **Enforcement:** The terms and conditions of this Conservation Easement may be enforced in an action at law or equity by the Grantee or the Corps against the Grantor or any other party violating or attempting to violate the Restrictions. Enforcement of this Conservation Easement shall be at the reasonable discretion of the Grantee or the Corps, and any forbearance on behalf of Grantee or the Corps to exercise its or their rights hereunder in the event of any breach by Grantor shall not be deemed or construed to be a waiver of rights. Any costs incurred in enforcing, judicially or otherwise, the terms, provisions, and restrictions of this Conservation Easement, including without limitation, the costs of suit, and attorney's fees, shall be borne by and recoverable against the non-prevailing party in such proceedings, except that such costs shall not be recoverable against the Corps. In addition, if the Grantee or the Corps shall prevail in an enforcement action, such party shall also be entitled to recover that party's cost of restoring the land to the natural vegetative and hydrologic condition existing at the time of execution of these Restrictions or to the vegetative and hydrologic condition required by the Permits.

12. **Assignment of Rights:** Grantee shall hold this Conservation Easement exclusively for conservation purposes. Grantee will not assign its rights and obligations under this Conservation Easement, except to another legal entity qualified to hold such interests under applicable state and federal laws and committed to holding this Conservation Easement exclusively for the purposes stated herein. Grantee shall notify the Corps in writing of any intention to reassign

this Conservation Easement to a new grantee at least sixty (60) days in advance thereof, and the Corps must accept the assignment in writing. The new grantee shall then deliver a written acceptance to the Corps. The assignment instrument must then be recorded and indexed in the same manner as any other instrument affecting title to real property and a copy of the assignment instrument shall be furnished to the Corps. Failure to comply with the assignment procedure herein stated shall result in invalidity of the assignment. In the event of dissolution of the Grantee or any successor, or failure for sixty (60) days or more to execute the obligations of this Conservation Easement, the Grantee shall transfer this Conservation Easement to a qualified and willing grantee. Upon failure of the Grantee or any successor to so transfer the Conservation Easement, the Corps shall have the right to sue to force such an assignment to a grantee to be identified by the Court.

13. **Successors:** The covenants, terms, conditions, and restrictions of this Conservation Easement shall be binding upon, and inure to the benefit of the parties hereto and their respective personal representatives, heirs, successors, and assigns, and shall continue as a servitude running in perpetuity with the Property.

14. **Notices:** All notices, consents, approvals, or other communications hereunder shall be in writing and shall be deemed properly given if sent by United States certified mail, return receipt requested, addressed to the appropriate party or successor-in-interest.

15. **Severability:** If any provision of this Conservation Easement or the application thereof to any person or circumstances is found to be invalid, the remainder of the provisions of this Conservation Easement shall not be affected thereby, as long as the purpose of the Conservation Easement is preserved.

16. **Alteration or Revocation:** This Conservation Easement may be amended, altered, released, canceled, or revoked only by written agreement between the parties hereto or their heirs, assigns, or successors in interest, which shall be filed in the public records of Clinton County, Illinois. No action shall be taken, however, without advance written approval thereof by the Corps. Corps approval shall be by letter attached as an exhibit to the document amending, altering, canceling, or revoking the Conservation Easement, and said letter shall be informal and shall not require notarization. It is understood and agreed that Corps approval requires a minimum of sixty (60) days written notice, and that the Corps may require substitute or additional mitigation, a separate conservation easement or alternate deed restrictions, or other requirements as a condition of approval. Any amendment, alteration, release, cancellation, or revocation together with written Corps approval thereof shall then be filed in the public records of Clinton County, Illinois, within thirty (30) days thereafter.

17. **Controlling Law:** The interpretation and performance of this Conservation Easement shall be governed by the laws of the State of Illinois.

TO HAVE AND TO HOLD unto Grantee forever. The covenants, terms, conditions, restrictions, and purpose imposed with this Conservation Easement shall be binding upon Grantor, and shall continue as a servitude running in perpetuity with the Property.

GRANTOR FURTHER COVENANTS that Grantor is lawfully seised of said Property

in fee simple; that the Property is free and clear of all encumbrances that are inconsistent with the terms of this Conservation Easement and that no mortgages or other liens exist; that Grantor has good right and lawful authority to convey this Conservation Easement, and that it hereby fully warrants and defends the title to the Conservation Easement hereby conveyed against the lawful claims of all persons whomsoever. Notwithstanding this last paragraph of the Conservation Easement, Grantor shall have the right to mortgage the Property so long as any such mortgage is subordinated to the Conservation Easement.

IN WITNESS WHEREOF, the Grantor has executed this Conservation Easement this ____ day of _____, 2022.

GRANTOR:

_____ _____

BRIAN J. BECKER CAROL C. BECKER

STATE OF ILLINOIS)
) ss.
COUNTY OF _____)

I, the undersigned, a Notary Public in and for said County and State aforesaid, DO HEREBY CERTIFY, that BRIAN J. BECKER and CAROL C. BECKER, personally known to me or sufficiently proven to me, to be the same people whose names are subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that they signed, sealed and delivered the said instrument as their free and voluntary act, for the uses and purposes therein set forth.

Given under my hand and Notarial Seal, this _____ day of _____, 2022.

_____

Print Name: _____
Notary Public, State of Illinois
My Commission: _____

IN WITNESS WHEREOF, the Grantee has executed this Conservation Easement this ___ day of _____, 2022.

GRANTEE:

HEARTLANDS CONSERVANCY
an Illinois non-profit corporation

By: _____
Print: _____
Title: _____

STATE OF ILLINOIS)
) ss
COUNTY OF _____)

I, the undersigned, a Notary Public in and for said County and State aforesaid, DO HEREBY CERTIFY that _____ as _____ OF HEARTLANDS CONSERVANCY, an Illinois non-profit corporation, personally known to me or sufficiently proven to me, to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that he signed, sealed and delivered the said instrument as his free and voluntary act, for the uses and purposes therein set forth.

Given under my hand and Notarial Seal, this ____ day of _____, 202__.

_____
Print Name: _____
NOTARY PUBLIC, STATE OF ILLINOIS
My Commission: _____

EXHIBIT A
LEGAL DESCRIPTION OF PROPERTY

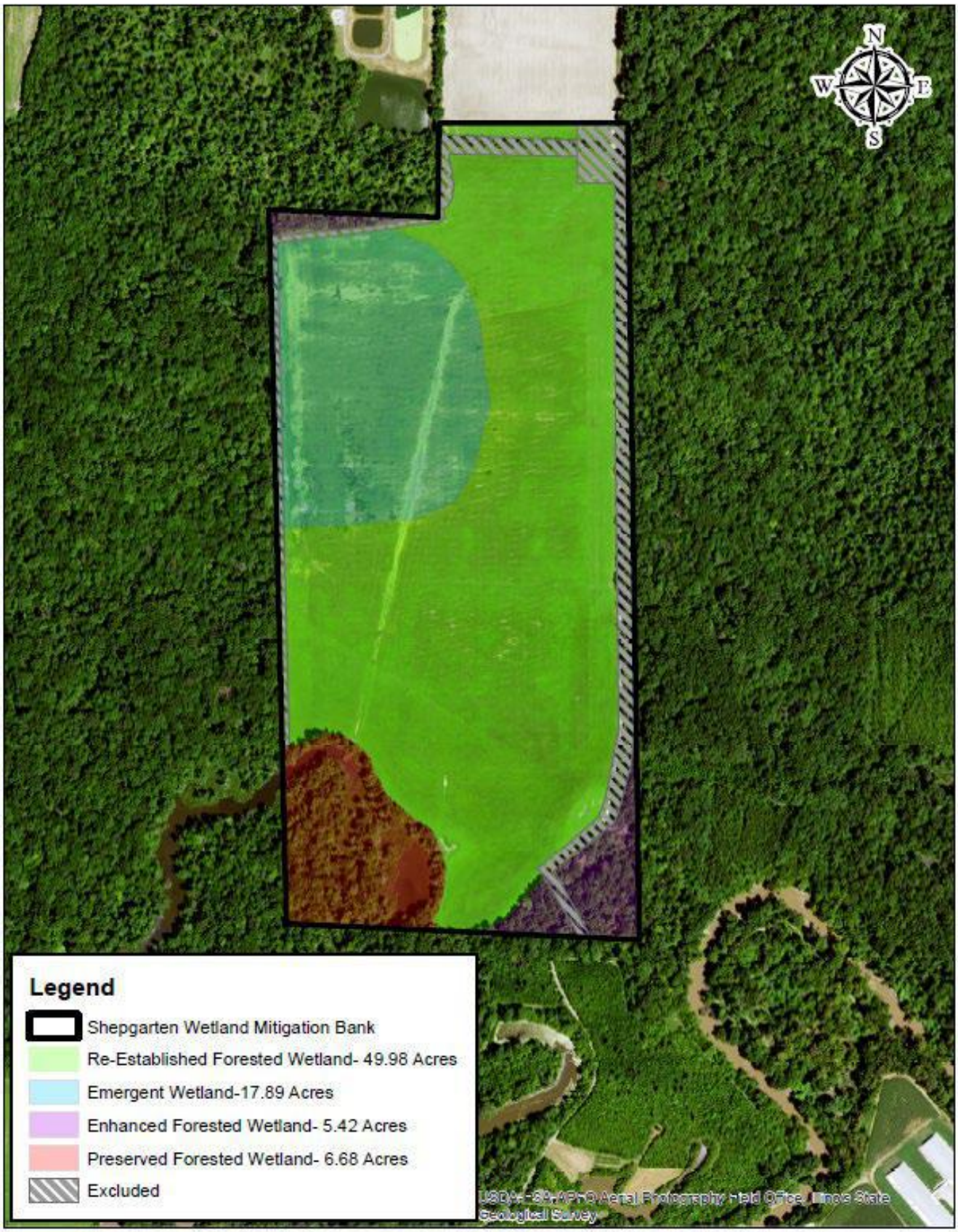
[Insert legal description of Conservation Easement Area(s)]

EXHIBIT B
SURVEY OF PROPERTY

[Insert survey of Conservation Easement Area(s)]

Appendix 4

Mitigation Work Plan


N
W
E
S
Legend
Shepgarten Wetland Mitigation Bank
Re-Established Forested Wetland- 49.98 Acres
Emergent Wetland-17.89 Acres
Enhanced Forested Wetland- 5.42 Acres
Preserved Forested Wetland- 6.68 Acres
Excluded
USDA - FSA - APFO Aerial Photography Field Office | Illinois State Geological Survey

Appendix 5

Long-Term Management and Maintenance Plan Agreement

LONG-TERM MANAGEMENT AND MAINTENANCE PLAN AGREEMENT

SHEPGARTEN WETLAND MITIGATION BANK

This Plan will guide the long-term management of the Shepgarten Wetland Mitigation Bank, sponsored by WFI Holdings-B LLC in Clinton County, Illinois.

The Plan takes effect when the performance standards have been met and the Project Close-out Report is approved by the USACE – St. Louis District Regulatory Branch. Initial estimate for when the Long-Term Management Plan is scheduled to begin is 2029. WFI Holdings-B LLC established an endowment (reference Financial Assurances Appendix 6) to fund long-term management at the Mitigation Site by the Long-Term Steward (Heartlands Conservancy - Steward). Following transfer of management responsibilities upon Mitigation Bank closure, WFI Holdings-B LLC to the Steward, authority and responsibility for implementing the long-term management plan will reside with the Steward.

LONG-TERM MANAGEMENT GOALS AND OBJECTIVES

The Mitigation Bank possesses wetland habitat and wildlife values important to the Steward, the people of the State of Illinois, and the people of the United States. The Mitigation Bank provides high quality restored and enhanced wetlands and contains jurisdictional waters of the United States and the State of Illinois. Individually and collectively, these habitat and wildlife values comprise the "Conservation Values" of the Mitigation Bank.

The goal of long-term management is to ensure that the Conservation Values of the Mitigation Site are managed, monitored and maintained over the long term by transferring management responsibilities to a qualified long-term Steward upon Mitigation Bank closure. Long-term management is intended to be adaptive, as defined in the federal mitigation rule (U.S. Army Corps of Engineers 2008) cited below:

Adaptive management means the development of a management strategy that anticipates likely challenges associated with compensatory mitigation projects and provides for the implementation of actions to address those challenges, as well as unforeseen changes to those

projects. It requires consideration of the risk, uncertainty, and dynamic nature of compensatory mitigation projects and guides modification of those projects to optimize performance. It includes the selection of appropriate measures that will ensure that the aquatic resource functions are provided and involves analysis of monitoring results to identify potential problems of a compensatory mitigation project and the identification and implementation of measures to rectify those problems.

The wetlands at the Mitigation Bank will not be altered without obtaining all appropriate permits and clearances from regulatory agencies.

Long-term management is intended to promote the long-term functionality of forested wetlands.

Long-term management objectives for the Mitigation Bank are as follows:

- Maintain diverse forested wetland communities dominated by native species;
- Establishment of a Climax Bottomland Hardwood Forest;
- Maintain improved habitat conditions for wildlife.

Limits of Responsibility

The Steward will not be responsible for Mitigation Bank failure attributed to natural catastrophes such as flood, drought, disease, regional pest infestation, and others that are beyond their reasonable control. Active management is not expected for ecological change that comes about as a result of processes such as climate change, fluctuating river levels, and sedimentation due to overbank flood deposits that may affect the wetlands. Over time, natural successional processes will occur that may reduce wetland functioning or reduce wetland area.

LONG-TERM MANAGEMENT AND MAINTENANCE

The Plan describes long-term management needs, roles and responsibilities of the Steward. The Steward will retain qualified staff and/or contractors with adequate ecological and biological qualifications to manage the Mitigation Bank. Prior to taking over management of the Mitigation Bank, the Steward will have ample time to work with WFI Holdings-B LLC while the Mitigation Bank remains under WFI Holdings-B LLC's management responsibility in order for the Steward to become comfortable with the tasks associated with long term Mitigation Bank management. Permits necessary to implement management actions on the Mitigation Bank will be held by the Steward in the form of the Conservation Easement. The Steward will be compensated by WFI Holdings-B LLC through an Endowment for management, maintenance and monitoring period associated with the conservation easement. The management and maintenance endowment will provide financial support of long-term operations and maintenance associated with a forested wetland, riparian corridor. However, the Steward, at their discretion, may provide a higher level of monitoring and operation and maintenance than is described in this plan.

The Conservation Easement (CE) holder (HeartLands Conservancy) and the Long-Term Steward (HeartLands Conservancy) will be responsible for the management of the site for various activities. Specifically, these include encroachment enforcement such as signage, dumping, trespassing activities according to the CE and other prohibited actions. The general condition of the site will be addressed by HeartLands Conservancy as the Steward of the ecological condition of the site for operations and maintenance of the site.

The restoration site's long-term management should reflect activities that are associated with long-term timberland management. The bank sponsor employed a Consulting Forester, Mr. Matt Thompson, Bartelso, IL to develop a long-term management plan for the site, specifically Item 6 - Planned Management Activity Schedule for Forestry Practices, attached.

MONITORING

General Monitoring Protocol

Long-term monitoring will employ adaptive management of the Mitigation Bank. Since the wetlands are intended to be self-sustaining, performance standards are purposefully less rigorous than those identified and used during Mitigation Bank establishment and operational period. Unless otherwise noted, monitoring will occur annually during the growing season in order to trigger necessary management activities that will protect wetland functions and to maintain a consistent annual record of wetland conditions. More frequent monitoring visits, such as a spring, mid-summer, and fall visit, are recommended in order to manage the site. Reports will be submitted to the USACE – St. Louis District Regulatory Branch for a period of five (5) years following the close-out report. There will be no requirement to submit monitoring reports to the regulatory agencies after the five years of submissions. The Steward will have access to the monitoring reports prepared by WFI Holdings-B LLC during the (pre-close out) 7-year performance monitoring period.

Hydrology Monitoring

The primary source of hydrology for the Bank Site is via surface water runoff from adjacent property, and from Shoal Creek. Monitoring of wetland hydrology in the general region of the Mitigation Bank wetlands will ensure that wetland hydrology continues to be present on the site, a requirement for the persistence of the wetlands. To determine whether a stable hydrologic condition exist between the site and the Shoal Creek, the Steward will collect data utilizing the USACE Wetland Determination Data Forms. Surficial observations and soil samples will be taken annually and entered into the Data Forms. The site will be photo-documented annually in late spring or early summer, capturing indicators of hydrologic function, hydrophytic vegetation, saturated soils, standing water, macroinvertebrates, stressed upland vegetation, and sediment deposits.

Vegetation Monitoring

The cover of native herbaceous wetland plants is expected to be self-sustaining by Mitigation Bank Closure and the end of the performance standard monitoring and will not be monitored over the long-term. However, the cover of invasive non-native plants, and estimated stem counts of native woody plants along the edges of the wetlands will be monitored over the long-term.

Non-native Invasive Species

The establishment and spread of invasive non-native species is one of the greatest long-term threats to the functioning of the Mitigation Bank. The Steward will monitor the Mitigation Site as necessary to meet the intent of the Illinois Department of Natural Resources for its Noxious Weed Policy as identified in the Conservation Easement. Any non-regulated weed control activities, such as non-chemical weed removal, will commence without regulatory input. During Mitigation Bank establishment, invasive weed control will be conducted. New infestations of noxious weed species should be identified during the annual inspection and a management strategy employed to eliminate the invasive species.

LONG-TERM MANAGEMENT AND MAINTENANCE PLAN AGREEMENT

SHEPGARTEN WETLAND MITIGATION BANK

HEARTLANDS CONSERVANCY

By:_____

WFI HOLDINGS-B LLC

MITIGATION BANK SPONSOR

By:_____

Heartlands Conservancy LTMP Calculation

Land Management and Maintenance Costs

NOTE: Enter values in blue-shaded cells. Click on individual Tasks and Descriptions for additional guidance.

Management and Maintenance Tasks	Description	Regular Staff (hours)	Short-term Staff (hours)	Quantity	Unit	Unit Cost	Extended Cost	Recurrence Interval (years)	Annual Cost	Subtotal
Infrastructure Maintenance and Replacement										$ 194.95
Travel expenses recurring annually	Number of trips annually			2	# trips					
	Overnight stays for annual site visit(s)			0	# nights	$ 63.18	$ 63.18	5	$ 12.64	
	Allowance for meals (# of days) for annual site visit(s)			0	# days					
Travel expenses (non-annual trips)	Number of trips			1	# trips					
	Overnight stays for site visit(s)			0	# nights	$ 31.59	$ 31.59	5	$ 6.32	
	Allowance for meals (# of days) for site visit(s)			0	# days					
Site visit	Inspect boundaries, signs, other infrastructure. Include prep time, travel time and time on-site.	0	0		hours		$ -	1	$ -	
Remove trash and rectify trespass, vandalism	Trash removal and addressing trespass, vandalism	0	2		hours		$ 136.00	1	$ 136.00	
Replace fence	Materials or Contract Amount				linear ft	$ -	$ -	1	$ -	
	Labor or Staff Oversight				hours		$ -		$ -	
Replace signs	Material (add description)			1	ea	$ 200.00	$ 200.00	5	$ 40.00	
	Labor (may be included in annual site visit)				hours		$ -		$ -	
Other (select from drop-down)	Materials or Contract Amount				ea	$ -	$ -	1	$ -	
	Labor or Staff Oversight				hours		$ -		$ -	
Equipment daily use rate	Vehicle (add description)				day	$ -	$ -	1	$ -	
	Other (select from drop-down list)				day	$ -	$ -	1	$ -	
Equipment replacement	Vehicle (add description)				ea	$ -	$ -	1	$ -	
	Other (select from drop-down list)				ea	$ -	$ -	1	$ -	
Ecological Management										$ 1,334.93
Travel expenses	Number of trips annually			0	# trips					
	Overnight stays for annual site visit(s)			0	# nights	$ -	$ -	1	$ -	
	Allowance for meals (# of days) for annual site visit(s)			0	# days					
Travel expenses (non-annual trips)	Number of trips			1	# trips					
	Overnight stays for site visit(s)			0	# nights	$ 31.59	$ 31.59	3	$ 10.53	
	Allowance for meals (# of days) for site visit(s)			0	# days					
Update management plan	Review and update management plan	6	1		hours		$ 608.00	5	$ 121.60	
Ecological monitoring	Monitoring T&E species, inventories, reporting	1	6		hours		$ 498.00	1	$ 498.00	
	Supplies			50	ea	$ 0.60	$ 30.00		$ 30.00	
Invasive species control (plants)	Materials or Contract Amount			1	ea	$ 200.00	$ 200.00	3	$ 66.67	
	Labor or Staff Oversight	2	8		hours		$ 724.00		$ 241.33	
Nuisance wildlife control	Materials or Contract Amount			1	ea	$ 200.00	$ 200.00	5	$ 40.00	
	Labor or Staff Oversight	0	2		hours		$ 136.00		$ 27.20	
Prescribed fire	Cost of burn (burn plan, implementation of burn, follow-up monitoring)			0	ea	$ -	$ -	1	$ -	
	Staff oversight of contract	0	0		hours		$ -		$ -	
	Annual training and recertification costs			0	ea	$ -	$ -	1	$ -	
Vegetation management	Materials or Contract Amount			1	ea	$ 1,000.00	$ 1,000.00	5	$ 200.00	
	Labor or Staff Oversight	1	6		hours		$ 498.00		$ 99.60	
Supplies	Small equipment & supplies				ea	$ -	$ -	1	$ -	
Other (add description)	Materials or Contract Amount				ea	$ -	$ -	1	$ -	
	Labor or Staff Oversight				hours		$ -		$ -	
Occupancy										$ 250.00
Property taxes	Taxes, drainage assessments, other fees			1	ea	$ -	$ -	1	$ -	
Insurance				1	ea	$ 250.00	$ 250.00	1	$ 250.00	
Other fees	eg. utilities, water rights			1	ea	$ -	$ -	1	$ -	
									ANNUAL COST SUBTOTAL:	$ 1,779.88

Forest Management Plan
For:

Shepgarten Wetland Mitigation Bank
WFI Holdings-B LLC
c/o Michael Thompson
P.O Box 6
Bartelso, Illinois 62218
(618) 204-0199

Prepared by:

Thompson Resource Management, LLC
P.O Box 5
Bartelso, Illinois 62218
(618) 335-3066

May 2022

Forest Management Plan for Shepgarten Wetland Mitigation Bank
WFI Holdings-B, LLC.
c/o Michael Thompson

Goals and Resource Concerns:

A. Stand Objectives:
   - Re-establish a native oak/hickory species forest through the planting of high-quality trees.
   - Maintain a healthy herbaceous cover crop free of invasive species and other non-native vegetation.
   - Create a healthy stream ecosystem by protecting banks from erosion and reduced sediment deposition.
   - Preserve the southwest corner of the property for potential bat and amphibious habitat

Location and Description of Property:

A. Parts of the Southeast and Northeast ¼ of Section 09, Township-1-North, Range-4-West, Germantown Township, Clinton County.
   - GPS Coordinates: 38.54299, -89.53631
B. Surrounding land use: primarily forest and agricultural fields.
C. Boundary: The boundaries are marked.
D. Easements: A conservation easement will be placed and will omit easement areas.

Soil types:

- 3334A Birds Silt Loam 0-2% slopes. Frequently flooded. Site Index for Pin Oak-90. Average annual growth: 72 cubic feet/acre per year. Hydric soil rating: Yes.
- 3288A Petrolia Silty Clay Loam 0-2% slopes. Frequently flooded. Site Index for Pin Oak-90. Average annual growth: 72 cubic feet/acre per year. Hydric soil rating: Yes.
- 3070 Beaucoup Silt Loam 0-2% slopes. Frequently flooded. Site Index for Pin Oak- 90. Average annual growth: 72 cubic feet/acre per year. Hydric soil rating: Yes.
- 3333A Wakeland Silt Loam 0-2% slopes. Frequently Flooded. Site Index for Pin Oak-90. Average annual growth: 72 cubic feet/acre per year. Hydric soil rating: Yes.

Stand Breakdown:

This property is comprised of three separate stands:
- **Stand 1 (Enhanced Forested Wetland)** is the lower-quality timber consisting primarily of Silver Maple and Ash.
- **Stand 2 (Re-Established Forested Wetland)** is currently in row crop agriculture, but will be re-established into bottomland hardwood trees, such as oaks, hickory, and pecan.
- **Stand 3 (Preserved Forested Wetland)** is the higher-quality timber on the southwest corner of the property consisting primarily of higher-grade hickory that could make adequate bat habitat as well as an existing historic oxbow.

Stand 1: Enhanced Forested Wetland- 5.42 Acres

Description Of Stand Condition:

This property consisted primarily of early successional bottomland tree species. No invasive species were found on the property.

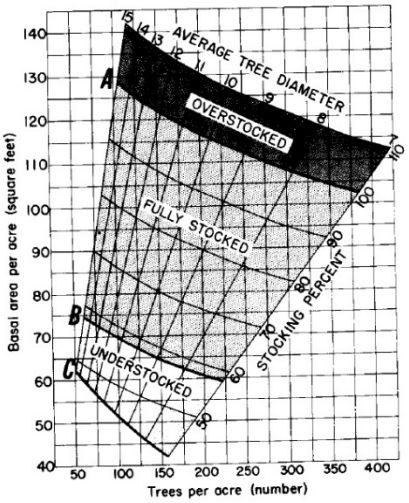
There was very little oak in the stand and almost no oak regeneration. The lack of oak species in this stand is from the amount of competition from faster growing species such as maple, ash, and hackberry. Oaks need ample sunlight to reach the canopy. If they never receive this space for growth, they will stay suppressed in the understory and eventually die out.

On neighboring properties, there is higher-quality oak timber and regeneration, such as swamp white oak, bur oak, and pin oak. This proves that this stand is capable of growing higher-grade oak timber.

Emerald Ash Borer (EAB) is present on neighboring properties. The Emerald Ash Borer is a non-native invasive beetle that burrows into ash trees. They feed on the cambium of the tree, eventually girdling the tree which restricts the flow of nutrients to and from the roots and canopy. This will kill the tree in a very short amount of time.

Inventory Data:

Species	Trees/ Acre	BA/Ac.	Ave. Diameter	Vol./Ac.
Black Walnut	2	3	16	213
Boxelder	147	23	5	68
Elm	17	3	6	0
Green Ash	10	3	8	0
Hackberry	484	27	3	902
Hickory	35	13	88	190
Silver Maple	59	40	11	1,428
Totals (Doyle)	**753**	**113**	**5**	**2,800**



The table above is the Gingrich Stocking Chart. This chart is used to determine the adequate stocking levels a healthy forest should be. From the inventory data, you can see that this stand is Over-Stocked (>115% stocking or above A-Level stocking line), meaning there are too many trees in the area to sustain a healthy forest ecosystem. In a healthy forest, the proper stocking should be above the B-Level (60-100%), also known as Fully-Stocked. This means that the dominant, mature trees in this forest do not provide adequate sunlight to reach the forest floor, resulting in little to no oak/hickory regeneration in the understory.

Reducing the Basal Area/Acre in this stand from 113 BA/Acre to around 80 BA/Acre is imperative for any kind of hard mast tree species regeneration. Opening the canopy and creating space in the understory is an important objective to achieve any sort oak/hickory hardwood forest in the future.

Stand Management Recommendations:

To enhance this forest stand, oak species will need to be regenerated, whether artificially or naturally. Natural regeneration is already proving unproductive due to the competition from maples and other shade tolerant, fast-growing species. **Group Openings** (approximately ¼-1 acre in size each) will be designed to promote the existing oak seedlings that have been suppressed due to lack of sunlight and competition from shade tolerant tree species. In each of the Group Openings, 10-25 (depending on size of group opening) oak, hickory, and pecan RPM saplings will be planted in conjunction with the existing seedlings.

Yearly maintenance will need to be done in the Group Openings to ensure adequate oak survivability. If no management is done after these openings are created, there is a likely chance that other soft mass tree species (Silver Maple, Cottonwood, Sycamore) could grow over top of desired oak species and eventually kill them out. Clearing a 10-15 foot radius around these oaks will provide enough sunlight to allow apical growth.

Stand Management Objectives

- Create Group Openings (¼ - 1 acre in size) within the interior of the forest to allow pockets of oak seedlings to grow into the canopy;
- Maintain these Group Openings by conducting yearly maintenance, including Crop Tree Release (Timber Stand Improvement) to provide ample growing space for desired tree species (oak, hickory, pecan);
- Maintain the forest stand in the B-Level stocking, which is the ideal stocking for a healthy productive forest (see **Gingrich Stocking Table** above).

Timber Harvest Approval and Harvest Projections:

Removing approximately 30 Basal Area/Acre of undesirable (mature, defect) timber will open up the canopy enough to allow more sunlight to hit the forest floor.

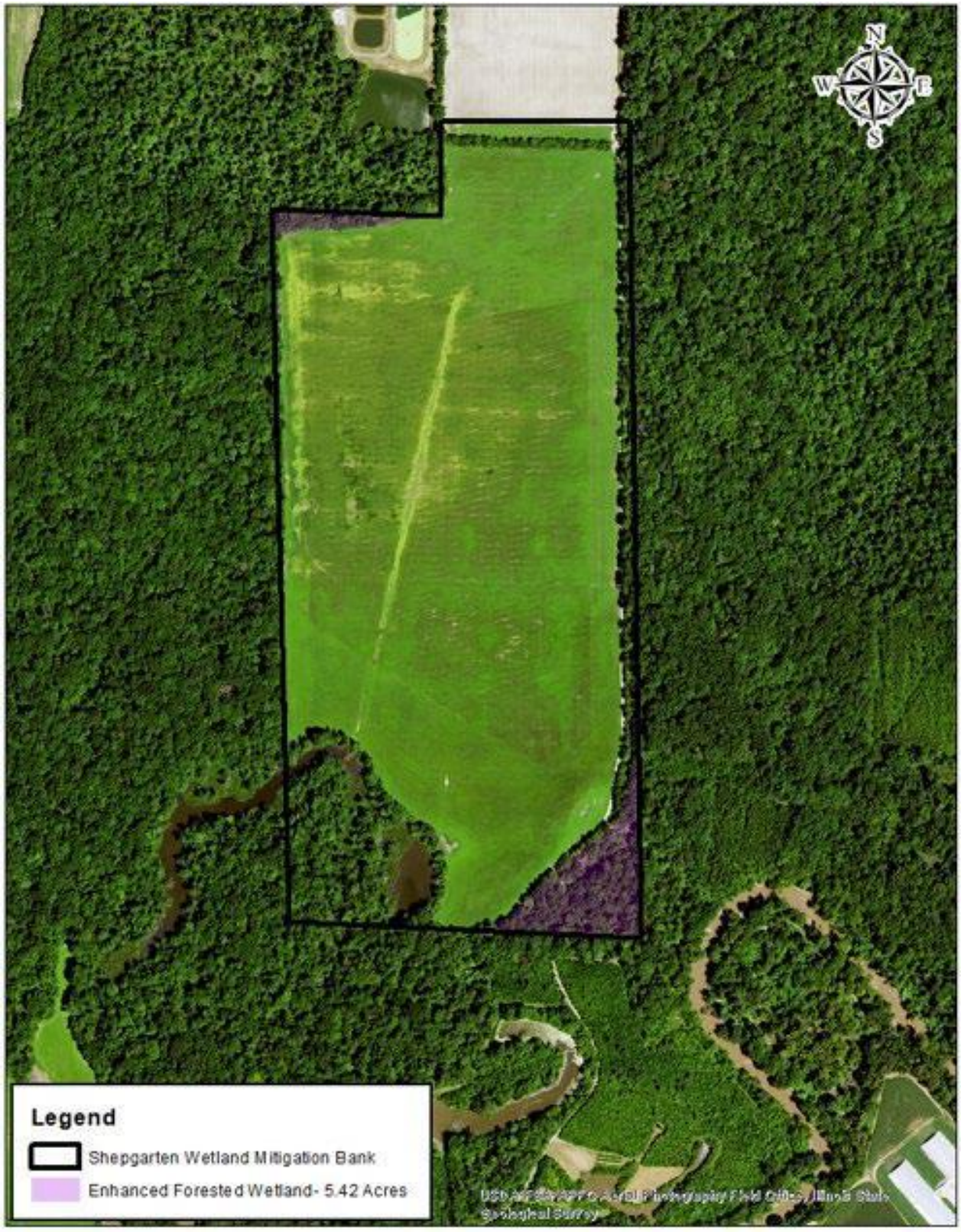
Best Management Practices (**BMP's**) will be used to minimize negative impacts to the soil and surrounding desirable trees. BMP's are designed to protect forests, soil, and water resources while still utilizing the forest product.

All forestry management will be conducted and approved by a professional forester.

Wildlife Value:

There are plenty of den trees (trees with open cavities) throughout this forest stand. While den trees are bad for timber value, they provide excellent nesting and brooding habitat for animals such as raccoons, opossums, squirrels, and several bird species. Trees with exfoliating bark are beneficial for bat species, such as Indiana Bat (*Myotis sodalis*) and Northern Long-Eared Bats (*Myotis septentrionalis*). These bat species use the exfoliating bark for roosting habitat between April and November. Typically, in the beginning of November, the bats will fly to caves and bluffs to hibernate for the winter months. No bat trees will be cut during the spring/summer months to ensure proper habitat for roosting bat species. Any forest management techniques will seek to reduce any impacts with trees associated with bat habitat. In any type of timber activity, these den trees would remain to provide nesting and cover for these animal species. These forestry practices would also provide ground cover due to all the debris to hit the forest floor. The slash that remains from the tree tops and small sawtimber will be stacked to create cover for wildlife species, such as deer, turkey, rabbits, etc.

Stand 1: Enhanced Forested Wetland



Stand 2: Re-Established Forested Wetland- 49.98 Acres

The long-term goals for this property are to create and maintain a healthy forested wetland community consisting of native hard mast producing tree species, such as oak and hickory. To achieve these goals, proper management and maintenance will need to be performed to assure a healthy forest ecosystem. Some of these will include:

1. Tree Planting

A mixture high quality native tree species will be planted on this property at 109 trees/acre. This tree planting will consist of multiple oak species, hickory, and other wetland tree species.

2. Invasive Species Management:

Invasive species can quickly take over a forest stand. If left untreated, invasive species can completely shade out the forest floor. This makes any oak regeneration virtually impossible because oaks and most other desirable tree species require ample sunlight. When spraying invasive species, **make sure to read and follow all herbicide directions.**

Reed Canary Grass, Phragmites, and Multiflora Rose are some common invasive species that are prevalent in wetland ecosystems. In converted agricultural fields, it is important to establish a cover crop of native grasses or clover to discourage invasive species invasion. Getting control of these invasive species is imperative to a successful tree planting. Control methods include:

- **Reed Canary Grass**: To control, mow late in mid-September, followed by the application of 5% glyphosate in October (after big bluestem is dormant) can help to control reed canary grass. Because reed canary grass productivity is reduced by shade, planting native shrubs or wetland trees in areas of chemically-treated grass may be effective.
- **Phragmites**: For foliar application, apply 1-1.5% aquatic glyphosate in water (up to 6 pints per acre). Alternatively, 1-1.5% solution of aquatic Imazapyr, such as Habitat (up to 6 pints per acre) can be used for a more effective yet more costly treatment than glyphosate. Imazapyr and glyphosate may be combined 1:1 and mixed with water to make a 1-1.5% solution (3 pints glyphosate, 3 pints imazapyr per acre). Optimal treatment time is in the fall during flowering. Plants may be mowed to the ground or burned 6 weeks prior to treatment and allowed to regrow until 24 inches or more in height to make application easier. Always read and follow the herbicide label before initiating treatment. Mowing stands without herbicide treatment will increase the density of phragmites. The deep lateral root system makes digging an inefficient method of control. Burning stands without herbicide treatments will also increase the density of phragmites.

- **Multiflora Rose**: For foliar applications, multiflora rose is controlled by spraying in the spring with 3 ounces roundup per gallon of water in the spring before the native vegetation leaf's out.

3. Timber Stand Improvement (TSI):

A TSI is an important forestry practice that is used to improve the forest through the removal of lower quality trees. This allows the future generation of crop trees to utilize the open space to acquire more nutrients and sunlight. The goal of a TSI is to grow a productive forest with healthy and desirable tree species. A **Crop Tree** is a tree that has been selected for a future harvest. These trees are generally higher in value than other trees surrounding them. A **Crop Tree Release** is the removal of any undesirable tree species around future crop trees. This ensures that the crop trees receive ample sunlight and nutrients from the reduced competition of less desirable species.

Timber Stand Improvement will be conducted in the fall/winter (October to March). Not only is the weather much better and more comfortable to work in, but these months avoid any bat issues. During the fall, the sap is receding back to the root system. This makes it easier for the herbicide to get "sucked" into the roots and kill the tree most effectively.

Girdling trees can be used when trees are greater than 6 inches in diameter. With a chainsaw, cut a ½ inch to 1-inch deep ring (about waist height) into the bark of the tree. Make sure that when you ring the tree, the ring is connected. If there is any cambium left, the tree can still transfer nutrients to and from the root system, meaning the tree can live and heal itself. Just like a cut-stump treatment, make sure to apply herbicide immediately after cutting to reduce the chances of the tree healing its pores, making herbicide almost ineffective. Also, avoid girdling in spring because sap flow can push out the herbicide.

To increase the chance of desirable natural regeneration, cut and treat every non-crop tree that exists under and around the tree species you are managing for.

Timber Stand Improvement objectives include:

- Release approximately 60 trees in forested wetland area of various bottomland hardwood species, preferably planted oak species, hickories, and pecans.
- Remove undesirable species to promote apical dominance in planted crop trees.
- Maintain the tree planting at the B-Level stocking to promote a healthy forest stand.

4. Mowing:

Yearly mowing will be conducted to minimize competing wind blown and early successional woody species encroachment.

Stand 2: Re-Established Forested Wetland:

Stand 3: Preserved Forested Wetland- 6.68 Acres

Description Of Stand Condition:

This stand is a bottomland hardwood forest with ample hickory growth present. This stand is on slightly higher ground than the enhancement acreage and includes a remnant oxbow of Shoal Creek, so this area holds more water for longer periods of time. In the oxbow, there is a pretty thick stand of buttonbush present.

This forest stand has a high number of hickory species. Shellbark and Shagbark Hickories are excellent Indiana and Northern Long-Eared bat habitat due to the exfoliating bark. Bats use the exfoliating bark to roost in during the growing season (April-November) before they hibernate elsewhere during the winter. Retaining these hickories as potential habitat is an important goal for this plan.

No invasive species were found in this stand.

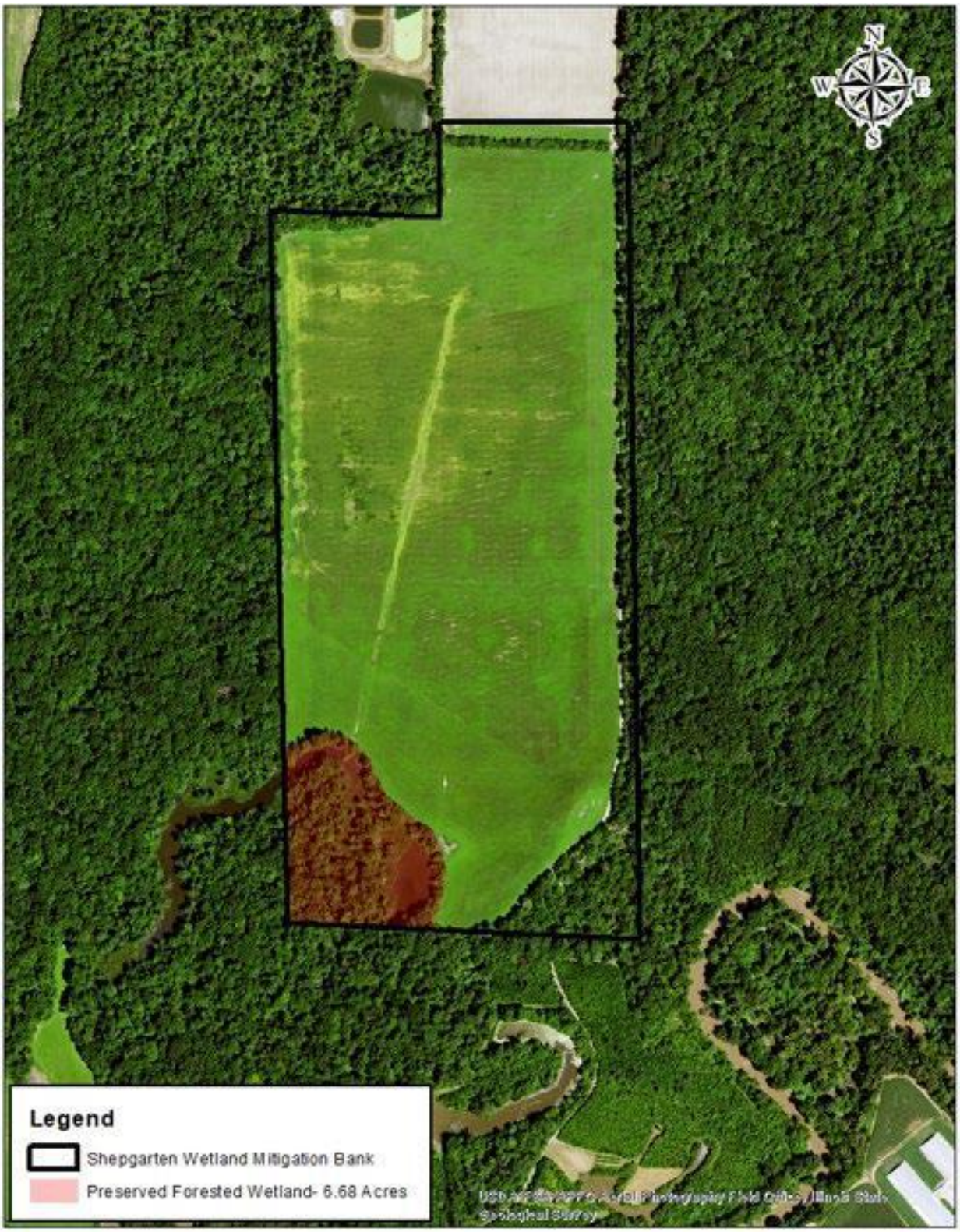
Inventory Data:

Species	Trees/ Acre	BA/Ac.	Ave. Diameter	Vol./Ac.
Boxelder	115	10	4	0
Green Ash	1	3	22	222
Hackberry	185	17	4	309
Hickory	305	80	7	2,844
Silver Maple	11	17	17	1,033
Totals (Doyle)	**617**	**127**	**6**	**4,408**

Stand Management Recommendations:

Even though this timber stand is over-stocked, there is ample bat habitat and higher quality hickory species present. This stand will be preserved as to not remove any timber in the hopes that bat species use the hickory for roosting habitat.

Stand 3: Preserved Forested Wetland



Maintenance Schedule:

Stand 1: Enhanced Forested Wetland (5.48 acres)
Stand 2: Re-Established Forested Wetland (49.98 acres)

Stand	Description	Year	Acres	Cost/Ac. ($)	Comments
1	TSI (group openings)	2.0	5.48	N/A	Capture in construction
1	Maintenance (group openings)	3.0 – 8.0	5.48	N/A	Capture in maintenance
2	Pruning/TSI	10.0	49.98	N/A	Capture at Close-Out
1	TSI	15.0	5.48	N/A	
1-2	TSI	20.0	67.18	100.00	TSI with Plan Update
1-2	TSI	35.0	67.18	N/A	TSI thinning generates revenue
1-2	TSI	50.0	67.18	N/A	TSI thinning generates revenue

Forestry Glossary:

- **Basal Area (BA)**- The cross-sectional area in square feet of tree trunk, when measured 4.5 feet above ground. This measurement is used to estimate stocking of trees per acre.
- **Board Foot (BF)**- A unit of wood measuring one inch thick by 12 inches by 12 inches (144 cubic inches)
- **Canopy**- The entire layer of tree crowns within a stand of trees. Canopies can be subdivided into over story (the dominant upper tree crowns) and under story (the lower, sub level tree crowns).
- **Competition**- The struggle among trees and other vegetation for sunlight, energy, water, nutrients, growing space, and other site resources.
- **Crop Tree**- A tree of desirable higher value species whose crown is within or just below the overstory. A crop tree should be well formed and free from defects, insects, or disease.
- **Crown**- All the branches, limbs, needles, or leaves of an individual tree. All of the crowns in a stand of trees comprise the canopy.
- **Cull**- A tree or log that has a defect that makes it unusable for its original intended purpose. Defects can include crooked trunks, rotten wood, and hollowed/forked trunks.
- **Defect-** Any tree that has any imperfections that affect the quality and health of the specific tree (crooked, holes in trees, tree tops busted, etc.)
- **Diameter at Breast Height (DBH)**- The standard measure used in forestry for measuring tree diameter, 4.5 feet above the ground.
- **Merchantable**- Term used to describe some aspect of how valuable a tree is. A non-merchantable tree has no commercial value.
- **Mixed Stand**- A stand of trees where less than 80% of trees in the overstory canopy are of one species.
- **Overstory**- The highest layer of tree canopy within a stand of trees.
- **Reforestation**- A specific method of regenerating a forest by the planting of individual trees or seeds.
- **Reproduction**- Young trees which can grow to become the primary component of the next stand of trees.
- **Residual Stand**- The crop trees or cull tree left standing after a cutting.
- **Site Index**- A relative measure if a sites productivity potential based upon tree height at a specific based age, usually 25-50 years. A site index of 45 is considered poor and a site index of 105 is considered very good for a tree species.
- **Stand**- A manageable group of trees that occupies a specific area and often is of uniform age, species, and condition.
- **Stocking**- A relative number of trees or volume per acre. Stands can be under stocked, fully stocked, or over stocked.
- **Timber Stand Improvement (TSI)-** Actions taken to improve the health, quality, and vigor of a stand of trees. Examples may include improvement cutting, prescribed burning, crop tree release, control of competition, or other forestry practices as warranted by the site conditions and owner's goals.
- **Understory**- The sub layer of a tree canopy that exists beneath the overstory.

Illinois Nature Preserves Invasive Species List*	
Invasive Species Common Name	**Latin Name**
Autumn olive	*Elaeagnus umbellata*
Black locust	*Robinia pseudoacacia*
Exotic Buckthorns: Common, Glossy, Dahurian, Japanese, and Chinese Buckthorn	*Rhamnus cathartica, R. frangula, R. davurica, R. japonica, and R. utilis*
Bush Honeysuckles: Tartarian, Morrow's, Belle, and Amur Honeysuckle	*Lonicera tatarica , L. morrowii, L. x bella Zabel, and L. maackii*
Canada thistle	*Cirsium arvense*
Crown vetch	*Coronilla varia*
Fescue	*Festuca pratensis*
Garlic mustard	*Alliaria petiolata*
Japanese honeysuckle	*Lonicera japonica*
Johnson grass	*Sorghum halepense*
Leafy spurge	*Euphorbia esula*
Moneywort	*Lysimachia nummularia*
Multiflora rose	*Rosa multiflora*
Osage orange	*Maclura pomifera*
Purple loosestrife	*Lythrum salicaria*
Quaking aspen	*Populus tremuloides*
Reed canary grass	*Phalaris arundinacea*
Round-leaved bittersweet	*Celastrus orbiculatus*
Siberian elm	*Ulmus pumila*
Smooth sumac	*Rhus glabra*
Sweet clover (white and yellow)	*Melilotus alba and Melilotus officinalis*
Cut-leaved and common teasel	*Dipsacus laciniatus and Dipsacus sylvestris*
White poplar	*Populus alba*
Wild parsnip	*Pastinaca sativa*
Wintercreeper (climbing euonymus)	*Euonymus fortunei*
Kentucky bluegrass	*Poa pratensis*
Smooth brome	*Bromus inermis*
Honey locust	*Gleditsia triacanthos*
White mulberry	*Morus alba*
Kudzu	*Pueraria lobata*
Sericea lespedeza	*Lespedeza cuneata*
Gray dogwood	*Cornus racemosa*
Tree-of-heaven	*Ailanthus altissima*
Chinese yam	*Dioscorea oppositifolia*
Spotted knapweed	*Centaurea maculosa*
Phragmites	*Phragmites australis*
Japanese Stilt Grass	*Microstegium vimineum*
Japanese Hops	*Humulus japonicus*
Musk Thistle	*Carduus nutans*
Dame's Rocket	*Hesperis matronalis*
* https://www2.illinois.gov/dnr/INPC/Pages/INPCManagementGuidelines.aspx	

Appendix 6

Third Party Agreement, Draft Performance Bond, Draft Casualty Insurance Policy, and Construction Estimate

THIRD-PARTY RESPONSIBILITY AGREEMENT

THIRD-PARTY RESPONSIBILITY AGREEMENT

WHEREAS, HeartLands Conservancy is not-for-profit corporation organized under the laws of the State of Illinois and,

WHEREAS, HeartLands Conservancy has obtained approval of their Board of Directors for their participation and execution of this Agreement, and

WHEREAS, WFI Holdings-B LLC, hereinafter referred to as the "Sponsor" has drafted and executed a Mitigation Bank Instrument/Plan for the purpose of establishing a Wetland Mitigation Bank on real estate located in Clinton County, Illinois, and

WHEREAS, the said Shepgarten Wetland Mitigation Bank, hereinafter referred to as the Mitigation Bank, requires the sponsor to undertake certain activities and sets certain performance standards relative to the real estate upon which the mitigation site project is located and further authorized the U. S. Army Corps of Engineers (USACE) to monitor the activity and performance of the sponsor concerning those requirements, and

WHEREAS, the USACE and the Mitigation Bank Instrument required financial assurances from the sponsor for the performance of their obligations there under.

THEREFORE IT IS STIPULATED AND AGREED TO BY AND BETWEEN THE PARTIES AS FOLLOWS:

1. The Sponsor shall obtain a casualty insurance policy from Conservation United payable to HeartLands Conservancy in the form and content agreeable to the Sponsor, HeartLands Conservancy and the USACE.

2. The insurance policy shall be conditioned on the Sponsor performing its obligations under the Mitigation Site Plan.

3. If payment of all or any portion of the proceeds of the insurance policy is received by HeartLands Conservancy, then HeartLands Conservancy shall apply said funds toward the completion of the obligations of the Mitigation Site Plan.

HeartLands Conservancy

By:_____

WFI HOLDINGS-B LLC,
MITIGATION BANK SPONSOR
MANAGER

By:_____

DRAFT PERFORMANCE BOND

US Army Corps of Engineers

Compensatory Mitigation Performance Bond

PRINCIPAL: WFI Holdings-B LLC 248 Southwoods Centre Columbia, IL 62236	
TYPE OF ORGANIZATION (Mark one "X") ___Individual ___Partnership ___Joint Venture ___Corporation _X_ Limited Liability Corporation	
STATE OF INCORPORATION: Illinois	
MITIGATION BANKING INSTRUMENT: Shepgarten Wetland Mitigation Bank, Addendum No. 4 to WFI-B Umbrella Mitigation Banking Instrument	
PERMIT DATE: TBD	**PERMIT NUMBER:** TBD

EFFECTIVE DATE: TBD	**BOND NUMBER:** TBD
OBLIGEE: U.S. Army Corps of Engineers St. Louis District Regulatory Office 122 Spruce Street St. Louis, Missouri 63103	
SURETY: Great American Insurance Company Attn: Bond Division Claims 301 E. 4th Street Cincinnati, OH 45202	
MAXIMUM PENAL SUM OF BOND: $	

OBLIGATION:

We, the Principal and Surety hereto, are firmly bound as Obligors to the U.S. Army Corps of Engineers (hereinafter called the Obligee) in the penal sum amounts scheduled below, such amounts determined solely by the Obligee. For the payment of the scheduled penal sum, we bind ourselves, our heirs, executors, administrators, assigns, and successors, jointly and severally. The limit of liability shall be the full amount of the penal sum. No reduction in the penal sum will occur unless the Obligee, in its sole discretion, determines that performance of those actions, obligations and milestones as set forth in the Shepgarten Wetland Mitigation Bank, as Addendum No. 4 to the WFI-B Umbrella Mitigation Banking Instrument (hereinafter "UMBI"), and the Mitigation Plan contained therein, have been achieved or satisfied and certifies its determination in writing. The penal sum scheduled below for each period will remain in effect until the later of the:

a. Applicable Period End Date, or

b. Date on which Obligee approves the applicable As-Built or Maintenance & Monitoring Report.

Period	Period Start Date*	Period End Date*	Reduction	Penal Sum
Construction Year 1			N/A	$
Maintenance & Monitoring Year 1			$	$
Maintenance & Monitoring Year 2			$	$
Maintenance & Monitoring Year 3			$	$
Maintenance & Monitoring Year 4			$	$
Maintenance & Monitoring Year 5			$	$
Maintenance & Monitoring Year 6			$	$
Maintenance & Monitoring Year 7			$	$

* At 12:01 AM, standard time, at the location of Obligee.

The liability of Surety under this bond shall not be cumulative for the periods and in no event shall exceed the Penal Sum in effect when the first claim is made.

CONDITIONS:

The Obligee approved the UMBI identified above.

THEREFORE:

The above obligation is void if the Principal –

(a) Specifically performs and fulfills all of the obligations, covenants, terms, conditions and agreements of the UMBI during the original term of the UMBI and any extensions thereof that may be granted by the Obligee, with or without notice to the Surety, and during the life of any guaranty required under the UMBI, and -

(b) Also specifically performs and fulfills all of the obligations, covenants, terms, conditions, and agreements of any and all duly authorized modifications of the UMBI that may hereafter be made. Notice of those modifications to the Surety are waived.

IT IS FURTHER EXPRESSLY PROVIDED THAT:

The Obligee shall have the full and final authority to determine whether the Principal and Surety have specifically performed and fulfilled some or all of the obligations, covenants, terms, conditions and agreements of the UMBI.

Within thirty (30) business days of receiving notice from the Obligee that the Principal has defaulted on some or all of the obligations, covenants, terms, conditions and agreements of the UMBI, the Surety shall either –

(a) Remedy the default of the Principal to the full satisfaction of the Obligee by a certain date determined by the Obligee, or –

(b) Immediately tender to a party or parties identified by the Obligee any of the penal sum that the Obligee determines is due and owing and necessary to remedy the default. In no circumstance shall such a sum be tendered to the Obligee. Any new party or parties identified by the Obligee under this section shall immediately become a Surety or Sureties to this bond. If the Obligee determines that it is unable to identify such a party or parties, the Surety shall remedy the default of the Principal under (a) of this section.

In the event that the Surety fails to respond within thirty (30) business days to the Obligee's notice of default, or to honor commitments to the full satisfaction of the Obligee under (a) or (b) above of this section, any of the penal sum may, at the election of the Obligee, immediately become due and owing and paid to a party or parties identified by the Obligee. In no circumstance shall the full penal sum be tendered to the Obligee. Any new party or parties identified by the Obligee under this paragraph shall immediately become a Surety or Sureties to this bond.

In accordance with regulation at 33 C.F.R. § 332.3(n)(5), the Surety shall provide the Obligee notification at least 120 days in advance of termination, revocation, or modification of this bond.

WITNESS:

The Principal and Surety have executed this performance bond and have affixed their seals on the date set forth above.

PRINCIPAL	
Signature	
Name, title	
CORPORATE SURETY	
Name & Address Great American Insurance Company 301 E. 4th Street Cincinnati, OH 45202	State of Incorporation Ohio
Signature (Seal)	
Name, Title David V. Ferron, Senior Vice President & Attorney-in-Fact	

DRAFT CASUALTY INSURANCE POLICY

COMPENSATORY MITIGATION INSURANCE

THIS FORM PROVIDES CLAIMS MADE AND REPORTED COVERAGE. PLEASE READ THE ENTIRE FORM CAREFULLY.

Various provisions in this policy restrict coverage. Read the entire policy carefully to determine rights, duties, and what is and is not covered.

Throughout this policy the words "you" and "your" refer to the **Named Insured** shown in the Declarations, and any other person or organization qualifying as an **Insured** under this policy. The words "we", "us", and "our" refer to the Company providing this insurance. "You" and "your" do not refer to the **Authorizing Agency.** Other than headings, words and phrases that appear in bold have special meaning. Refer to **SECTION II - DEFINITIONS**.

This policy provides Claims Made and Reported Coverage and has **Claim** reporting requirements. Coverage provided herein only applies to a **Claim** first made against the **Named Insured** during the **Policy Period,** and reported to us in writing during the **Effective Coverage Period** in which the **Claim** is made. This policy does not include a duty to defend or to pay defense costs. Notice of a **Default** or **Deficiency Notice** is not a **Claim** and does not trigger coverage under the policy.

The application, filed and approved **Mitigation Plan**, **Mitigation Instrument**, supplemental materials, and information submitted therewith, are the basis of this policy and are incorporated into and constitute a part of this policy. Any materials and information received in application for the policy will be maintained on file with the Company and shall be deemed to be attached to the policy as if physically attached. As a condition precedent to coverage, it is agreed by all **Insureds** that the statements made in the application and supplemental materials are representations made on behalf of all **Insureds**, that they are material, and that this policy is issued by the Company in reliance upon the truth of such representations.

In consideration of the payment of the premium and the undertaking of the **Insured(s)** to pay the Indemnification Obligation in the Indemnification Endorsement attached to this policy, and subject to the Limits of Insurance set out in **SECTION IV – LIMITS OF INSURANCE** and the Declarations, and the exclusions, conditions, and other terms of this policy, the Company agrees with the **Insured(s)** as follows:

SECTION I – INSURING AGREEMENT

To pay on behalf of the **Named Insured** the amount of **Financial Assurances** for which the **Named Insured** becomes legally obligated to pay as a result of a **Claim** first made against it during the **Policy Period,** by reason of a **Default** under a **Mitigation Instrument**, to which this insurance applies, provided that, as a condition precedent to coverage, the **Claim** is reported, in writing, to the Company by the **Named Insured** or by the **Authorizing Agency** on the **Named Insured's** behalf during the **Effective Coverage Period** in which the **Claim** is first made against the **Named Insured**.

We will have the right to adjust, pay or settle any **Claim** seeking **Financial Assurances** as described in **SECTION V – REPORTING, ADJUSTMENT & SETTLEMENT**; and

We may at our discretion investigate any **Default** and settle any **Claim** that may result. But:

1. The amount we will pay for **Financial Assurances** under this policy is limited as described in **SECTION IV – LIMITS OF INSURANCE;** and
2. Our obligation to adjust, pay or settle any **Claim** under an **Effective Coverage Period** ends when we have paid the limit of insurance applicable to that **Effective Coverage Period,** in the payment or settlement of **Financial Assurances**.

SECTION II - DEFINITIONS

1. **Adaptive Management Plan** means the development of a management strategy that results in a written plan as defined in 33 CFR 332.4(c)(12) or Applicable State Regulation scheduled in the Declarations to the policy, that anticipates likely challenges associated with **Compensatory Mitigation Projects** and provides for the implementation of actions to address those challenges, as well as unforeseen changes to those projects.
2. **Authorizing Agency** means the Department of the Army, the U.S. Army Corps of Engineers, the District Engineer, or other person, entity or agency designated by the Department of the Army, that retains the sole and final authority under 33 CFR 332 or any state agency that retains sole and final authority under Applicable State Regulations

scheduled in the Declarations to the policy, to negotiate, determine, approve and enforce the terms of the **Mitigation Instrument**, and any other documents established thereunder.

3. **Claim** means a written demand received by the **Named Insured** from the **Authorizing Agency**, or from the **Authorizing Agency** on the **Named Insured's** behalf seeking payment of **Financial Assurances** as a result of a **Default** under the **Mitigation Instrument**.

4. **Compensatory Mitigation** as defined in 33 CFR 332.2 or Applicable State Regulation scheduled in the Declarations to the policy, means the restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

5. **Compensatory Mitigation Project** means the site or sites scheduled in the Declarations to the policy at which the **Named Insured** is implementing a **Mitigation Plan** approved by the **Authorizing Agency** under 33 CFR 332 or Applicable State Regulation scheduled in the Declarations to the policy.

6. **Default** means a written and final determination made by the **Authorizing Agency** that the **Named Insured** has failed to successfully complete construction activities and/or has failed to achieve the **Performance Standards**, as applicable, in accordance with the **Mitigation Plan**, at a **Compensatory Mitigation Project** site scheduled in the Declarations to the policy, but only if such determination is made following:

   (1) a period of time as determined by the **Authorizing Agency** in accordance with applicable **Compensatory Mitigation** regulations after the **Authorizing Agency** has issued a **Deficiency Notice** for that **Mitigation Plan** or **Compensatory Mitigation Project** site, and

   (2) the **Named Insured's** best efforts to mitigate any deficiencies identified by the **Authorizing Agency** in any prior **Deficiency Notice** for that **Mitigation Plan** or **Compensatory Mitigation Project** site for the purpose of preventing the **Default**.

   Default shall not include any determination by the **Authorizing Agency** that the **Named Insured** has failed to comply with, or breached, any other term or condition of the **Mitigation Instrument** or other document thereunder, other than the construction activities and/or **Performance Standards,** as applicable, in a **Mitigation Plan** for a **Compensatory Mitigation Project** site scheduled in the Declarations to the policy, or any resultant suspension or termination of the **Mitigation Instrument** as a result of such non-compliance or breach.

7. **Deficiency Notice** means a written notice issued by the **Authorizing Agency** to the **Named Insured**:

   (1) advising that it is not progressing towards, or on track to, successfully complete construction and/or meeting the **Performance Standards** in accordance with the **Mitigation Plan** for a **Compensatory Mitigation Project** site; and

   (2) requesting that the **Named Insured** implement measures to correct the deficiencies, including but not limited to implementation of an **Adaptive Management Plan**, or modifications to the existing **Mitigation Plan**, and/or

   (3) modifying, decreasing or suspending credit sales of the **Mitigation Site** until the **Named Insured** successfully completes measures to correct deficiencies in the implementation of a **Mitigation Plan** for a **Compensatory Mitigation Project** site.

8. **Effective Coverage Period** means the term set forth in the Declarations to the policy.

9. **Financial Assurances** means the amount of reasonable and necessary costs to remedy a **Default** determination and **Claim** made by the **Authorizing Agency**, which amount shall be determined by the lesser of the following:

   (1) **Mitigation Expenses** required to successfully complete the **Compensatory Mitigation** at the **Compensatory Mitigation Project** site from which the **Default** has been determined; or

   (2) **Mitigation Expenses** required to provide replacement **Compensatory Mitigation** at another site; or

   (3) the actual costs to purchase replacement mitigation credits from another mitigation site and any legal fees associated with the purchase.

   All subject to the Limit of Liability shown on the Declarations to the policy, associated with the **Effective Coverage Period** in effect at the time of the issuance of a **Deficiency Notice** which, despite the **Named Insured's** best efforts, ultimately results in a **Default** determination and **Claim** made by the **Authorizing Agency**.

   Mitigation Expenses under (1) and (2) above means the direct costs of engineers, contractors and subcontractors, to design, plan, engineer, construct, and implement the **Compensatory Mitigation** work at the site, exclusive of profit or markup of any kind by, or in favor of, the **Named Insured**. Direct costs may include reasonable administrative and management costs incurred by such engineers, contractors, and subcontractors, but only to the extent such costs are directly and exclusively allocable to the actual **Compensatory Mitigation** work being performed at the site,

   Mitigation Expenses under (2) above includes the cost to acquire a replacement property and includes legal fees associated with the acquisition.

Mitigation Expenses under (1) and (2) above shall not include: (i) any costs for insurance or bonds, including those costs attendant to securing and reporting in connection with such insurance and bonds; (ii) legal fees of any kind, except those noted in (2) and (3) above; (iii) costs related to reporting and other obligations under this policy, and (iv) any costs, charges or expenses (including salaries, benefits, or fringes) of the **Named Insured**, unless such costs are directly attributable to the implementation of the tasks and activities for the **Compensatory Mitigation** and the Company has approved and consented to the work and costs prior to them being incurred.

10. **Insured** means:
    (1) The **Named Insured** but only with respect to liability incurred from the **Default** of a **Mitigation Instrument** to which this insurance applies;
    (2) The **Named Insured's** current or former members and partners, and their spouses, but only with respect to liability incurred from the **Named Insured's Default** of a **Mitigation Instrument,** to which this insurance applies;
    (3) The **Named Insured's** current or former directors, executive officers, and stockholders, and their spouses, but only with respect to liability incurred from the **Named Insured's Default** of a **Mitigation Instrument,** to which this insurance applies.
11. **Mitigation Site** means the site, or suite of sites, where aquatic resources are being restored, reestablished, established, created, enhanced, and/or preserved as part of the **Compensatory Mitigation Project** governed by the **Mitigation Instrument,** as scheduled in the Declarations to the policy.
12. **Mitigation Instrument** means the legal document scheduled in the Declarations to the policy, provided that such document is prepared, approved, filed, and documented in compliance with applicable law.
13. **Mitigation Plan** means the plan prepared by the **Named Insured** per 33 CFR 332.4 c(2) through c(14), or Applicable State Regulation scheduled in the Declarations to the policy, and approved by the **Authorizing Agency**, for **Compensatory Mitigation** to be performed at each **Compensatory Mitigation Project** site as scheduled in the Declarations to the policy.
14. **Named Insured** means the entity listed in the Declarations to the policy that has executed the approved **Mitigation Instrument**.
15. **Policy Period** means the period set forth in the Declarations to the policy, or any shorter period arising as a result of cancellation or termination of the policy.
16. **Performance Standards** as defined in 33 CFR 332.2 or Applicable State Regulation scheduled in the Declarations to the policy, means observable or measurable physical (including hydrological), chemical and/or biological attributes that are used to determine if a **Compensatory Mitigation Project** meets its objectives. **Performance Standards** also mean the completion of initial construction and planting in accordance with the **Mitigation Plan.**

SECTION III – EXCLUSIONS

This insurance does not apply to **Claims, Defaults,** or **Financial Assurances** based upon, arising out of, or relating to:

1. Force Majeure, or any natural catastrophe or disaster, as defined in the **Mitigation Instrument**;
2. Liability assumed by the **Named Insured** under any contract or agreement, including but not limited to liability for payment of attorney's fees, termination fees, consequential or liquidated damages, or liabilities of another pursuant to any indemnification agreement, except for liability to pay **Financial Assurances** as a result of a **Default** under a **Mitigation Instrument.**
3. Any legal fees, costs, or expenses (including expert or consultant fees) incurred in the defense of any liability or obligation of the **Named Insured** for any reason.
4. Fluctuation in, short fall of, or devaluation of, the monetary value of, or marketability of, mitigation credits (or other equivalent credits), or of any real property, including a site at which **Compensatory Mitigation** is being performed, or is planned to be performed, under the **Mitigation Instrument**.

SECTION IV – LIMITS OF INSURANCE

1. The "Policy Aggregate" Limit of Insurance shown in the Declarations and the rules below fix the most we will pay on behalf of the **Named Insured** for the **Compensatory Mitigation Site** shown in the Declarations and described by the **Mitigation Plan** regardless of the number of **Defaults**, **Claims**, **Financial Assurances**, **Mitigation Plans**, or **Compensatory Mitigation Project** sites.

2. The "Total All Claims" Limit set forth in the Declarations for each **Effective Coverage Period** is the most we will pay on behalf of the **Named Insured** for **Financial Assurances** as a result of all **Claims** first made against the **Named Insured** during the **Policy Period**, where a **Deficiency Notice** that results in the **Default** and **Claim**, is first issued by the **Authorizing Agency** during the scheduled **Effective Coverage Period**, and is first reported in writing to us, during that same scheduled **Effective Coverage Period.**

3. Subject to item 2 above, the "Per Claim" Limit set forth in the Declarations is the most we will pay on behalf of the **Named Insured** for **Financial Assurances** as a result of any one **Claim** first made against the **Named Insured** during the **Policy Period**, where a **Deficiency Notice** that results in the **Default** and **Claim**, is first issued by the **Authorizing Agency** during the scheduled **Effective Coverage Period,** and is first reported in writing to us, during that same scheduled **Effective Coverage Period.**

4. Subject to items 2 and 3 above, the maximum Limits of Insurance we will pay for any **Claim** made during the **Policy Period** shall be the limits corresponding to the scheduled **Effective Coverage Period** stated in the Declarations, in which the **Deficiency Notice** that results in the **Default** and **Claim** is first made against the **Named Insured** and reported to us in writing during that same scheduled **Effective Coverage Period**.

   At the end of each **Effective Coverage Period**, the Limit of Insurance shall expire and will no longer be available for payment of any new or additional **Claim** resulting from a **Deficiency Notice** not already issued by the **Authorizing Agency** against the **Named Insured** and reported to us in writing before expiration of the **Effective Coverage Period.** If the **Named Insured** resolves the **Deficiency Notice** issued during the **Effective Coverage Period** to the satisfaction of the **Authorizing Agency** in writing, and the **Effective Coverage Period** has expired, the limit of insurance for that **Effective Coverage Period** shall no longer be available for future **Claims**.

   At the end of each **Effective Coverage Period**, the limit of available insurance shall also be replaced by the "Per Claim" Limit and "Total All Claims" Limit scheduled in the subsequent **Effective Coverage Period.**

5. One or more **Claims** made against the **Named Insured,** and reported in writing to the Company, that arise out of the same, interrelated, repeated, or associated **Defaults** in a single **Mitigation Plan**, or at a single **Compensatory Mitigation Project** site, shall be considered a single **Claim**, and the Company's total liability for **Financial Assurance** from that **Claim** shall be subject to the Limits of Insurance corresponding to the "Per Claim" Limit for the **Effective Coverage Period** set forth in the Declarations (or any reduced or modified Limit established by endorsement to this policy) and effective at the time the initial **Deficiency Notice** that results in the **Claim** was first issued by the **Authorizing Agency** against the **Named Insured** and first reported in writing to the Company during that same **Effective Coverage Period**.

SECTION V – REPORTING, ADJUSTMENT & SETTLEMENT

1. **NOTICE OF A DEFICIENCY**

   The **Named Insured** shall provide written notice to the Company as soon as possible of any **Deficiency Notice** received by the **Named Insured** from the **Authorizing Agency.** The **Named Insured** shall forward to the **Company** a copy of the **Deficiency Notice** and any other communication or information related thereto, including the following:

   (1) Details of the **Compensatory Mitigation Project** site and **Mitigation Plan** for which the **Deficiency Notice** was received;

   (2) The **Named Insured's** plan to remedy the deficiencies noted by the **Authorizing Agency,** including any planned modifications to the **Mitigation Plan** and/or its **Adaptive Management Plan** in order to prevent a **Default** under the **Mitigation Instrument**;

   (3) Any other information necessary for the Company to understand the circumstances surrounding the **Deficiency Notice** and/or the **Named Insured's** plan to meet the applicable **Performance Standards** and prevent a **Default** under the **Mitigation Instrument**.

   The **Named Insured** shall have the duty to use its best efforts to mitigate a **Deficiency Notice** in order to prevent a **Default** under the **Mitigation Instrument.** The Company shall have the right to investigate any **Deficiency Notice.** The **Named Insured** shall cooperate with the Company's investigation, and make available upon the Company's request, documents for review and personnel for interview, all without charge to the Company. A **Deficiency Notice** is not a **Claim** and shall not trigger coverage under the policy.

2. NOTICE OF A DEFAULT or CLAIM

The **Named Insured** shall provide immediate written notice to the **Company** of any **Claim** made against the **Named Insured**, or of any determination by the **Authorizing Agency** that the **Named Insured** is in **Default** of the **Mitigation Instrument.** The **Named Insured** shall immediately forward to the Company every demand, notice, or other communication related to the **Claim** or the determination of **Default** as well as the following information**:**

(1) Details of the **Compensatory Mitigation Project** site and **Mitigation Plan** determined to be in **Default** and for which the **Claim** is being made;

(2) An explanation of the events and circumstances leading to the **Default,** including the specific basis and reasons upon which the **Default** has been determined;

(3) A description of the mitigation efforts undertaken to prevent or cure the **Default** (and the deficiencies leading thereto), including a detailed description of the amount of funds expended and the type of activity conducted;

(4) An estimate of the costs necessary to cure the **Default**;

(5) Any other information necessary for the Company to understand the circumstances surrounding the **Default** or **Claim**.

The Company shall have the right to investigate any **Default** or **Claim** noticed under the policy**.** The **Named Insured** shall cooperate with the Company's investigation and, upon the Company's request, shall assist in the investigation and settlement of the **Claim**, and make available to the Company, documents for review and personnel for interview, all without charge to the Company. Notice of a **Default** is not a **Claim** and shall not trigger coverage under the policy**.**

In the event that the **Authorizing Agency** first provides notice of a **Claim** to the Company, the Company may investigate and pay or adjust such claim as provided herein in its sole discretion without any duty to make inquiry of the **Insured** with respect to the **Claim**, and such payment or adjustment shall reduce the Limits of Liability remaining under the policy. The **Insured** shall not be released from any of its obligations to the Company under this policy by virtue of any such payment or adjustment, including its duties to indemnify the Company pursuant to the Indemnification Endorsement attached to this policy.

3. CLAIM ADJUSTMENT AND SETTLEMENT

The **Insured(s)** agree that the Company shall have the right to adjust, pay or settle any **Claim**, to which this insurance applies, at its sole discretion, without the **Insured(s)** consent, subject to the available and remaining Limits of Insurance for the applicable **Effective Coverage Period**, and that such adjustment, payment, or settlement may include, but not be limited to, the following actions:

(1) Payment of reasonable and necessary **Financial Assurances** to a designee or standby trust, as approved by the **Authorizing Agency**, for distribution by such designee or trustee to complete the **Compensatory Mitigation** in accordance with the **Insured's** legal responsibility under the **Mitigation Instrument**, pursuant to the **Authorizing Agency's** authority under the **Mitigation Instrument** and/or 33 CFR 332 or Applicable State Regulation scheduled in the Declarations to the policy; or

(2) Payment of reasonable and necessary **Financial Assurances** to a replacement contractor, as approved by the **Authorizing Agency** or its designee, and subject to the Company's written consent and approval, to either perform replacement **Compensatory Mitigation** at another site or to complete the **Compensatory Mitigation** at the **Compensatory Mitigation Project** site from which the **Default** has been determined, whichever is less.

The Company may make such inquiries and investigations of the **Claim** as it deems expedient, including inquiries to the **Named Insured** or the **Authorizing Agency** regarding the **Claim**, and payment of **Financial Assurances**. The **Insured(s)** agree that no **Claim** or **Financial Assurances** will be paid without the prior written consent and approval of the **Authorizing Agency**, and that the Company shall incur no liability to the **Insured(s)** resulting from such inquiries and/or resulting from the non-payment of any **Claim** or **Financial Assurances** for which the **Authorizing Agency** has not consented and/or approved. The **Insured(s)** shall not admit liability or settle any **Claim** without the Company's consent. The **Insured(s)** shall not be released from any of their duties or obligations to the Company under this policy by virtue of any payment or adjustment of a **Claim** by the Company, including the **Insured(s)** duties to indemnify the Company, according to the Indemnification Endorsement attached to this policy.

SECTION VI – CONDITIONS

1. LEGAL ACTION AGAINST THE COMPANY

No action shall lie against the Company unless, as a condition precedent thereto, there shall have been full compliance with all of terms of this policy, nor until the amount of the **Named Insured's** obligation to pay shall have been finally determined either by judgment against the **Named Insured** after actual trial or by written agreement of the **Named Insured**, the **Authorizing Agency** and the Company. No person or organization shall have any right under

this policy to join the Company as a party to any action against any **Insured** to determine the **Insured's** liability, nor shall the Company be impleaded by any **Insured** or its legal representative.

2. TRANSFER OF POLICY

Your rights and duties under this policy may not be assigned or transferred without our written consent.

3. BANKRUPTCY

Bankruptcy or insolvency of the **Named Insured** will not relieve the Company of its obligations under this policy, nor shall it relieve the **Insured(s)** of their indemnification obligations to the Company.

4. RENEWAL, CANCELLATION AND TERMINATION

(1) The Company may renew this policy at its sole discretion, pursuant to the Company's rates, rules, underwriting guidelines and underwriting decisions in effect as of the expiration date of the **Policy Period**. Renewal of this policy will not be in effect unless the Company issues a written quote and binder outlining the terms of coverage and the **Named Insured** accepts such terms in writing.

(2) The Company may cancel the policy by mailing to the **Named Insured** at the last known address, and the **Authorizing Agency**, written notice of not less than One Hundred and Twenty days (120) before such cancellation shall be effective. The notice shall include the reason for cancellation which may include:

a. The policy is no longer needed;

b. Non-payment of premium;

c. Fraud, material misrepresentation or intentional concealment of information which increases the risk originally insured; or

d. The **Insured**'s failure to comply with the terms and conditions of this policy including the failure to pay any premium when due.

(3) Upon release by the **Authorizing Agency** pursuant to applicable law, the **Insured** may cancel the policy by mailing or delivering written notice to us stating when the cancellation shall be effective.

(4) Termination by other than cancellation:

The policy may terminate without the approval of the **Authorizing Agency** at the earlier of:

a. The expiration date of the policy as shown in the Declarations to the policy;

b. A written acknowledgement, certification or other legally equivalent determination by the **Authorizing Agency** that the **Mitigation Site** has closed after having met the **Performance Standards** set forth in the **Mitigation Instrument**.

(5) The minimum earned premiums due for this policy shall be calculated in accordance with the following:

a. The minimum earned premium due for this policy is the percentage shown on the Declarations to the policy.

b. In the event of cancellation of this policy by the Company for reasons other than nonpayment of premium, the earned premium for this policy shall be computed on a pro-rata basis.

c. Premiums applicable to any subsequent endorsements will be in addition to the minimum premium shown in the Declarations to the policy.

Cancellation or termination of the policy shall be subject to release of the Company by the **Authorizing Agency**. Upon the effective date of such release, all obligations on the part of the Company hereunder shall automatically cease and neither the **Authorizing Agency** nor the **Insured** shall have further recourse against the Company with respect to unpaid **Financial Assurances,** including existing or future liabilities or obligations arising from **Claim(s)** previously reported or pending under the policy.

5. CHANGES

Notice to any agent or knowledge possessed by any agent or by any other person shall not effect a waiver or change in any part of this policy or estop the Company from asserting any right under the terms of this policy; nor shall the terms of this policy be waived or changed, except by endorsement issued by the Company to form a part of this policy with the prior approval of the **Authorizing Agency**.

6. COOPERATION

The **Named Insured** shall cooperate with the Company, and offer all reasonable assistance in the Company's investigations. The Company may require that the **Named Insured** submit to examination under oath, and attend hearings, depositions and trials. In the course of investigation, the Company may require written statements or the **Named Insured**'s attendance at meetings with the Company. The **Insured** must assist the Company in effecting settlement, securing and providing evidence and obtaining the attendance of witnesses.

7. COVERAGE TERRITORY

The coverage provided under this policy shall only apply to **Mitigation Sites** located within the United States of America.

8. AUDIT AND INSPECTION

(1) We may examine and audit your books and records as they relate to this policy at any time during the policy period and up to three (3) years after the end of the policy period;

(2) We may be permitted but not obligated to, interview persons employed by you; or

(3) We shall be permitted but not obligated to inspect, sample and monitor the **Named Insured's Mitigation Site** during the **Policy Period** or any time thereafter. Neither our right to make inspections, sample and monitor nor the actual undertaking thereof nor any report thereon shall constitute an undertaking, on behalf of the **Named Insured** or others, to determine or warrant that the **Mitigation Site** or operations are safe, healthful, or conform to acceptable engineering practice or are in compliance with any law, rule or regulation. The **Named Insured** agrees to provide appropriate personnel to assist our representatives during any inspection.

9. OTHER INSURANCE

(1) This insurance is primary, except when (2) below applies.

(2) This insurance is excess:

a. When stated in the Declarations to apply in excess of, or contingent upon the absence of, other appropriate instruments; or

b. Over any other bonds, reserves, escrows, trust funds, credits, or valid and collectible insurance available to the **Named Insured** to cover **Claims** for **Financial Assurances** under the **Mitigation Instrument**; or

c. Over any other appropriate instruments applicable to cover **Claims** for **Financial Assurances** under the **Mitigation Instrument**.

When this insurance is excess over other valid and collectible appropriate instruments, the Company shall be obligated to pay only its share of the applicable amount and shall not contribute with such instruments.

The **Insured** shall promptly, upon the request of the Company, provide the Company with copies of all such instruments or documentation.

10. MATERIAL CHANGE IN RISK

In consideration of the Company's acceptance of this insurance, the **Named Insured** hereby agrees the **Named Insured** must notify the Company, in writing, of any changes in the **Mitigation Instrument**, including changes in the credits release schedule, or any other information that materially changes the risk from that originally assumed by the Company at policy inception.

11. SOLE AGENT

The **Named Insured** shown in the Declarations shall act on behalf of, and serve as the sole agent for, all **Insureds** with respect to the return or payment of any premiums, the issuance by the Company of the policy, the receipt or acceptance of any endorsements issued to form a part of the policy, or the receiving of any notices from the Company required by this policy.

12. SUBROGATION

In the event of any payment under this policy by the Company, the Company shall be subrogated to all of the rights of recovery that the **Insured(s)** may have against any person or organization and the **Insured(s)** shall execute and deliver instruments and papers and do whatever else is necessary to secure such rights. The **Insured(s)** shall do nothing to prejudice such rights.

Shepgarten Wetland
Mitigation Bank

Post Construction
Estimate

	Description	Units	Unit Costs	Total Cost
1.00	Construction			
1.10	Construction (Dirt work, trees, emergent)	50	$2,740.00	$137,000.00
2.00	Annual Monitoring (8 years)			
2.10	Monitoring (years)	8	$5,000.00	$40,000.00
3.00	Post Construction O&M			
3.10	Operation and Maintenance (yrs)	8	$1,000.00	$8,000.00
4.00	Final Delineation Report			
4.10	Report	1	$7,000.00	$7,000.00
TOTAL				**$192,000.00**

Appendix 7
Wetland Delineation

SCI ENGINEERING, INC.
650 Pierce Boulevard
O'Fallon, Illinois 62269
618-624-6969
www.sciengineering.com

Wetland and Waterbody Delineation Report

BECKER MITIGATION BANK SITE
GERMANTOWN, ILLINOIS

February 2022
Revised May 2022

Prepared for:

WFI HOLDINGS LLC

SCI No. 2022-0108.30

SCI ENGINEERING, INC.
EARTH • SCIENCE • SOLUTIONS
GEOTECHNICAL
ENVIRONMENTAL
NATURAL RESOURCES
CULTURAL RESOURCES
CONSTRUCTION SERVICES

May 24, 2022

Linden Graber
WFI Holdings LLC
248 Southwoods Center
Columbia, Illinois 62236

RE: Wetland and Waterbody Delineation Report
Becker Mitigation Bank Site
Germantown, Illinois
SCI No. 2022-0108.30

Dear Linden Graber:

SCI Engineering, Inc. (SCI) is pleased to submit the following report entitled *Wetland and Waterbody Delineation Report – Becker Mitigation Bank Site – Germantown, Illinois*, dated February 2022. Our services consisted of a review of available resource maps and a site reconnaissance survey to document wetland and waterbody features within the project study area. An executive summary of the report is provided below:

- SCI conducted a wetland and waterbody delineation of the site on January 25, 2022. An additional site visit was conducted on May 17, 2022 to collect supplemental soils data.

- The site was found to contain three tributaries (one perennial, one intermittent and one ephemeral) and six wetlands (one forested, and five farmed/emergent) that will likely be considered waters of the United States (WOTUS) as identified under the definitions described in Section 328.3 of the Code of Federal Regulations.

The attached report should be read in its entirety. We appreciate the opportunity to provide you with our natural resource services. You may reach me at (618) 206-3038 or sbillings@sciengineering.com if you have any questions or concerns.

Respectfully,

SCI ENGINEERING, INC.

Michael S. Holm
Field Scientist

Scott E. Billings
Senior Project Scientist

MSH/SEB/nmn/rah

Enclosure

N:\Projects\2022\2022-0108 Becker Mitigation Bank Site\NR\2022-0108.30 Becker Mitigation Bank Site Delineation Report.docx

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Wetland and Waterbody Delineation Report

BECKER MITIGATION BANK SITE
GERMANTOWN, ILLINOIS

1.0 INTRODUCTION

SCI Engineering, Inc. (SCI) was retained by WFI Holdings LLC to conduct a wetland and waterbody delineation within the above-referenced study area (approximately 85 acres). Our scope of services included performing site reconnaissance to characterize the soils, vegetation, and hydrology for the delineation of wetlands and waterbodies.

Based on our field exploration, the site was found to contain one forest wetland and five emergent wetland areas, as well as a perennial tributary, intermittent tributary, and an ephemeral tributary. Rivers, tributaries, abutting and adjacent wetlands, impoundments of jurisdictional waters, and some ponds and lakes are considered waters of the United States (WOTUS) as identified under the definitions described in Section 328.3 of the *Code of Federal Regulations (33 CFR*). Any impact to a WOTUS, including filling, crossing, piping, relocating, or discharging into, will require a Section 404 Permit from the U.S. Army Corps of Engineers (USACE) and a Section 401 Water Quality Certification from Illinois Environmental Protection Agency (IEPA). The USACE has the sole authority to determine if any of the features would be under their jurisdiction.

2.0 SITE LOCATION

The approximate 85-acre project site is situated approximately 0.25 miles south of Germantown, Illinois. The site is bound by an agricultural field and forested areas to the north and undeveloped forest stands to the east, west, and south. The *Vicinity and Topographic Map* depicting the site location is enclosed as Figure 1.

3.0 DESKTOP REVIEW

3.1 United States Geological Survey

The United States Geological Survey (USGS) topographic map depicts the site as generally flat with little to no elevation change. Two blue line tributaries are depicted on the site; one shown traversing the site in the northern section and the other located in the southeast corner of the site. Two ponds are also depicted in the southwest corner of the site. The project area is located within the Shoal Creek Watershed. The *USGS Topographic Map* is enclosed as Figure 1.

3.2 National Wetlands Inventory

The *National Wetlands Inventory (NWI) Map* illustrates two riverine system (R4SBC) along the topographic blue line tributaries, forested wetland communities (PFO1A) around the western and southern perimeters of the site. Additionally, one scrub-shrub wetland community (PSS1C) is depicted in the southwest corner of the site. The *NWI Map* is enclosed as Figure 2.

3.3 Web Soil Survey

The Natural Resources Conservation Service (NRCS) Web Soil Survey (http://websoilsurvey.nrcs.usda.gov) was utilized to determine the soil types and hydric rating of the soils mapped within the project site. Hydric soils are described as those soils that are sufficiently wet in the upper part to develop anaerobic conditions during the growing season. Soils mapped within the project site are summarized in Table 3.1 below and are depicted on Figure 2.

Table 3.1 – Soil Map Unit List and Hydric Rating

Soil Map Unit Name	Hydric rating (percent)
Beaucoup silt loam, frequently flooded	100
Birds silt loam, 0 to 2 percent slopes, frequently flooded	90
Petrolia silty clay loam. 0 to 2 percent slopes, frequently flooded	95
Wakeland silt loam, 0 to 2 percent slopes, frequently flooded	10

3.4 Federal Emergency Management Agency Flood Insurance Rate Map

Review of the *Flood Insurance Rate Map* panel map 17027C0170D (Effective date: August 2, 2007) depicts the entire project area within a regulatory floodway. The *Federal Emergency Management Agency (FEMA) Flood Map* is included as Figure 3.

3.5 Antecedent Precipitation Evaluation

SCI utilized the antecedent precipitation tool (APT) from the USACE to assess typical precipitation conditions of the project area. The APT calculation compares the Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network. The APT results indicate that the project area was experiencing a normal precipitation period, during the wet season, the last three months prior to the wetland and waterbody delineation. The results of the APT are included in Appendix A – Antecedent Precipitation Tool.

3.6 Historic Aerial Review

As the site is located within an active agricultural field, SCI performed a 10-year aerial photograph review to identify significant wet signatures. Wet signatures that persist in greater than 50 percent of the years may be indicative of potential wetlands. The project area appeared forested until between 1966 and 1981 when it was cleared for agricultural use. The ponds located at the southwest corner of the site are visible in 1981 imagery. Wet signatures are visible in some years including a narrow agricultural drainage ditch visible within the northern portion of the field cut in a southwest direction toward the off-site lakes. Some sporadic, stressed vegetation is visible up until 2017 (the latest aerial image available).

4.0 SITE RECONNAISSANCE

On January 25, 2022, SCI conducted a field exploration to delineate the extent of wetlands and waterbodies that exist within the project study area. An additional site visit was conducted on May 17, 2022, to collect supplemental soil data. Suspect areas within the survey limits were explored for wetland and waterbody characteristics utilizing methods as described in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (*Version 2.0*). During the site visit, the weather was sunny and the high temperature for the day was approximately 24 degrees Fahrenheit. Using the USACE APT tool, the area was experiencing normal conditions, as shown in Appendix A. There was no rainfall the week prior to the site visit.

The site primarily exists as an active agricultural field with hardwood forest stands in the southern corners. The agricultural field consisted mainly of corn stubble with some man-made drainage ditches and areas of standing water. An area of the field along the western boundary was not farmed and left fallow. The forested areas were primarily dominated by American elm (*Ulmus americana*), pin oak (*Quercus palustris*), common hackberry (*Celtis occidentalis*) and shellbark hickory (*Carya laciniosa*). The fallow area was primarily dominated by switchgrass (*Panicum virgatum*) and rough cocklebur (*Xanthium strumarium*). The site is generally bound by agricultural fields and undeveloped forest stands.

5.0 CONDITION SUMMARY

A photographic summary of the representative site conditions is included as Appendix B and the *Routine Wetland Determination Data Forms* are enclosed as Appendix C. Our site visit confirmed the presence of six wetland areas and three tributaries that would likely be considered jurisdictional by the USACE. The following discussion provides a narrative description of the wetland areas and identified waterbodies. In addition, our findings are illustrated on the enclosed *Figure 4 - Wetland Delineation and Aerial Photograph*.

Wetland A is an approximately 6.68-acre forested wetland located in the southwest corner of the site. The forested community possesses vegetation dominated by American elm, pin oak, common hackberry, and shellbark hickory. Soils possessing a hydric soil indicator of a depleted matrix were observed throughout the wetland area. The forested wetland areas possessed saturated soils and water-stained leaves, as well as a positive Fac-neutral test. Based on the observed characteristics and the hydrologic surface connection of the wetland area to Shoal Creek, it is likely that the USACE would consider this wetland to be a WOTUS.

Wetland B is an approximately 0.20-acre emergent wetland located adjacent to Wetland A, in the southwest corner of the agricultural field. The wetland area generally lacks vegetation, and the area was observed to be avoided by farming activities. However, SCI was informed this area is farmed during dry years. Supplemental soils data collected during the May 2022 site visit confirmed the wetland possessed hydric soil indicators of a depleted below dark surface, depleted matrix, and redox depressions. The wetland area possessed surface water up to three inches deep, saturated soils, and sparsely vegetated concave surface, as well as additional wetland indicators including saturation visible on aerial imagery. Based on the observed characteristics and the surface connection to Wetland A, it is likely that the USACE would consider this wetland a WOTUS.

Wetland C is an approximately 7.73-acre emergent wetland located along the western site boundary and adjacent to the agricultural field. SCI was informed this area is farmed during the dry years. The emergent community possess vegetation dominated by switchgrass (*Panicum virgatum*). Supplemental soils data collected during the May 2022 site visit confirmed the wetland possessed hydric soil indicators of a depleted matrix. The wetland area possessed surface water up to one inch deep and saturated soils, as well as additional wetland indicators including saturation visible on aerial imagery. Based on the observed characteristics and the surface connection to Tributary C, it is likely that the USACE would consider this wetland a WOTUS.

Wetland D is an approximately 0.24-acre emergent wetland located in the northeast corner of the agricultural field. The wetland area generally lacks vegetation with some corn stubble present. Similar to the other wetlands, SCI was informed this area is farmed during the dry years. Supplemental soils data collected during the May 2022 site visit confirmed the wetland possessed hydric soil indicators of depleted below dark surface and a depleted matrix. The wetland area possessed surface water up to three inches

deep, saturated soils, algal mats, a sparsely vegetated concave surface, as well as additional wetland indicators including saturation visible on aerial imagery. Based on the observed characteristics and the surface connection to Tributary C, it is likely that the USACE would consider this wetland a WOTUS.

Wetland E is an approximately 0.30-acre emergent wetland located near the center of the agricultural field. The wetland area generally lacks vegetation and was observed to be avoided while farming. SCI was informed this area is farmed during the dry years. Supplemental soils data collected during the May 2022 site visit confirmed the wetland possessed hydric soil indicators of a depleted below dark surface and a depleted matrix. The wetland area possessed saturated soils and sparsely vegetated concave surface, as well as additional wetland indicators including saturation visible on aerial imagery. Based on the observed characteristics and the surface connection to Wetland A, it is likely that the USACE would still consider this wetland a WOTUS.

Wetland F is an approximately 0.04-acre emergent wetland located in the southeast corner of the agricultural field. The wetland area generally lacks vegetation with some corn stubble present. SCI was informed this area is farmed during the dry years. Supplemental soils data collected during the May 2022 site visit confirmed the wetland possessed hydric soil indicators of a depleted matrix. The wetland area possessed surface water up to two inches deep, saturated soils, a sparsely vegetated concave surface, as well as additional wetland indicators including saturation visible on aerial imagery. Based on the observed characteristics and the surface connection to Tributary A, it is likely that the USACE would consider this wetland a WOTUS.

Tributary A, a perennial tributary, drains south along the east boundary until turning southwest entering the site across the southeast corner. The tributary drains through the site for approximately 1,236 linear feet (LF) before draining off-site to the southwest. The onsite section of the tributary drains through a hardwood riparian corridor consisting of American elm, pin oak, common hackberry, and shellbark hickory. The stream substrate consisted of cobble, gravel, silt, loam, and clay. Collected stream data includes:

- Top of bank (TOB) –15 to 23 feet
- Ordinary High-Water Mark (OHWM) – 15 to 20 feet
- Water width – 15 to 20 feet
- Bank height – 4 to 8 feet

Tributary B is an ephemeral tributary segment (approximately 30 LF in length) that drains northwest to Tributary A from an offsite wetland. The tributary drains through a hardwood riparian corridor consisting of American elm, pin oak, common hackberry, and shellbark hickory. The stream substrate consisted of cobble, gravel, silt, loam, and clay. No water was observed in the stream during the site visit. Collected stream data includes:

- Top of bank (TOB) – 1 to 2 feet
- Ordinary High-Water Mark (OHWM) – 1 to 1.5 feet
- Bank height – 1 foot

Tributary C is an intermittent tributary that drains east across the north side of the site, to a culvert leading to Tributary A, and is approximately 641 LF in length. The tributary drains through a narrow riparian corridor consisting of American elm, pin oak, common hackberry, shellbark hickory, Virginia wildrye, and goldenrod. The tributary substrate consisted of gravel, silt, loam, and clay. Collected stream data includes:

- Top of bank (TOB) – 8 to 10 feet
- Ordinary High-Water Mark (OHWM) – 6 to 8 feet
- Water width – 6 to 8 feet
- Bank height – 2 to 3 feet

6.0 CONCLUSION

During our January 25, 2022, wetland and waterbody delineation field survey, SCI identified one forested wetland, five farmed/emergent wetlands, and a perennial, intermittent and ephemeral tributary within the project site. The identified features will likely be considered WOTUS, as identified under the definitions described in Section 328.3 of the Code of Federal Regulations. Overall, it appears that the project site has the potential to support wetland creation and riparian buffer establishment as part of the proposed mitigation bank.

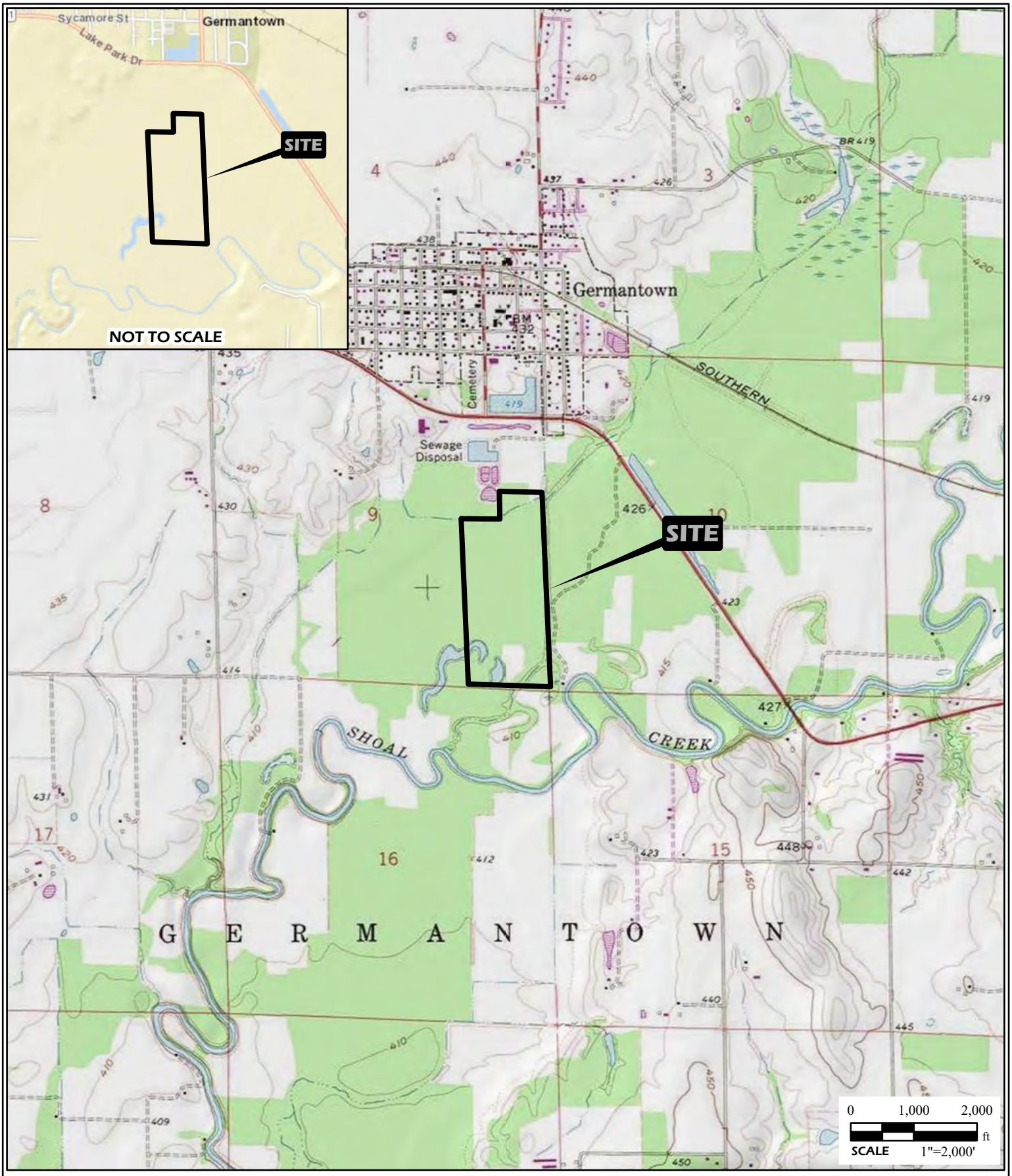
7.0 LIMITATIONS

This report has been prepared for the exclusive use of WFI Holdings LLC. SCI is not responsible for independent conclusions or recommendations made by others. The USACE has the sole authority to determine if any of the identified features would be under their jurisdiction. Furthermore, written consent

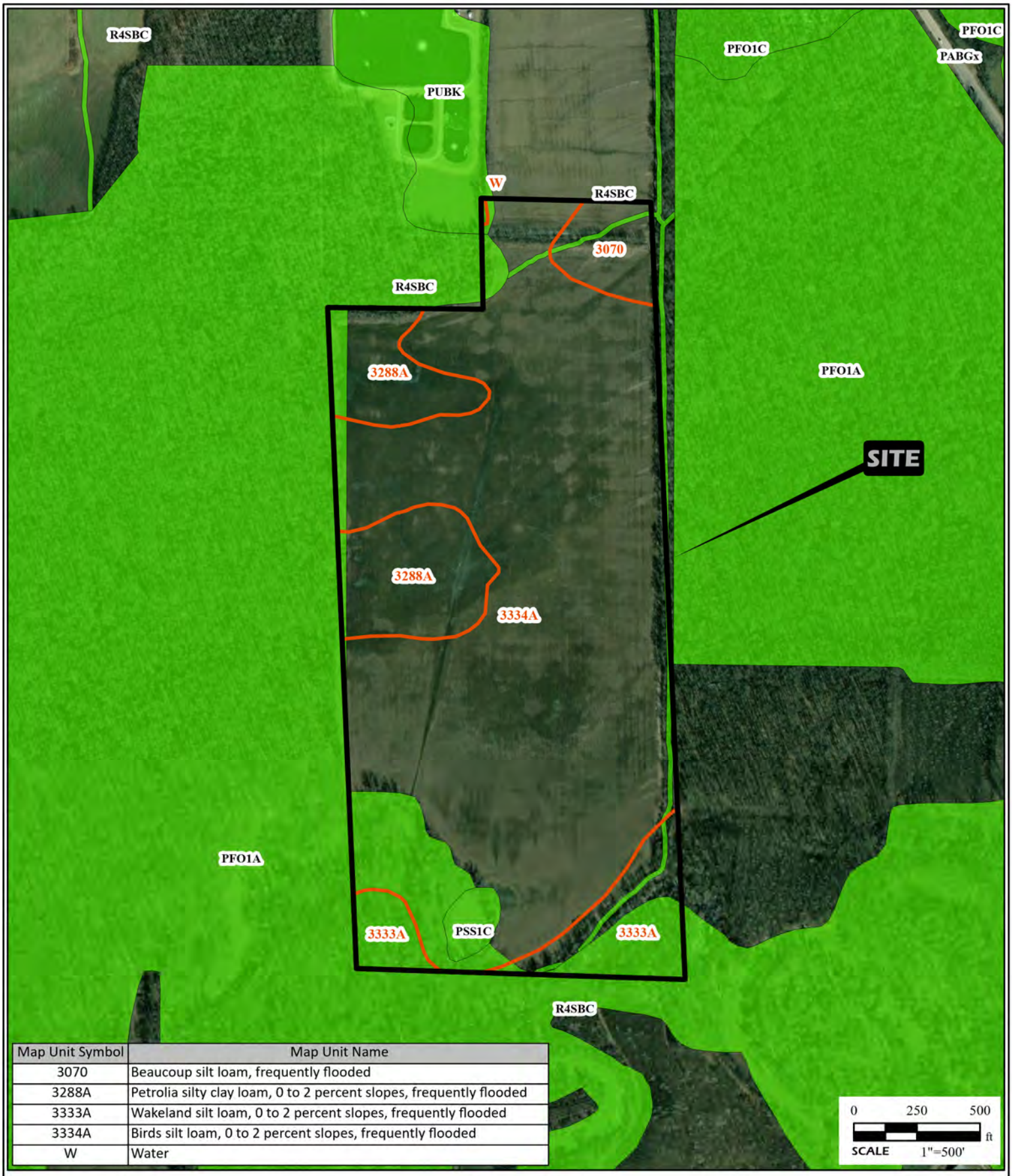
must be provided by SCI should anyone other than our client wishes to excerpt or rely on the contents of this report. The findings of this report are valid as of the present date of the delineation. SCI is not responsible for surveys, calculations, or plans that were prepared by others.

This delineation is based on professional experience in the approved methodology and from experience with the USACE; however, this delineation does not constitute a jurisdictional determination of waters of the United States. This delineation has been based on the professional experience of SCI staff and our interpretation of USACE regulations at 33 CFR 328.3 and joint USACE/Environmental Protection Agency guidance documents. While SCI believes our delineation to be accurate, final authority to interpret the regulations and to issue or deny a permit lies solely with the USACE. SCI in no way guarantees the acquisition of a permit from the USACE and/or IEPA, if it is deemed necessary.

Changes in surface and subsurface conditions of a property can occur with the passage of time, whether due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation, the broadening of knowledge, or other reasons. Accordingly, the findings of this report may be invalidated in whole or in part by changes outside our control.



SCI	PROJECT NAME BECKER MITIGATION BANK SITE GERMANTOWN, ILLINOIS			GENERAL NOTES/LEGEND USGS TOPOGRAPHIC MAP BREESE, ILLINOIS QUADRANGLE DATED1962 PHOTO REVISED 1981 10' CONTOURS STREET MAP HTTP://GOTO.ARCGISONLINE.COM/MAPS/WORLD_STREET_MAP	N W E S
	VICINITY AND TOPOGRAPHIC MAP				FIGURE 1
	DRAWN BY KMC	DATE	JOB NUMBER		
	CHECKED BY MSH	02/2022	2022-0108.30		



Map Unit Symbol	Map Unit Name
3070	Beaucoup silt loam, frequently flooded
3288A	Petrolia silty clay loam, 0 to 2 percent slopes, frequently flooded
3333A	Wakeland silt loam, 0 to 2 percent slopes, frequently flooded
3334A	Birds silt loam, 0 to 2 percent slopes, frequently flooded
W	Water

PROJECT NAME

BECKER MITIGATION BANK SITE
GERMANTOWN, ILLINOIS

NATIONAL WETLAND INVENTORY &
USDA SOIL SURVEY MAP

DRAWN BY	KMC	DATE	JOB NUMBER
CHECKED BY	MSH	02/2022	2022-0108.30

GENERAL NOTES/LEGEND

SOILS DATA OBTAINED FROM https://websoilsurvey.sc.egov.usda.gov/

IL WETLAND DATA OBTAINED FROM https://www.fws.gov/wetlands/

AERIAL PHOTOGRAPH OBTAINED FROM ARCGIS ONLINE, WORLD IMAGERY. DIMENSIONS AND LOCATIONS ARE APPROXIMATE; ACTUAL MAY VARY. DRAWING SHALL NOT BE USED OUTSIDE THE CONTEXT OF THE REPORT FOR WHICH IT WAS GENERATED.

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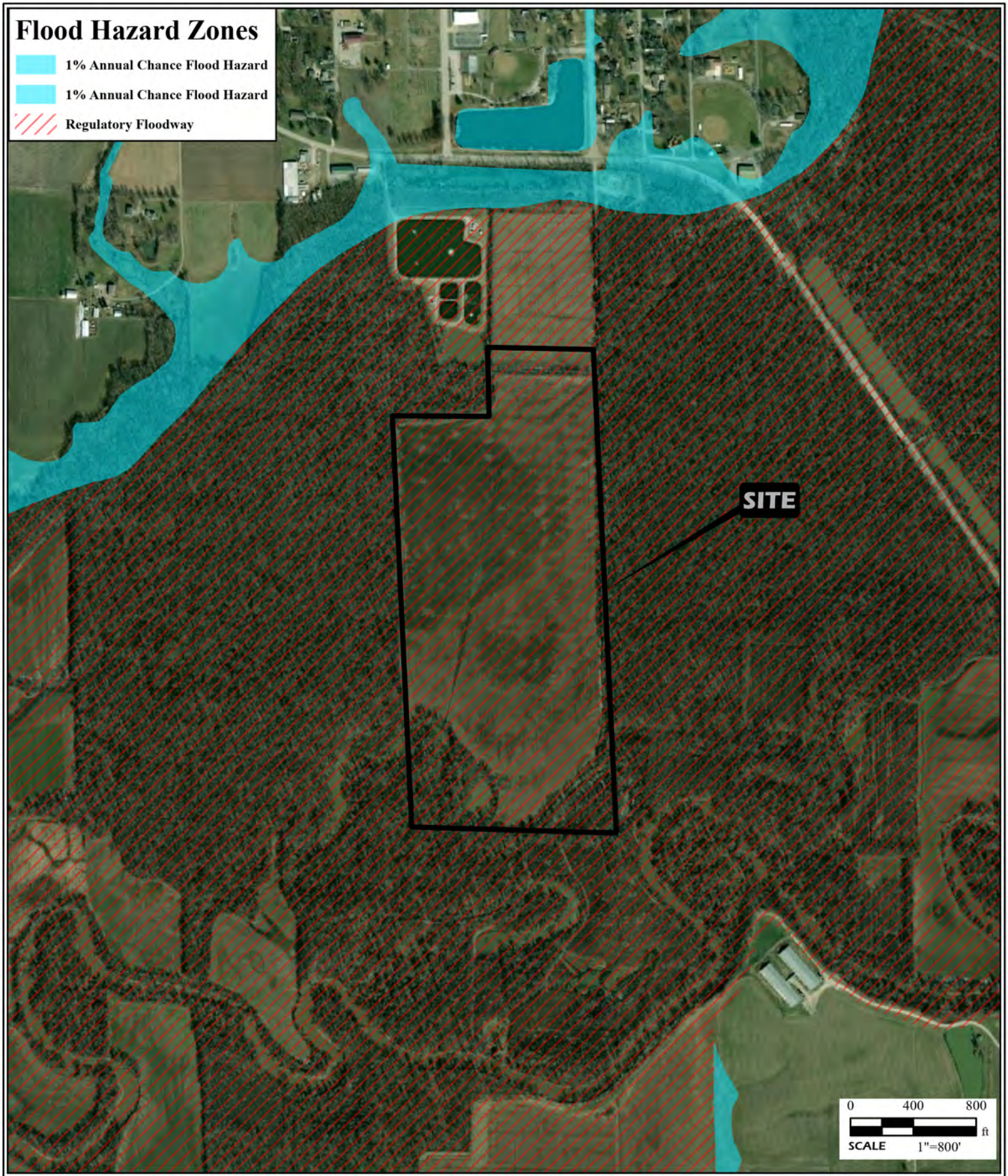
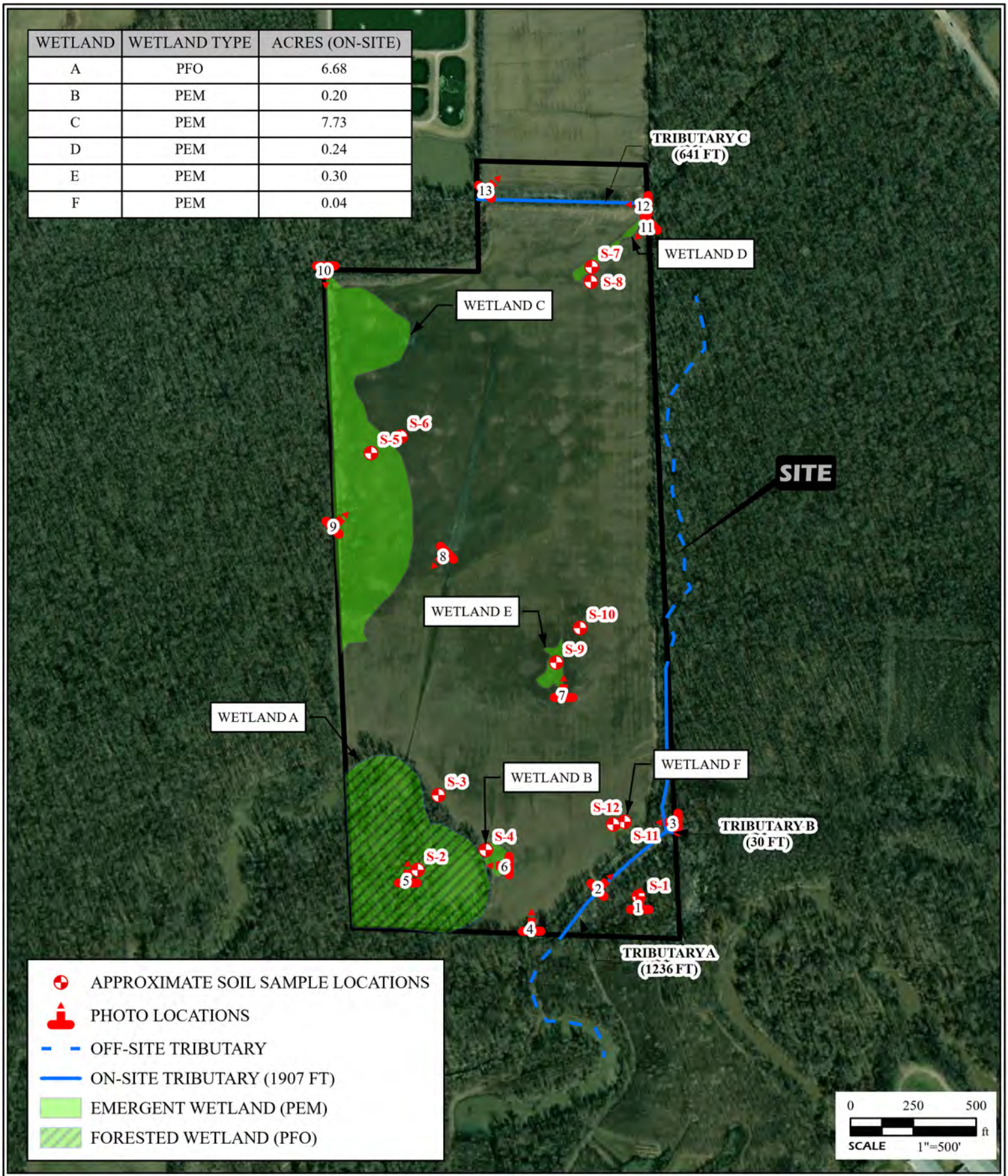
FIGURE
2



SCI	PROJECT NAME BECKER MITIGATION BANK SITE GERMANTOWN, ILLINOIS			GENERAL NOTES/LEGEND CLINTON COUNTY, ILLINOIS PANEL: 17027C0170D EFFECTIVE DATE: 08/02/2007	N W E S
	FEMA FLOOD MAP			DIMENSIONS AND LOCATIONS ARE APPROXIMATE; ACTUAL MAY VARY. DRAWING SHALL NOT BE USED OUTSIDE THE CONTEXT OF THE REPORT FOR WHICH IT WAS GENERATED.	FIGURE 3
	DRAWN BY KMC CHECKED BY MSH	DATE 02/2022	JOB NUMBER 2022-0108.30		



WETLAND	WETLAND TYPE	ACRES (ON-SITE)
A	PFO	6.68
B	PEM	0.20
C	PEM	7.73
D	PEM	0.24
E	PEM	0.30
F	PEM	0.04

PROJECT NAME

BECKER MITIGATION BANK SITE
GERMANTOWN, ILLINOIS

WETLAND DELINEATION &
AERIAL PHOTOGRAPH

DRAWN BY	KMC	DATE	JOB NUMBER
CHECKED BY	MSH	02/2022	2022-0108.30

GENERAL NOTES/LEGEND

AERIAL PHOTOGRAPH OBTAINED FROM ARCGIS ONLINE, WORLD IMAGERY.

DIMENSIONS AND LOCATIONS ARE APPROXIMATE; ACTUAL MAY VARY. DRAWING SHALL NOT BE USED OUTSIDE THE CONTEXT OF THE REPORT FOR WHICH IT WAS GENERATED.

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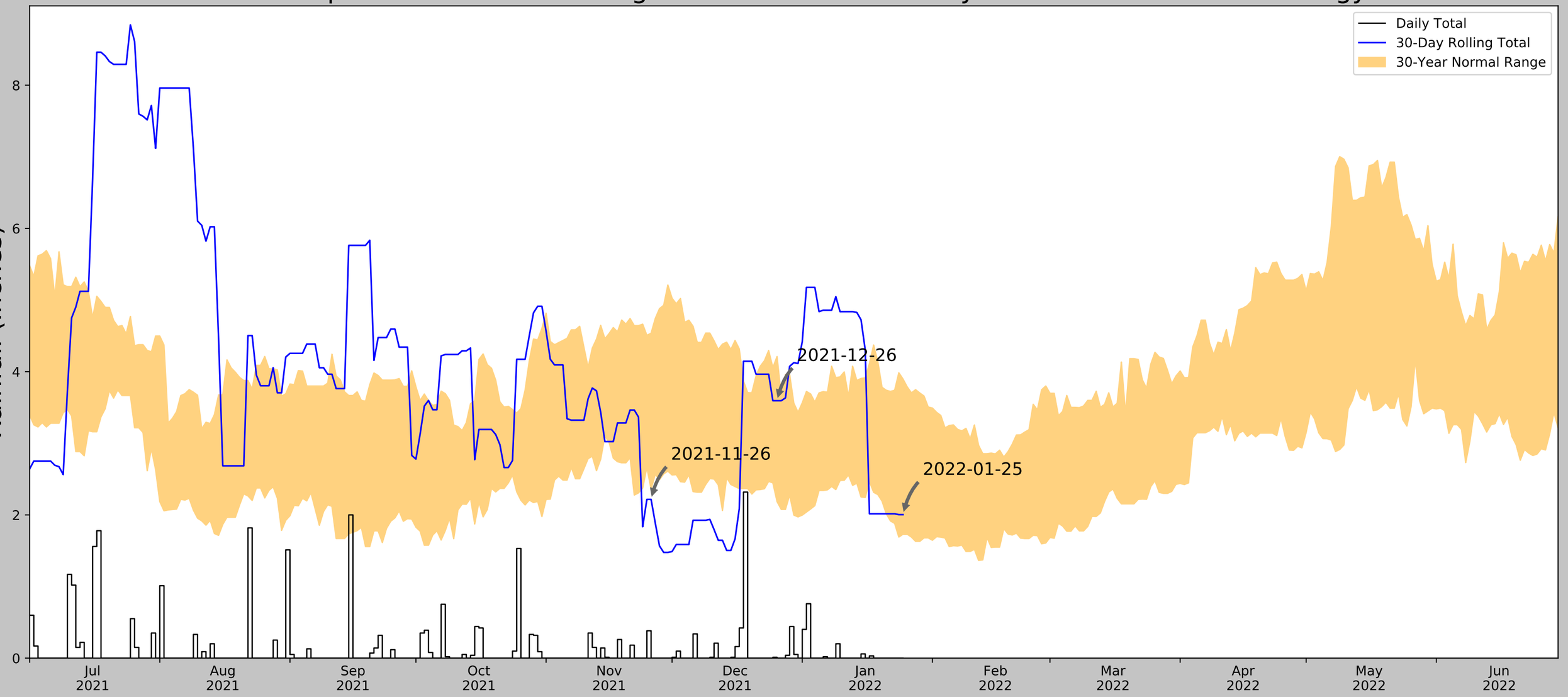
FIGURE
4

Appendix A

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	38.540396, -89.537548
Observation Date	2022-01-25
Elevation (ft)	412.75
Drought Index (PDSI)	Not available
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-01-25	1.730315	3.897244	2.003937	Normal	2	3	6
2021-12-26	2.185433	4.212205	3.594488	Normal	2	2	4
2021-11-26	2.357874	4.537008	2.216536	Dry	1	1	1
Result							Normal Conditions - 11

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
CENTRALIA	38.5556, -89.1297	484.908	22.064	72.158	11.521	11212	81
ODIN 0.5 SSE	38.6099, -89.0516	518.045	5.645	33.137	2.727	16	0
CENTRALIA 5.2 E	38.5178, -89.0319	523.95	5.896	39.042	2.883	15	8
WALNUT HILL 1.5 WSW	38.4681, -89.0695	625.0	6.866	140.092	4.052	1	0
CARLYLE RSVR	38.625, -89.3631	500.984	13.486	16.076	6.286	72	1
NASHVILLE 1 E	38.3419, -89.3592	513.123	19.293	28.215	9.226	37	0

Appendix B

Photo 1. View of forested area in the southeast corner of the site, near Sample Point 1, facing north

Photo 2. Upstream view of Tributary A from the low water crossing, facing northeast

Photo 3. Confluence of Tributary B with Tributary A, facing northwest

Photo 4. General overview of site/agricultural field from the south boundary, facing north

Photo 5. Overview of Wetland A in the southwest corner of the site, facing north

Photo 6. View of Wetland B with frozen surface water, facing southwest

Photo 7. View of Wetland E with a general lack of vegetation, facing north

Photo 8. View of agricultural drainage cut through the center of the site, facing south

Photo 9. Overview of Wetland C along the western boundary, facing northeast

Photo 10. Overview of Wetland C from the northwest corner of the site, facing south

Photo 11. Overview of Wetland D with frozen surface water, facing southwest

Photo 12. Upstream view of Tributary C from the access road culvert, with narrow riparian corridor, facing west

Photo 13. Overview of the agricultural field north of Tributary C, facing northeast

Appendix C

WETLAND DETERMINATION DATA FORM -- Midwest Region

Project/Site: Becker Mitigation Bank Site City/County: Germantown/Clinton Sampling Date: 1/25/2022

Applicant/Owner: WFI Holdings LLC State: IL Sampling Point: S1

Investigator(s): SCI - Michael Holm Section, Township, Range: S9, T1N, R4W

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none

Slope (%): 0-2% Lat: 38.53764 Long: -89.535458 Datum: WGS 83

Soil Map Unit Name: Wakeland silt loam, 0 to 2 percent slopes, frequently flooded NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:
Sample Point 1 is located in the forested section in the southeast corner of the site, adjacent to Tributary A.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Celtis occidentalis*	40%	Yes	FAC
2. *Ulmus americana*	15%	Yes	FACW
3. *Carya laciniosa*	5%	No	FACW
4.			
5.			
	60%	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15' radius)			
1. *Ulmus americana*	10%	Yes	FACW
2. *Celtis occidentalis*	5%	Yes	FAC
3. *carya laciniosa*	5%	Yes	FACW
4.			
5.			
	20%	= Total Cover	

Herb Stratum (Plot size: 5' radius)			
1. *Bidens frondosa*	40%	Yes	FACW
2. *carex blanda*	10%	No	FAC
3. *Elymus virginicus*	5%	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
	55%	= Total Cover	

Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
		That Are OBL, FACW, or FAC:	A/B
OBL species		x1 =	
FACW species	80%	x2 =	1.6
FAC species	55%	x3 =	1.65
FACU species		x4 =	
UPL species		x5 =	
Column Totals:	1.35 (A)		3.25 (B)

Prevalence Index = B/A = 2.41

Hydrophytic Vegetation Indicators:

____ 1-Rapid Test for Hydrophytic Vegetation

X 2-Dominance Test is >50%

X 3-Prevalence Index is ≤3.0[1]

____ 4-Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: S1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1"	10YR 3/2	100					Silty Clay Loam	
1-20"	10YR 4/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Dark Surface (S7)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM -- Midwest Region

Project/Site: Becker Mitigation Bank Site | City/County: Germantown/Clinton | Sampling Date: 1/25/2022

Applicant/Owner: WFI Holdings LLC | State: IL | Sampling Point: S2

Investigator(s): SCI - Michael Holm | Section, Township, Range: S9, T1N, R4W

Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): none

Slope (%): 0-2% | Lat: 38.538036 | Long: -89.538561 | Datum: WGS 83

Soil Map Unit Name: Birds silt loam, 0 to 2 percent slopes, frequently flooded | NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____		

Remarks:
Sample Point 2 is located in the forested section in the southwest corner of the site, between to pond features.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus palustris*	20%	Yes	FACW
2. *Carya laciniosa*	20%	Yes	FACW
3. *Celtis occidentalis*	10%	No	FAC
4. *Ulmus americana*	5%	No	FACW
5.			
	55%	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15' radius)			
1. *Ulmus americana*	20%	Yes	FACW
2. *Celtis occidentalis*	5%	No	FAC
3. *quercus palustris*	5%	No	FACW
4.			
5.			
	30%	= Total Cover	

Herb Stratum (Plot size: 5' radius)			
1. *Carex blanda*	2%	No	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
	2%	= Total Cover	

Woody Vine Stratum (Plot size: 30' radius)			
1. *Toxicodendron radicans*	10%	Yes	FAC
2.			
	10%	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
That Are OBL, FACW, or FAC:			A/B
OBL species		x1 =	
FACW species	70%	x2 =	1.4
FAC species	27%	x3 =	0.81
FACU species		x4 =	
UPL species		x5 =	
Column Totals:	0.97 (A)		2.21 (B)

Prevalence Index = B/A = 2.28

Hydrophytic Vegetation Indicators:

____ 1-Rapid Test for Hydrophytic Vegetation

X 2-Dominance Test is >50%

X 3-Prevalence Index is ≤3.0[1]

____ 4-Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: S2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	10YR 3/2	100					Silty Clay Loam	
5-20"	10YR 4/1	95	10YR 5/8	5	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Dark Surface (S7)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 5"

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM -- Midwest Region

Project/Site: Becker Mitigation Bank Site City/County: Germantown/Clinton Sampling Date: 1/25/2022

Applicant/Owner: WFI Holdings LLC State: IL Sampling Point: S3

Investigator(s): SCI - Michael Holm Section, Township, Range: S9, T1N, R4W

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none

Slope (%): 0-2% Lat: 38.538778 Long: -89.53812 Datum: WGS 83

Soil Map Unit Name: Wakeland silt loam, 0 to 2 percent slopes, frequently flooded NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes No X

Hydric Soil Present? Yes No X

Wetland Hydrology Present? Yes No X

Is the Sampled Area within a Wetland? Yes No X

Remarks:
Sample Point 3 is located in the agricultural field, adjacent to Wetland A.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb Stratum (Plot size: 5' radius)			
1. *Poa pratensis*	5%	Yes	FAC
2. *Zea mays*	5%	Yes	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
	10%	= Total Cover	

Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
That Are OBL, FACW, or FAC:		A/B
OBL species	x1 =	
FACW species	x2 =	
FAC species 5%	x3 = 0.15	
FACU species	x4 =	
UPL species 5%	x5 = 0.25	
Column Totals: 0.10 (A)	0.4 (B)	

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

1-Rapid Test for Hydrophytic Vegetation

2-Dominance Test is >50%

3-Prevalence Index is ≤3.0[1]

4-Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: (Include photo numbers here or on a separate sheet.)
Corn stubble present, actively farmed area.

SOIL

Sampling Point: S3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	10YR 3/2	100					Clay Loam	
5-15"	10YR 4/1	100					Clay Loam	
15-20"	10YR 5/2	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Dark Surface (S7)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:
Soil data was collected on 5/17/22

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM -- Midwest Region

Project/Site: Becker Mitigation Bank Site | City/County: Germantown/Clinton | Sampling Date: 1/25/2022

Applicant/Owner: WFI Holdings LLC | State: IL | Sampling Point: S4

Investigator(s): SCI - Michael Holm | Section, Township, Range: S9, T1N, R4W

Landform (hillslope, terrace, etc.): depression | Local relief (concave, convex, none): Concave

Slope (%): 0-2% | Lat: 38.538219 | Long: -89.537419 | Datum: WGS 83

Soil Map Unit Name: Birds silt loam, 0 to 2 percent slopes, frequently flooded | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____		

Remarks:
Sample Point 4 is located in Wetland B, in the agricultural field adjacent to Wetland A and Pond A.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Herb Stratum (Plot size: 5' radius)			
1. *Panicum virgatum*	10%	Yes	FAC
2. *Poa pratensis*	5%	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
	15%	= Total Cover	

Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
That Are OBL, FACW, or FAC:		A/B
OBL species	x1 =	
FACW species	x2 =	
FAC species 15%	x3 =	0.45
FACU species	x4 =	
UPL species	x5 =	
Column Totals: 0.15 (A)		0.45 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

____ 1-Rapid Test for Hydrophytic Vegetation

X 2-Dominance Test is >50%

X 3-Prevalence Index is ≤3.0[1]

____ 4-Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: S4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1"	10YR 3/2	100					Clay Loam	
1-8"	10YR 4/1	95	10YR 5/4	5	C	M	Clay Loam	
8-12"	10YR 4/1	95	10YR 5/8	5	C	M	Clay Loam	
12-20"	10YR 6/1	90	10YR 5/8	10	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Dark Surface (S7)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:
Soil data was collected on 5/17/22

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 3"

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? Yes X No ___ Depth (inches): Surface

(includes capillary fringe)

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM -- Midwest Region

Project/Site: Becker Mitigation Bank Site | City/County: Germantown/Clinton | Sampling Date: 1/25/2022

Applicant/Owner: WFI Holdings LLC | State: IL | Sampling Point: S5

Investigator(s): SCI - Michael Holm | Section, Township, Range: S9, T1N, R4W

Landform (hillslope, terrace, etc.): flood plain | Local relief (concave, convex, none): none

Slope (%): 0-2% | Lat: 38.54273 | Long: -89.538979 | Datum: WGS 83

Soil Map Unit Name: Birds silt loam, 0 to 2 percent slopes, frequently flooded | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____		

Remarks:
Sample Point 5 is located in Wetland C near the wetland boundary with the agricultural field.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Herb Stratum (Plot size: 5' radius)			
1. *Panicum virgatum*	80%	Yes	FAC
2. *Phalaris arundinacea*	10%	No	FACW
3. *Xanthium strumarium*	10%	No	FAC
4. *Bidens frondosa*	5%	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
	105%	= Total Cover	

Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
That Are OBL, FACW, or FAC:		A/B
OBL species	x1 =	
FACW species 15%	x2 =	0.3
FAC species 90%	x3 =	2.7
FACU species	x4 =	
UPL species	x5 =	
Column Totals: 1.05 (A)		3 (B)

Prevalence Index = B/A = 2.86

Hydrophytic Vegetation Indicators:

____ 1-Rapid Test for Hydrophytic Vegetation

X 2-Dominance Test is >50%

X 3-Prevalence Index is ≤3.0[1]

____ 4-Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: S5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	10YR 4/1	90	10YR 5/8	10	C	M	Clay Loam	
10-20"	10YR 5/1	80	10YR 5/8	10	C	M	Clay Loam	
			10YR 7/1	10	D	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Dark Surface (S7)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:
Soil data was collected on 5/17/22

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1"

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? Yes X No ___ Depth (inches): Surface

(includes capillary fringe)

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM -- Midwest Region

Project/Site: Becker Mitigation Bank Site City/County: Germantown/Clinton Sampling Date: 1/25/2022

Applicant/Owner: WFI Holdings LLC State: IL Sampling Point: S6

Investigator(s): SCI - Michael Holm Section, Township, Range: S9, T1N, R4W

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none

Slope (%): 0-2% Lat: 38.542894 Long: -89.538773 Datum: WGS 83

Soil Map Unit Name: Birds silt loam, 0 to 2 percent slopes, frequently flooded NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No

Hydric Soil Present? Yes X No **Is the Sampled Area within a Wetland?** Yes No X

Wetland Hydrology Present? Yes No X

Remarks:
Sample Point 6 is located in the agricultural field, adjacent to Wetland C.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb Stratum (Plot size: 5' radius)			
1. *Poa pratensis*	5%	Yes	FAC
2. *Xanthium strumarium*	10%	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
	15%	= Total Cover	

Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
That Are OBL, FACW, or FAC:		A/B
OBL species	x1 =	
FACW species	x2 =	
FAC species 15%	x3 =	0.45
FACU species	x4 =	
UPL species	x5 =	
Column Totals: 0.15 (A)		0.45 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

- ___ 1-Rapid Test for Hydrophytic Vegetation
- X 2-Dominance Test is >50%
- X 3-Prevalence Index is ≤3.0[1]
- ___ 4-Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)
Corn stubble present, actively farmed area.

SOIL

Sampling Point: S6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2"	10YR 3/2	100					Clay Loam	
2-8"	10YR 4/2	95	10YR 5/8	5	C	M	Clay Loam	
8-20"	10YR 4/1	95	10YR 5/8	5	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Dark Surface (S7)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:
Soil data was collected on 5/17/22

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM -- Midwest Region

Project/Site: Becker Mitigation Bank Site | City/County: Germantown/Clinton | Sampling Date: 1/25/2022

Applicant/Owner: WFI Holdings LLC | State: IL | Sampling Point: S7

Investigator(s): SCI - Michael Holm | Section, Township, Range: S9, T1N, R4W

Landform (hillslope, terrace, etc.): depression | Local relief (concave, convex, none): none

Slope (%): 0-2% | Lat: 38.544596 | Long: -89.536065 | Datum: WGS 83

Soil Map Unit Name: Beaucoup silt loam, frequently flooded | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____		

Remarks:
Sample Point 7 is located in Wetland D, near the northeast corner of the site.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Herb Stratum (Plot size: 5' radius)			
1. *Poa pratensis*	5%	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
	5%	= Total Cover	

Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
That Are OBL, FACW, or FAC:		A/B
OBL species	x1 =	
FACW species	x2 =	
FAC species 5%	x3 =	0.15
FACU species	x4 =	
UPL species	x5 =	
Column Totals: 0.05 (A)		0.15 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

____ 1-Rapid Test for Hydrophytic Vegetation

X 2-Dominance Test is >50%

X 3-Prevalence Index is ≤3.0[1]

____ 4-Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: S7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2"	10YR 3/2	100					Clay Loam	
2-14"	10YR 4/1	95	10YR 5/8	5	C	M	Clay Loam	
14-20"	10YR 5/1	90	10YR 5/8	10	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Dark Surface (S7)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:
Soil data was collected on 5/17/22

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 3"

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? Yes X No ___ Depth (inches): Surface

(includes capillary fringe)

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM -- Midwest Region

Project/Site: Becker Mitigation Bank Site City/County: Germantown/Clinton Sampling Date: 1/25/2022

Applicant/Owner: WFI Holdings LLC State: IL Sampling Point: S8

Investigator(s): SCI - Michael Holm Section, Township, Range: S9, T1N, R4W

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none

Slope (%): 0-2% Lat: 38.544507 Long: -89.535976 Datum: WGS 83

Soil Map Unit Name: Beaucoup silt loam, frquently flooded NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes	No X	**within a Wetland?**	Yes No X
Wetland Hydrology Present?	Yes	No X		

Remarks:
Sample Point 8 is located in the agricultural field, adjacent to Wetland D.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb Stratum (Plot size: 5' radius)			
1. *Poa pratensis*	5%	Yes	FAC
2. *Zea mays*	5%	Yes	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
	10%	= Total Cover	

Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
That Are OBL, FACW, or FAC:		A/B
OBL species	x1 =	
FACW species	x2 =	
FAC species 5%	x3 =	0.15
FACU species	x4 =	
UPL species 5%	x5 =	0.25
Column Totals: 0.10 (A)		0.4 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

- 1-Rapid Test for Hydrophytic Vegetation
- 2-Dominance Test is >50%
- 3-Prevalence Index is ≤3.0[1]
- 4-Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: (Include photo numbers here or on a separate sheet.)
Corn stubble present, actively farmed area.

SOIL

Sampling Point: S8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	10YR 3/2	100					Clay Loam	
4-10"	10YR 3/1	100					Clay Loam	
10-20"	10YR 4/1	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Dark Surface (S7)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:
Soil data was collected on 5/17/22

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM -- Midwest Region

Project/Site: Becker Mitigation Bank Site City/County: Germantown/Clinton Sampling Date: 1/25/2022

Applicant/Owner: WFI Holdings LLC State: IL Sampling Point: S9

Investigator(s): SCI - Michael Holm Section, Township, Range: S9, T1N, R4W

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): none

Slope (%): 0-2% Lat: 38.540267 Long: -89.536507 Datum: WGS 83

Soil Map Unit Name: Birds silt loam, 0 to 2 percent slopes, frequently flooded NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland? Yes X No ____

Remarks:
Sample Point 9 is located in Wetland E, near the center of the site.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb Stratum (Plot size: 5' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
	= Total Cover		

Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)

Total Number of Dominant Species Across All Strata: ____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
That Are OBL, FACW, or FAC:	A/B
OBL species ____	x1 = ____
FACW species ____	x2 = ____
FAC species ____	x3 = ____
FACU species ____	x4 = ____
UPL species ____	x5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

____ 1-Rapid Test for Hydrophytic Vegetation

____ 2-Dominance Test is >50%

____ 3-Prevalence Index is ≤3.0[1]

____ 4-Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
No veg observed within the wetland area.

SOIL

Sampling Point: S9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2"	10YR 3/2	100					Clay Loam	
2-10"	10YR 4/1	90	10YR 5/8	10	C	M	Clay Loam	
10-20"	10YR 5/1	80	10YR 5/8	20	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Dark Surface (S7)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:
Soil data was collected on 5/17/22

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): Surface

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM -- Midwest Region

Project/Site: Becker Mitigation Bank Site City/County: Germantown/Clinton Sampling Date: 1/25/2022

Applicant/Owner: WFI Holdings LLC State: IL Sampling Point: S10

Investigator(s): SCI - Michael Holm Section, Township, Range: S9, T1N, R4W

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none

Slope (%): 0-2% Lat: 38.540543 Long: -89.536328 Datum: WGS 83

Soil Map Unit Name: Birds silt loam, 0 to 2 percent slopes, frequently flooded NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes	No X	**within a Wetland?**	Yes No X
Wetland Hydrology Present?	Yes	No X		

Remarks:
Sample Point 8 is located in the agricultural field, adjacent to Wetland E.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Herb Stratum (Plot size: 5' radius)			
1. *Poa pratensis*	5%	Yes	FAC
2. *Zea mays*	5%	Yes	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
	10%	= Total Cover	

Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
That Are OBL, FACW, or FAC:			A/B
OBL species		x1 =	
FACW species		x2 =	
FAC species	5%	x3 =	0.15
FACU species		x4 =	
UPL species	5%	x5 =	0.25
Column Totals:	0.10 (A)		0.4 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

- 1-Rapid Test for Hydrophytic Vegetation
- 2-Dominance Test is >50%
- 3-Prevalence Index is ≤3.0[1]
- 4-Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: (Include photo numbers here or on a separate sheet.)
Corn stubble present, actively farmed area.

SOIL

Sampling Point: S10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	10YR 3/2	100					Clay Loam	
5-15"	10YR 4/1	100					Clay Loam	
15-20"	10YR 5/2	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Dark Surface (S7)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** X

Remarks:
Soil data was collected on 5/17/22

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM -- Midwest Region

Project/Site: Becker Mitigation Bank Site | City/County: Germantown/Clinton | Sampling Date: 1/25/2022

Applicant/Owner: WFI Holdings LLC | State: IL | Sampling Point: S11

Investigator(s): SCI - Michael Holm | Section, Township, Range: S9, T1N, R4W

Landform (hillslope, terrace, etc.): depression | Local relief (concave, convex, none): none

Slope (%): 0-2% | Lat: 38.538604 | Long: -89.53559 | Datum: WGS 83

Soil Map Unit Name: Birds silt loam, 0 to 2 percent slopes, frequently flooded | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland? Yes X No ____

Remarks:
Sample Point 11 is located in Wetland F, near the center of the site.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Herb Stratum (Plot size: 5' radius)			
1. *panicum virgatum*	5%	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
	5%	= Total Cover	

Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
That Are OBL, FACW, or FAC:		A/B
OBL species	x1 =	
FACW species	x2 =	
FAC species 5%	x3 =	0.15
FACU species	x4 =	
UPL species	x5 =	
Column Totals: 0.05 (A)		0.15 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

____ 1-Rapid Test for Hydrophytic Vegetation

X 2-Dominance Test is >50%

X 3-Prevalence Index is ≤3.0[1]

____ 4-Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: S11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2"	10YR 3/2	100					Clay Loam	
2-10"	10YR 4/1	95	10YR 5/8	5	C	M	Clay Loam	
10-20"	10YR 5/1	85	10YR 5/8	10	C	M	Clay Loam	
			10YR 6/1	5	D	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Dark Surface (S7)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:
Soil data was collected on 5/17/22

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 2"

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? Yes X No ___ Depth (inches): Surface

(includes capillary fringe)

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM -- Midwest Region

Project/Site: Becker Mitigation Bank Site | City/County: Germantown/Clinton | Sampling Date: 1/25/2022

Applicant/Owner: WFI Holdings LLC | State: IL | Sampling Point: S12

Investigator(s): SCI - Michael Holm | Section, Township, Range: S9, T1N, R4W

Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): convex

Slope (%): 0-2% | Lat: 38.538653 | Long: -89.53571 | Datum: WGS 83

Soil Map Unit Name: Birds silt loam, 0 to 2 percent slopes, frequently flooded | NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** Yes ____ No X
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Sample Point 8 is located in the agricultural field, adjacent to Wetland E.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb Stratum (Plot size: 5' radius)			
1. *Poa pratensis*	5%	Yes	FAC
2. *Zea mays*	5%	Yes	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
	10%	= Total Cover	

Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
That Are OBL, FACW, or FAC:		A/B
OBL species	x1 =	
FACW species	x2 =	
FAC species 5%	x3 =	0.15
FACU species	x4 =	
UPL species 5%	x5 =	0.25
Column Totals: 0.10 (A)		0.4 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

____ 1-Rapid Test for Hydrophytic Vegetation
____ 2-Dominance Test is >50%
____ 3-Prevalence Index is ≤3.0[1]
____ 4-Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
Corn stubble present, actively farmed area.

SOIL

Sampling Point: S12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	10YR 3/2	100					Clay Loam	
5-10"	10YR 3/1	100					Clay Loam	
10-20"	10YR 4/1	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Dark Surface (S7)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:
Soil data was collected on 5/17/22

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appendix 8

Archaeological Phase 1 Survey

SCI ENGINEERING, INC.
EARTH • SCIENCE • SOLUTIONS
GEOTECHNICAL
ENVIRONMENTAL
NATURAL RESOURCES
CULTURAL RESOURCES
CONSTRUCTION SERVICES

February 16, 2022

Linden Graber
WFI Holdings LLC
248 Southwoods Center
Columbia, Illinois 62236

RE: Phase One Cultural Resource Survey
Becker Mitigation Bank Site
Germantown, Illinois
SCI No. 2022-0108.40

Dear Linden Graber:

SCI Engineering, Inc. (SCI) has completed the Phase One Cultural Resource Survey (Phase One) at the above referenced site. The Phase One Survey located five cultural resource sites, none of which are considered significant. SCI considers further work within the project area to be unwarranted and recommends clearance for the proposed project.

Please contact us if you have any questions or comments regarding this report.

Respectfully,

SCI ENGINEERING, INC.

Bryan Carlo

Bryan M. Carlo, MA
Senior Archaeologist

BMC/nmn

Appendices
Appendix A – Figures
Appendix B – Photographic Summary
Appendix C – IAS Site Forms

Public disclosure of site locations reported herein is prohibited by 16 USC 470W-3

\\sciengineering.local\shared\Projects\2022\2022-0108 Becker Mitigation Bank Site\CR\Report\Becker Phase One CRS Report.docx

ARCHAEOLOGICAL SURVEY SHORT REPORT **REVIEWER_____**
Illinois Department of Natural Resources **DATE_____**
Illinois State Historic Preservation Office
One Old State Capitol Plaza **_____Accepted ____Rejected**
Springfield, Illinois 62701

IHPO LOG NUMBER_____

LOCATION INFORMATION AND SURVEY CONDITIONS

County: Clinton

Quad: Breese 7.5' (Figures 1 and 2)

Project Type/Title: Becker Mitigation Bank Site

SCI No. 2022-0108.40

Funding or Permitting Agency: USACE

Natural Division: 9a

Sections: 9, 10 **Township:** 1N **Range:** 4W

UTM: Center—Zone 16S 4268958 N — 278849 E

Project Description: Construction of a wetland mitigation bank site. Project plans are not currently available.

Topography: The project area is situated within the floodplain and bottomlands associated with the Kaskaskia River (Figures 1 and 2).

Soils: Beaucoup silt loam, frequently flooded; Petrolia silty clay loam, 0 to 2 percent slopes, frequently flooded; Wakeland silt loam, 0 to 2 percent slopes, frequently flooded; Birds silt loam, 0 to 2 percent slopes, frequently flooded (USDA-NRCS Web Soil Survey).

Drainage: Shoal Creek is located approximately 0.10 miles south of the project area. The Kaskaskia River is approximately 4.0 miles to the south.

Land Use/Ground Cover (Include Percent Visibility): The project area mainly consists of wetland agricultural field under corn stubble. The agricultural field yielded 50 percent ground surface visibility. A forested wetland area exists in the south portion of the tract, with approximately 10 percent ground surface visibility. The southwest portion of the tract was inundated at the time of survey.

Survey Limitations: Portions of the agricultural field were inundated with frozen water. The wooded area in the southwest portion of the project area was under water.

IHPO LOG NUMBER _____

ARCHAEOLOGICAL AND HISTORICAL INFORMATION

Sources:

1842 GLO Map of Township 1 North Range 4 West (Figure 3)
1857 GLO Map of Township 1 North Range 4 West (Figure 4)
1906 Breese, Illinois 15' USGS Quadrangle (Figure 5)
1913 Atlas Map of Clinton County, Illinois (Figure 6)
1937 Plat Map of Clinton County, Illinois (Figure 7)
1950 Plat Map of Clinton County, Illinois (Figure 8)
1962 Breese, Illinois 7.5' USGS Quadrangle (Figure 9)
1981 Breese, Illinois 7.5' USGS Quadrangle (Figure 10)
2012 Breese, Illinois 7.5' USGS Quadrangle (Figure 11)
2015 Breese, Illinois 7.5' USGS Quadrangle (Figure 12)
2021 Breese, Illinois 7.5' USGS Quadrangle (Figure 13)

Previously Reported Sites: None previously recorded within the project area. Four within a one-mile radius of the project area: 11CT154, 173, 174, 218

Previous Surveys: None previously conducted within the project area. Nine conducted within a one-mile radius: IHPO doc #s 11678, 7740, 914, 20502, 20721, 12079, and three Undesignated surveys (#99999).

Regional Archaeologist Contacted: IAS site file online database consulted 2/2/2022.

Investigation Techniques: Pedestrian survey at 5-meter intervals, shovel testing, and hand-auger testing.

Acres: 85 **Time:** 32 person hours

Materials: See Comments.

Sites/Spots Located: 11CT583, 11CT584, 11CT585, 11CT586, 11CT587

Collection Technique: All prehistoric material and historic material greater than 50 years in age was collected. **Curated:** ISM

___ Phase I Archaeological Reconnaissance Has Located No Archaeological Material; Project Clearance Is Recommended.

__X__ Phase I Archaeological Reconnaissance Has Located Archaeological Materials; Site(s) Does (Do) Not Meet Requirements For National Register Eligibility; Project Clearance Is Recommended.

____ Phase I Archaeological Reconnaissance Has Located Archaeological Materials; Site(s) May Meet Requirements For National Register Eligibility; Phase II Testing Is Recommended.

____ Phase II Archaeological Investigation Has Indicated That Site(s) Does (Do) Not Meet Requirements For National Register Eligibility; Project Clearance Is Recommended.

____ Phase II Archaeological Investigation Has Indicated That Site(s) Meet Requirements For National Register Eligibility.

COMMENTS:

The approximately 85-acre project area consists of a single tract located south of Germantown, Illinois (Figures 1 and 2). The tract is located south of Route 161 and north of Shoal Creek. The project area is being considered as a potential Wetland Mitigation Bank site to be constructed under the proposed Umbrella Mitigation Banking Instrument (UMBI) that WFI Holdings LLC (WFI) is currently developing with the U.S. Army Corps of Engineers (USACE), St. Louis District.

The project area consists primarily of an agricultural field within a floodplain setting, or farmed wetland that was under corn stubble at the time of survey (Photos 1 and 2). The agricultural field requires the excavation of drainage canals to remove water (Photo 3). The agricultural field within the project area had not been tilled prior to survey, and several areas were inundated with frozen water. However, the field yielded 50 percent visibility in areas where there was no standing water (Photos 4 and 5). The southern portion of the tract contains an improved drainage (Photo 6). The southern portion of the project area is wooded and did not yield ground surface visibility sufficient for pedestrian survey (Photo 7). There were small push piles containing rubble and concrete throughout the wooded area, indicating this area has served as a dump for modern construction materials, and may include ground disturbance (Photo 8). Research methodology consisted of pedestrian survey, shovel testing, two hand auger tests to search for a buried A-horizon or deeply buried sites, and photographic recordation of the project area environs. In addition, an IAS site file search and historic document review were conducted.

A review of the IAS site file database indicated the project area has never been subject to a professional cultural resource survey. Four surveys have been conducted within a one-mile radius. No previously recorded sites exist within the project area. Nine sites are recorded within a one-mile radius.

A review of historic maps (Figures 3 through 13) provides insight regarding the nature of property ownership and the presence or absence of structures within the project area through time. The earliest depictions of the project area are found upon the 1842 and 1857 GLO maps (Figures 3 and 4). GLO maps do not depict structures. The earliest available map to depict structures is the 1906 Breese, Illinois 15' USGS Quadrangle (Figure 5). No structures are shown within the project area upon this map or subsequent historic maps (Figures 6 through 13). However, the 2012, 2015 and 2021 Breese, Illinois 7.5' Quadrangles do not depict structures (Figures 11-13). No standing architecture is present within the project area.

A check of the Illinois Historic Preservation Office's HARGIS online database (accessed February 2022) indicated that there are no National Register Listed properties within the project area (Figure 14). There are twenty-six properties listed within one mile of the project area. Twenty-five of the properties have the eligibility status of undetermined. One property, located in Germantown, Illinois at 300 Munster Steet has the determination of eligible for National Register listing (HARGIS Reference # 104972) (Figure 14). The property is the Dr. Bernard J. Meirink House.

RESULTS OF INVESTIGATIONS

SCI personnel conducted investigations within the project area January 25, 2022. The tract was investigated through pedestrian survey of the agricultural field and hand-auger testing to search for a buried A-horizon or deeply buried sites, while the wooded portion in the southeast part of the tract was shovel tested at 15-meter intervals (Figures 15). The wooded portion in the southwest was under water. The results of the investigations are discussed below.

Hand auger test 1 was conducted in the southern portion of the agricultural field (Figure 15). The soil profile obtained for hand auger test 1 was 10YR 3/3 Dark Brown sandy clay loam from 0 to 50 cm below ground surface, and 10YR 6/3 Pale Brown sandy clay loam with strong redoximorphic features from

50 to 150 cm below ground surface, indicating periodic water movement throughout the soil profile. At 150 cm below the ground surface the water table was encountered, and the auger test was terminated. No cultural materials were recovered, and a buried A-horizon was not observed.

Hand auger test 2 was conducted within the northern portion of the agricultural field (Figure 15). The soil profile obtained for hand auger test 2 was 10YR 3/3 Dark Grayish Brown clay from 0 to 30 cm below ground surface, and 10YR 3/3 Dark Grayish Brown clay with strong redoximorphic features from 30 to 50 cm below ground surface. The next stratum was the same as stratum two, however, it had a greater water content and contained more water with increasing depth. At 130 cm below the ground surface the water table was encountered, although the test continued to 160 cm below surface, but no other change was observed. No cultural materials were recovered, and a buried A-horizon was not observed.

A total of sixteen shovel tests were performed in the south portion of the tract (Figure 15). All shovel tests displayed similar results, a 15-20 cm thick 10YR 3/3 silty clay loam atop a 10YR 5/3 clay. Both horizons displayed light redoximorphic features. While no shovel tests filled with water, all tended to contain very moist soils (Photo 9). Shovel testing within the southern portion of the tract did not recover evidence of cultural resources.

The identification and recovery of artifacts via pedestrian survey within the agricultural field (Figure 15) allowed for the delineation of five historic cultural resource sites (Figure 1). Site forms and associated maps were submitted to ISM, and the newly identified sites were provided the designations 11CT583, 11CT584, 11CT585, 11CT586, 11CT587. These sites are briefly discussed below.

11CT583

11CT583 is located in the northeast corner of the project tract (Figures 1 and 16). A total of twenty-four historic artifacts were recovered. The artifacts consisted of nine whiteware/ironstone body sherds, one whiteware/ironstone rim sherd, three clear bottle/container glass shards, one aqua glass shard, one amber glass shard, two purple glass shards, four milk glass shards, and three brick fragments. All artifacts observed on the ground surface were collected. None of these artifacts are considered strongly diagnostic, though they are suggestive of a late 19th to mid-20th century temporal affiliation. Historic maps do not indicate the presence of a structure at the site location. The location of many artifacts near a gravel road running the length of the eastern side of the tract seems suggestive of site formation via secondary deposition. There is low potential for the presence of historic subsurface features within the site boundary. The site is considered not significant.

11CT584

11CT584 is located in the east portion of the tract, just west of an unnamed gravel field access road (Figures 1 and 16). The site was located though pedestrian survey. The site consists of eight historic artifacts: one whiteware/ironstone body sherd, two clear glass shards, two brick fragments and three purple glass shards. As for site 11CT583, this site is located directly off the field access road, suggesting possible secondary deposition. Historic maps do not indicate the presence of a structure at the site location. While none of these artifacts are considered strongly diagnostic, they are suggestive of a late 19th to mid-20th century temporal affiliation. The recovery of theses artifacts does not suggest the presence of subsurface features within the vicinity. The site is considered not significant.

11CT585

11CT585 is located in the east portion of the tract, just west of an unnamed gravel field access road (Figures 1 and 16). The site was located though pedestrian survey. The site consists of two historic artifacts: one whiteware/ironstone body sherd and one clear glass shard. No other artifacts were observed within the vicinity. The artifacts collected are not considered strongly diagnostic, however, they are commonly associated with the late 19th to mid-20th century. and do not suggest the presence of intact

subsurface features. Historic maps do not indicate the presence of a structure at the site location, and the recovery of these finds do not suggest the presence of subsurface features within the vicinity. The site is considered not significant.

11CT586

11CT586 is located in the east portion of the tract, just west of an unnamed gravel field access road. (Figures 1 and 16). The site was located though pedestrian survey. The site consists of five historic artifacts: one whiteware/ironstone body sherd and three clear glass shards, one aqua glass shard, and one amber glass shard. The glass consists of body shards. No other artifacts were observed within the vicinity. The whiteware/Ironstone and glass are both poorly diagnostic but are likely affiliated with the late 19th to early 20th century. This site is also located along the gravel field access road, suggesting possible secondary deposit. Historic maps do not indicate the presence of a structure at the site location, and the recovery of these finds do not suggest the presence of subsurface features within the vicinity. The site is considered not significant.

11CT587

11CT587 is located in the center of the project area, approximately 950 meters south of Highway 161 (Figures 1 and 16). The site was located though pedestrian survey and is a light scatter of historic artifacts. The site consists of seven historic finds: two whiteware/ironstone body sherds and two clear glass shards, one aqua glass shard, and two brick fragments. The whiteware/ironstone is poorly diagnostic as is the glass, as with the other sites a temporal affiliation with the late 19th through mid-20th century is likely. Historic maps do not indicate the presence of a structure at the site location, and the recovery of these finds do not suggest the presence of subsurface features within the vicinity. The site is considered not significant.

SUMMARY AND CONCLUSIONS

On January 25, 2021, SCI personnel conducted archaeological field investigations of an 85-acre tract in Clinton County, Illinois. The project area consists primarily of farmed wetland, though the south portion of the tract is wooded. The agricultural portions of tracts had not been tilled prior to the investigation and were subject to pedestrian survey at 5-meter intervals reduced to 2 to 3-meter intervals where artifacts were located. The forested wetland within the southeast portion was investigated via shovel testing. All shovel tests were negative for cultural material. Two hand-auger tests were also conducted to search for a buried A-horizon or deeply buried sites. Both auger tests were negative for cultural materials and did not identify evidence for a buried A-horizon.

Five cultural resource sites were located through pedestrian survey. Sites 11CT583, 11CT584, 11CT585, and 11CT586 were identified along the eastern edge of the project area. The sites were scatters of weakly diagnostic historic artifacts. These sites likely represent episodes of secondary deposition and are considered not significant. Site 11CT587 is located further to the west into the agricultural field, away from the road, but is still comprised of a light scatter of weakly diagnostic historic artifacts. All sites were identified via pedestrian survey. None of the sites indicate a high potential for intact historic subsurface features. All five sites are considered not significant, and clearance of the project area is recommended.

IHPO LOG NUMBER _____

ARCHAEOLOGICAL CONTRACTOR INFORMATION:

Archaeological Contractor: SCI Engineering, Inc.

Address/Phone: 650 Pierce Boulevard
O'Fallon, Illinois 62269
(618) 624-6969

Surveyor (s): Jacob Province, Chris Snyder, Anthony Villeneuve, Olha Patrick

Survey Date(s): 25 January 2022

Report Completed By: Jacob Province and Bryan Carlo **Date:** 16 February 2022

Submitted By (signature and title): Bryan Carlo Senior Archaeologist

ATTACHMENT CHECK LIST: (#1 Through #4 Are Mandatory)

__X__ 1) Relevant Portion of USGS 7.5' Topographic Quadrangle Map(s) Showing Project Location And Any Recorded Sites

__X__ 2) Project Map(s) Depicting Survey Limits And, When Applicable, Approximate Site Limits And Concentrations Of Cultural Materials.

__X__ 3) Site Form(s)

__X__ 4) All Relevant Project Correspondence.

_____ 5) Additional Information Sheets As Necessary.

ADDRESS OF OWNER/AGENT/AGENCY TO WHOM SHPO COMMENT SHOULD BE MAILED:

Mr. Linden Graber	cc.	Bryan Carlo
WFI Holding LLC		SCI Engineering, Inc.
248 Southwoods Center		650 Pierce Boulevard
Columbia, Illinois 62236		O'Fallon, Illinois 62269

Contact Person: Bryan Carlo Phone: (618) 206-3048

REFERENCES

General Land Office
1815 Map of Township 1 North, Range 4 West, Clinton County, Illinois. General Land Office.
1850 Map of Township 1 North, Range 4 West, Clinton County, Illinois. General Land Office.

HARGIS (online database accessed February 2022).

Ogle, Geo. A. & Company
1913 *Standard Atlas of Clinton County, Illinois*. Chicago, Illinois.

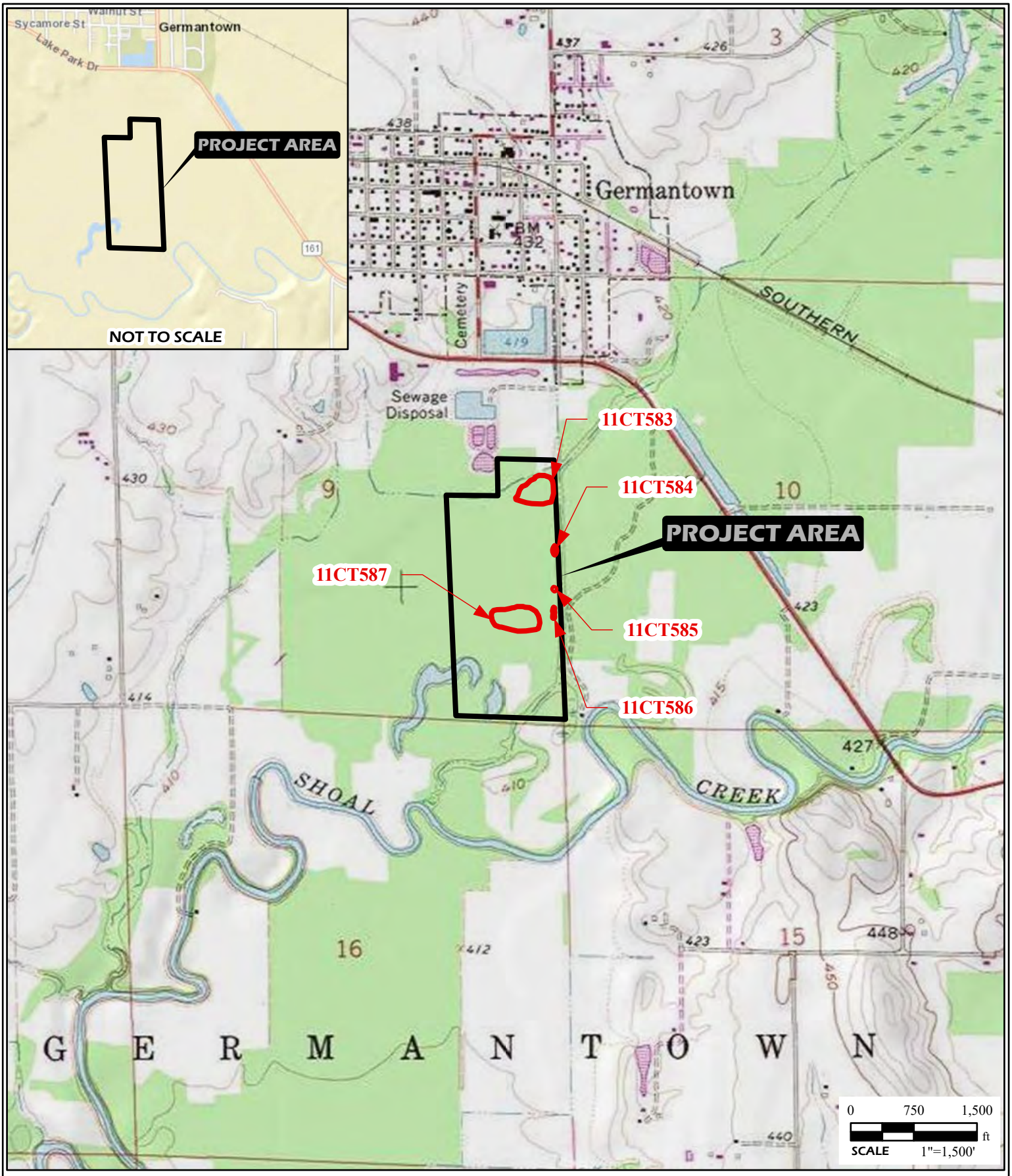
Rockford Map Publishers
1950 *Farm Plat Book and Business Guide, Clinton County, Illinois*. Rockford, Illinois.

United States Geological Survey
1906 Breese, Illinois 15' USGS Quadrangle (topographic). Reston, Virginia.
1962 Breese, Illinois 7.5' USGS Quadrangle (topographic). Reston, Virginia.
1981 Breese, Illinois 7.5' USGS Quadrangle (photorevised). Reston, Virginia.
2012 Breese, Illinois 7.5' USGS Quadrangle (topographic). Reston, Virginia.
2015 Breese, Illinois 7.5' USGS Quadrangle (topographic). Reston, Virginia.
2021 Breese, Illinois 7.5' USGS Quadrangle (topographic). Reston, Virginia.

W.W. Hixson & Company
1937 *Plat Book of Clinton County, Illinois*. Rockford, Illinois.

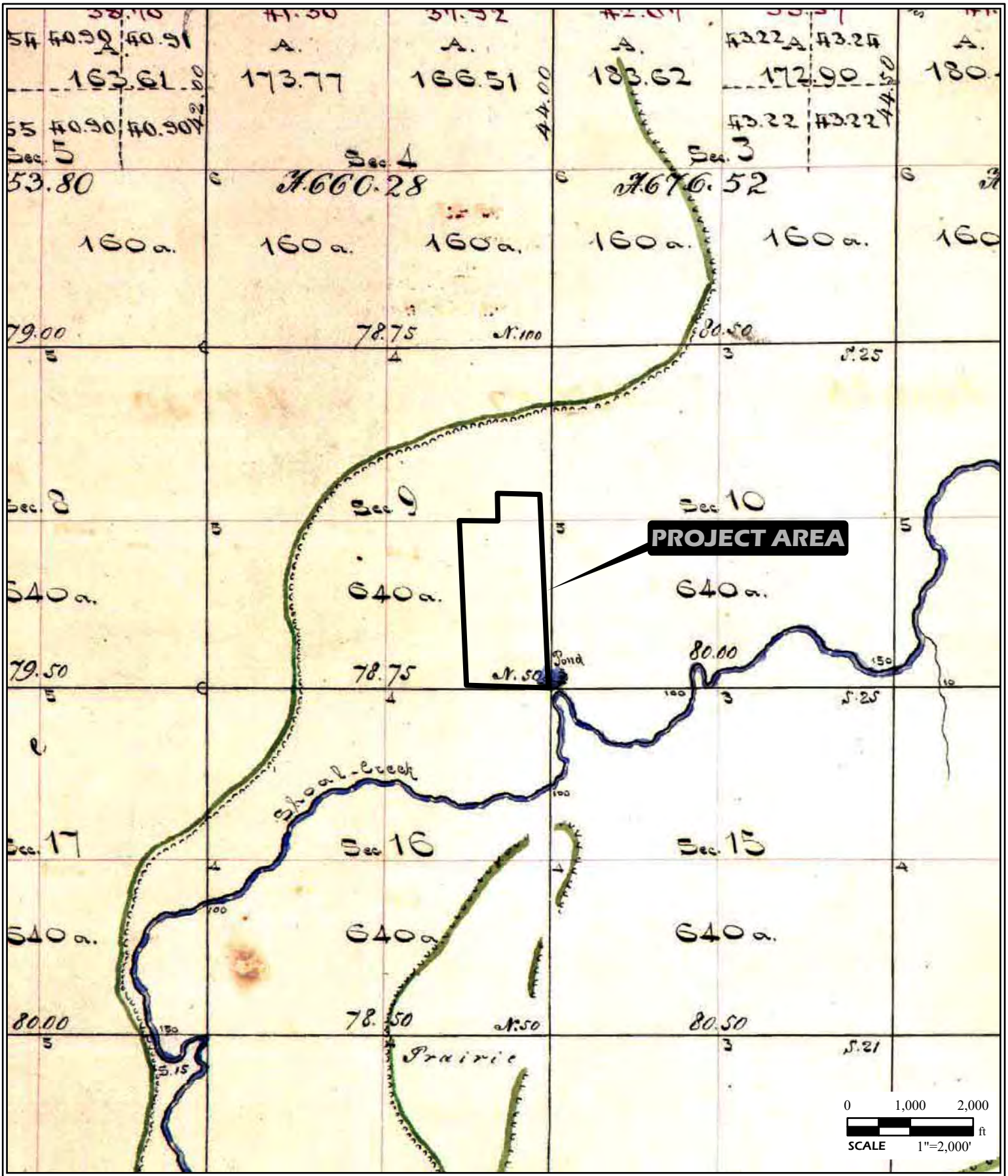
REVIEWER'S COMMENTS:

Appendix A

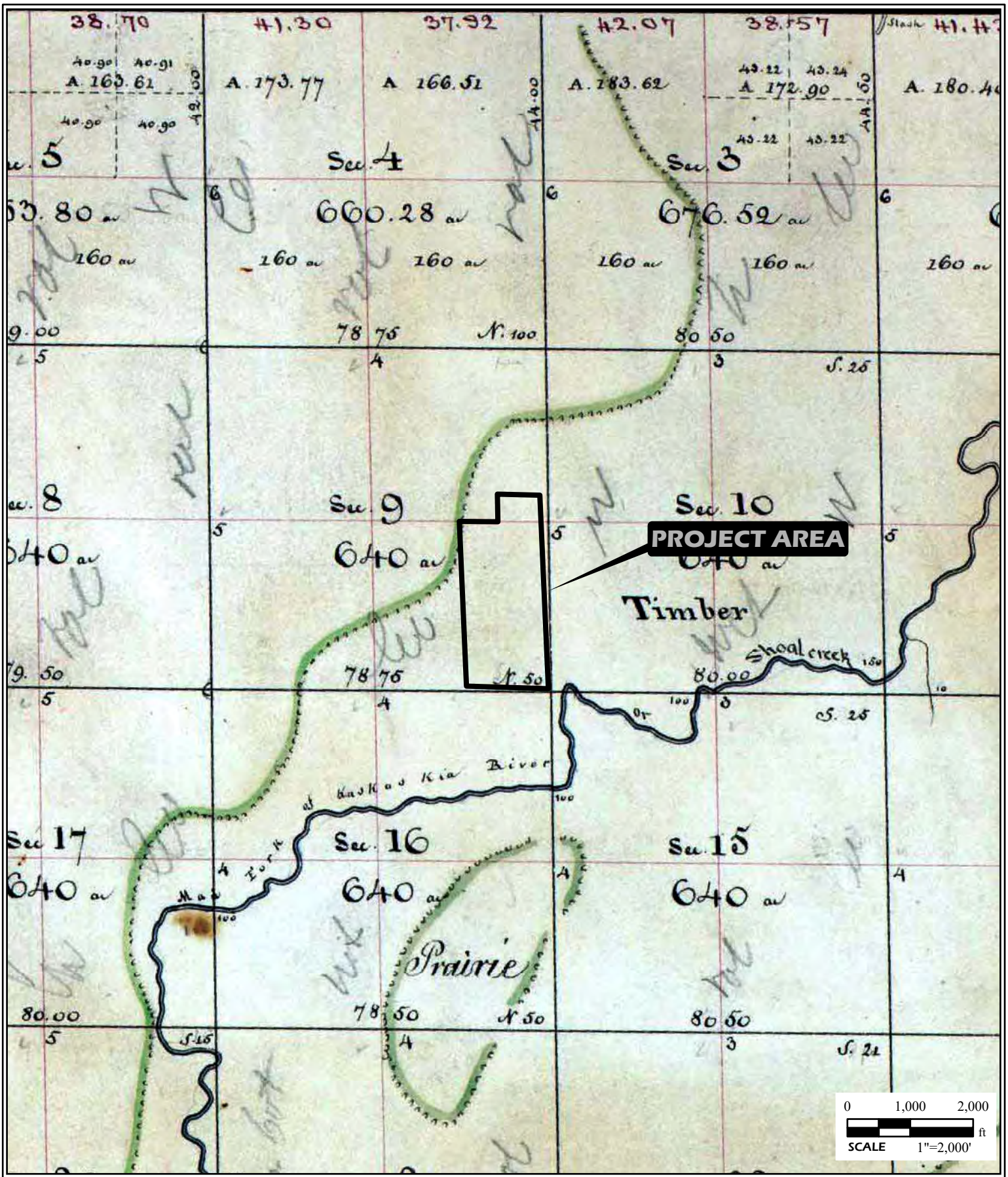


SCI	PROJECT NAME: BECKER MITIGATION BANK SITE, GERMANTOWN, ILLINOIS			GENERAL NOTES/LEGEND: USGS TOPOGRAPHIC MAP, BREESE, ILLINOIS QUADRANGLE, DATED1962 PHOTO REVISED 1981, 10' CONTOURS. STREET MAP, HTTP://GOTO.ARCGISONLINE.COM/MAPS/WORLD_STREET_MAP
	VICINITY AND TOPOGRAPHIC MAP			
	DRAWN BY: KMC	DATE: 02/2022	JOB NUMBER: 2022-0108.40	FIGURE: 1
	CHECKED BY: BMC			

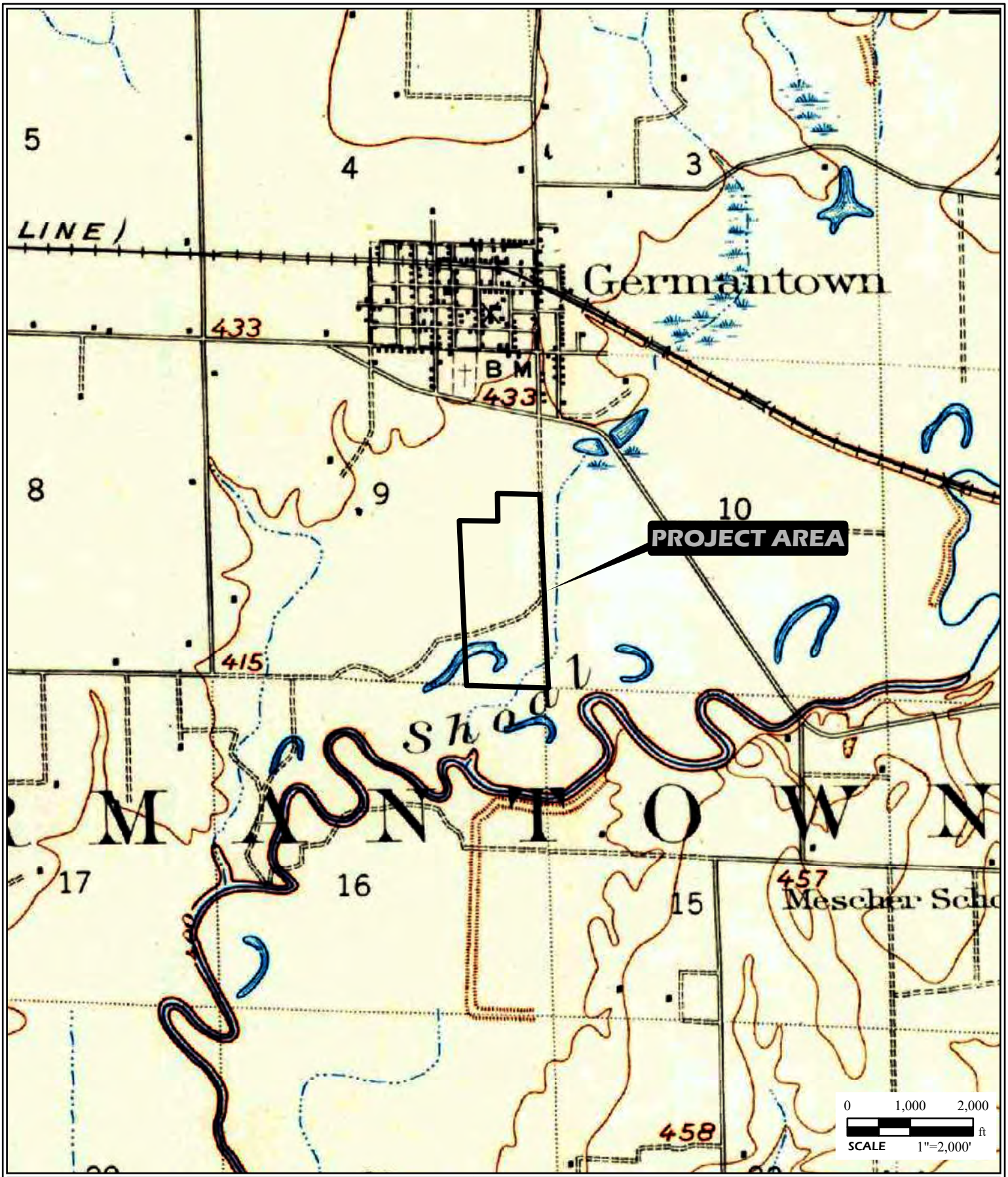
SCI	PROJECT NAME BECKER MITIGATION BANK SITE GERMANTOWN, ILLINOIS			GENERAL NOTES/LEGEND	N W E S
	AERIAL PHOTOGRAPH			AERIAL PHOTOGRAPH OBTAINED FROM ARCGIS ONLINE, WORLD IMAGERY. DIMENSIONS AND LOCATIONS ARE APPROXIMATE; ACTUAL MAY VARY. DRAWING SHALL NOT BE USED OUTSIDE THE CONTEXT OF THE REPORT FOR WHICH IT WAS GENERATED.	
	DRAWN BY KMC CHECKED BY BMC	DATE 02/2022	JOB NUMBER 2022-0108.40		FIGURE 2



SCI	PROJECT NAME BECKER MITIGATION BANK SITE GERMANTOWN, ILLINOIS			GENERAL NOTES/LEGEND	N W E S
	1842 GLO MAP			DIMENSIONS AND LOCATIONS ARE APPROXIMATE; ACTUAL MAY VARY. DRAWING SHALL NOT BE USED OUTSIDE THE CONTEXT OF THE REPORT FOR WHICH IT WAS GENERATED.	FIGURE 3
	DRAWN BY KMC	DATE	JOB NUMBER		
	CHECKED BY BMC	02/2022	2022-0108.40		

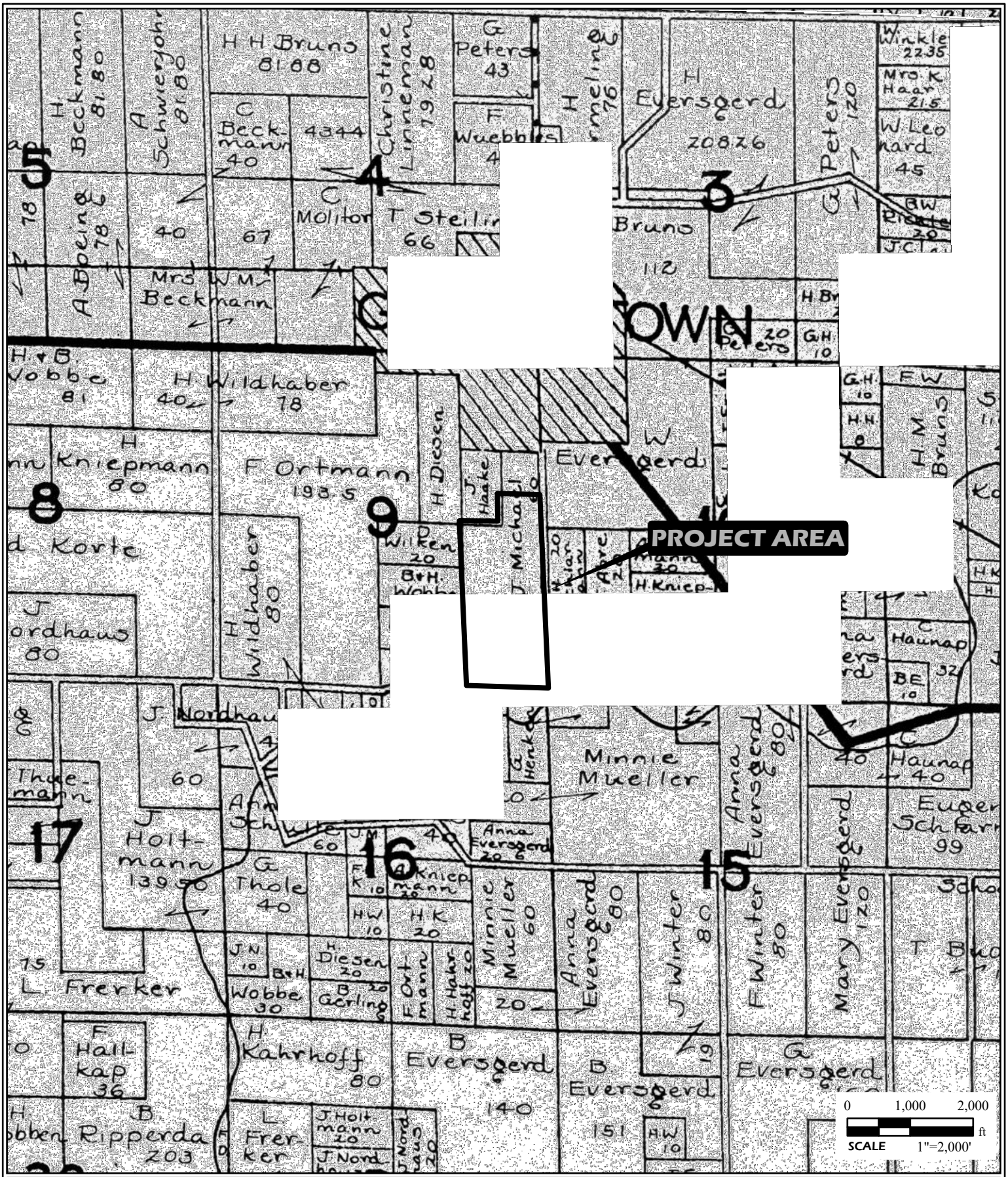


	PROJECT NAME BECKER MITIGATION BANK SITE GERMANTOWN, ILLINOIS			GENERAL NOTES/LEGEND	N W E S
	1857 GLO MAP			DIMENSIONS AND LOCATIONS ARE APPROXIMATE; ACTUAL MAY VARY. DRAWING SHALL NOT BE USED OUTSIDE THE CONTEXT OF THE REPORT FOR WHICH IT WAS GENERATED.	FIGURE 4
	DRAWN BY KMC	DATE	JOB NUMBER		
	CHECKED BY BMC	02/2022	2022-0108.40		



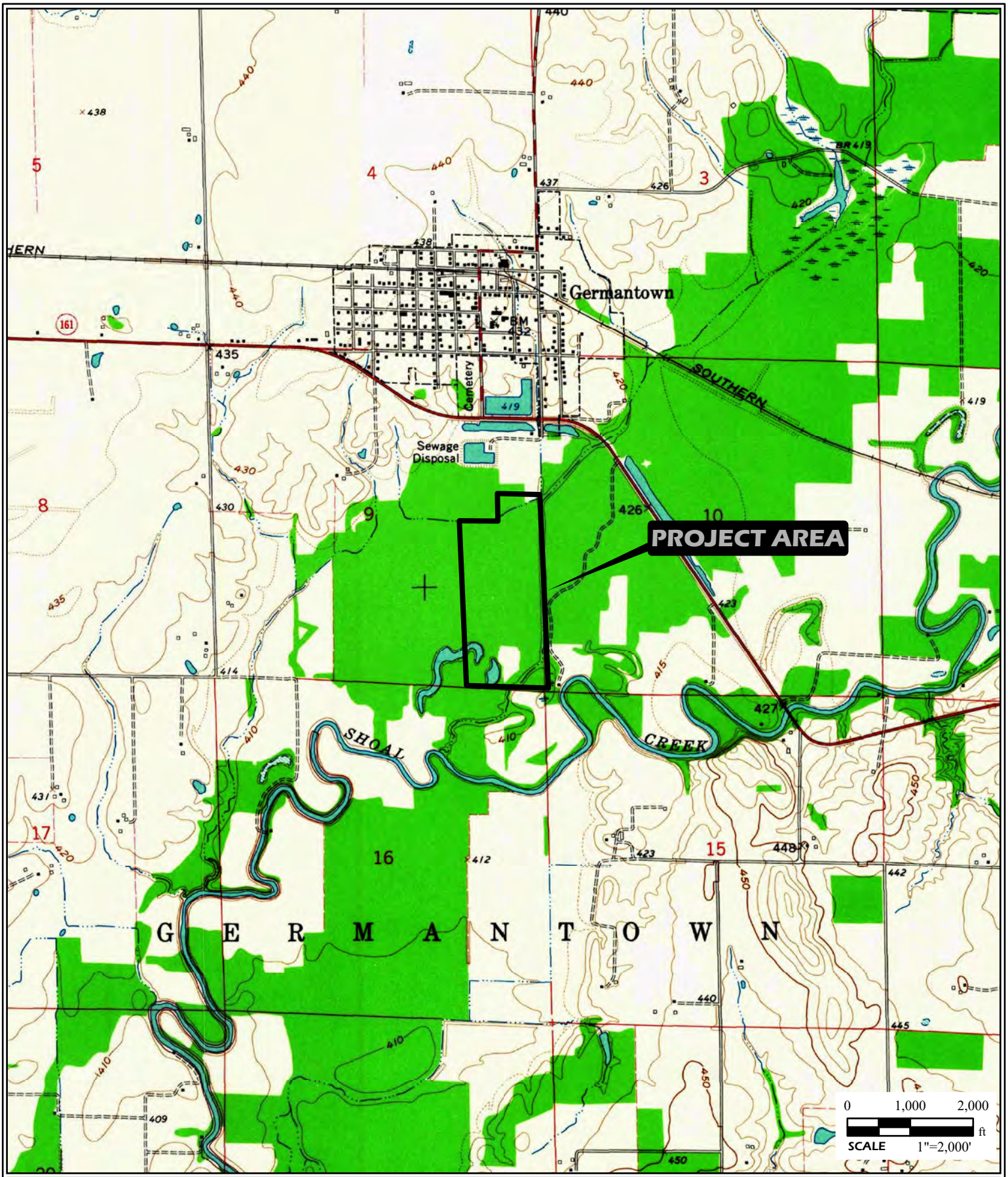
SCI	PROJECT NAME BECKER MITIGATION BANK SITE GERMANTOWN, ILLINOIS			GENERAL NOTES/LEGEND USGS TOPOGRAPHIC MAP BREESE, ILLINOIS QUADRANGLE DATED1906 20' CONTOURS STREET MAP HTTP://GOTO.ARCGISONLINE.COM/MAPS/WORLD_STREET_MAP	N W E S
	1906 TOPOGRAPHIC MAP				
	DRAWN BY KMC CHECKED BY BMC	DATE 02/2022	JOB NUMBER 2022-0108.40		FIGURE 5

PROJECT NAME				GENERAL NOTES/LEGEND
BECKER MITIGATION BANK SITE GERMANTOWN, ILLINOIS				GEO. A. OGLE AND CO. 1913 STANDARD ATLAS OF CLINTON COUNTY, ILLINOIS. CHICAGO, ILLINOIS.
1913 ATLAS MAP OF CLINTON COUNTY				DIMENSIONS AND LOCATIONS ARE APPROXIMATE; ACTUAL MAY VARY. DRAWING SHALL NOT BE USED OUTSIDE THE CONTEXT OF THE REPORT FOR WHICH IT WAS GENERATED.
DRAWN BY KMC	DATE	JOB NUMBER		FIGURE
CHECKED BY BMC	02/2022	2022-0108.40		6

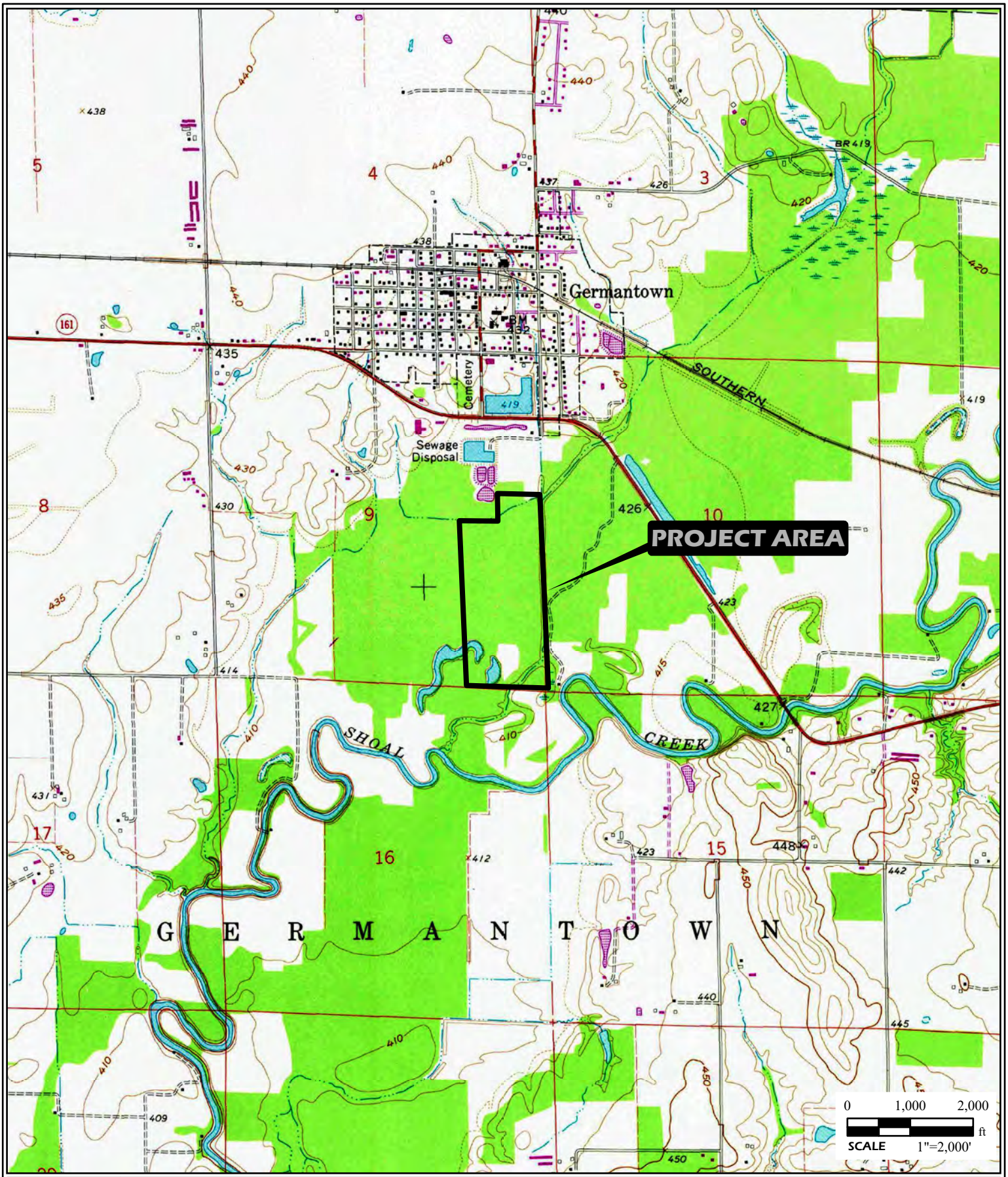


	PROJECT NAME BECKER MITIGATION BANK SITE GERMANTOWN, ILLINOIS			**GENERAL NOTES/LEGEND** W.W. HIXSON AND CO. 1937 PLAT BOOK OF CLINTON COUNTY, ILLINOIS. ROCKFORD, ILLINOIS. DIMENSIONS AND LOCATIONS ARE APPROXIMATE; ACTUAL MAY VARY. DRAWING SHALL NOT BE USED OUTSIDE THE CONTEXT OF THE REPORT FOR WHICH IT WAS GENERATED.
	1937 PLAT MAP OF CLINTON COUNTY			
	DRAWN BY KMC **CHECKED BY** BMC	**DATE** 02/2022	**JOB NUMBER** 2022-0108.40	**FIGURE** 7

PROJECT NAME				GENERAL NOTES/LEGEND
BECKER MITIGATION BANK SITE GERMANTOWN, ILLINOIS				ROCKFORD MAP PUBLISHERS 1950 FARM PLAT BOOK AND BUSINESS GUIDE, CLINTON COUNTY, ILLINOIS. ROCKFORD, ILLINOIS.
1950 PLAT MAP OF CLINTON COUNTY				DIMENSIONS AND LOCATIONS ARE APPROXIMATE; ACTUAL MAY VARY. DRAWING SHALL NOT BE USED OUTSIDE THE CONTEXT OF THE REPORT FOR WHICH IT WAS GENERATED.
DRAWN BY KMC	DATE	JOB NUMBER		FIGURE
CHECKED BY BMC	02/2022	2022-0108.40		8



PROJECT NAME: BECKER MITIGATION BANK SITE GERMANTOWN, ILLINOIS				GENERAL NOTES/LEGEND USGS TOPOGRAPHIC MAP BREESE, ILLINOIS QUADRANGLE DATED1962 10' CONTOURS STREET MAP HTTP://GOTO.ARCGISONLINE.COM/MAPS/WORLD_STREET_MAP
1962 TOPOGRAPHIC MAP				
DRAWN BY: KMC	DATE: 02/2022	JOB NUMBER: 2022-0108.40		FIGURE: 9
CHECKED BY: BMC				



PROJECT NAME	BECKER MITIGATION BANK SITE GERMANTOWN, ILLINOIS			
	1981 TOPOGRAPHIC MAP			
DRAWN BY	KMC	DATE	JOB NUMBER	
CHECKED BY	BMC	02/2022	2022-0108.40	

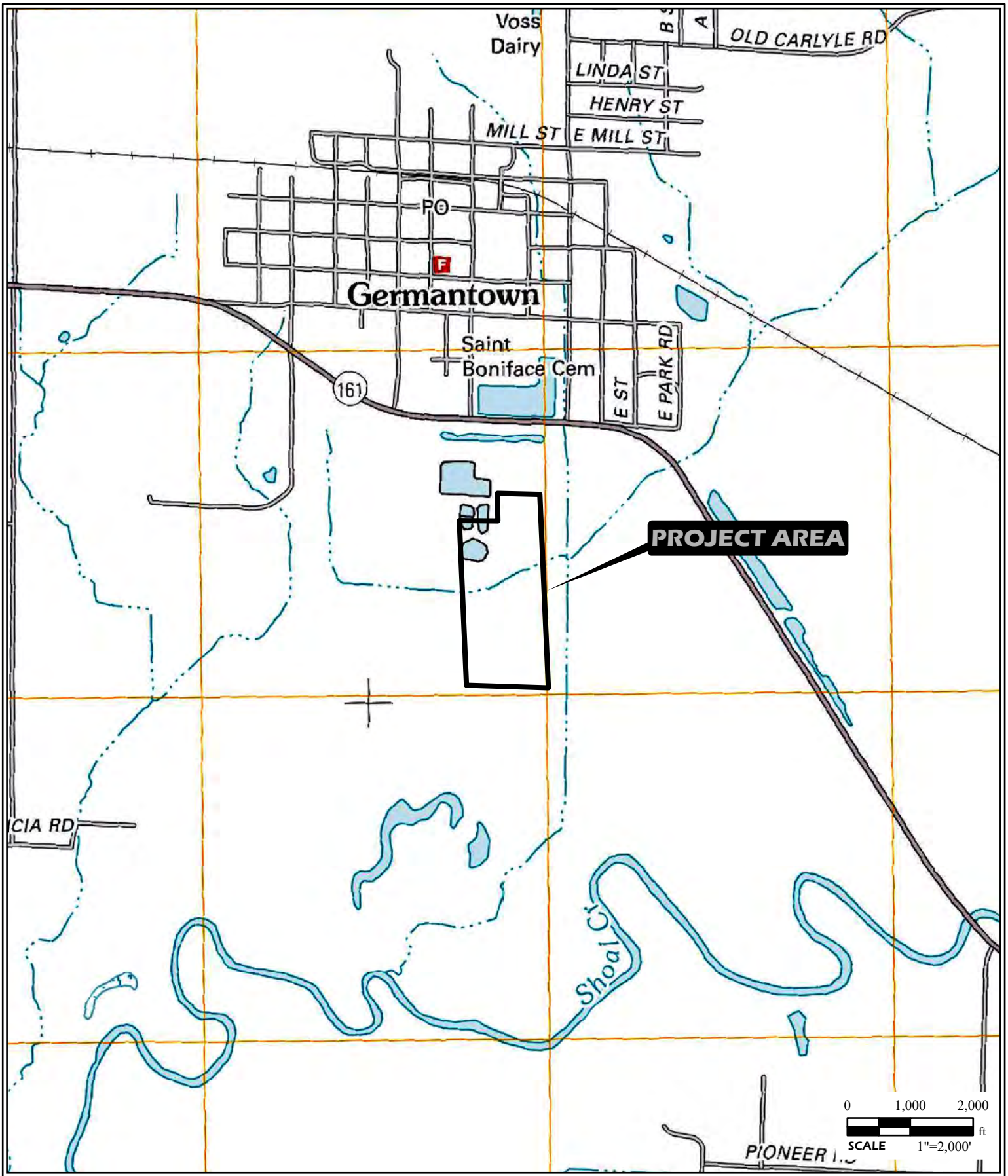
GENERAL NOTES/LEGEND

USGS TOPOGRAPHIC MAP
BREESE, ILLINOIS QUADRANGLE
DATED1962 PHOTO REVISED 1981
10' CONTOURS

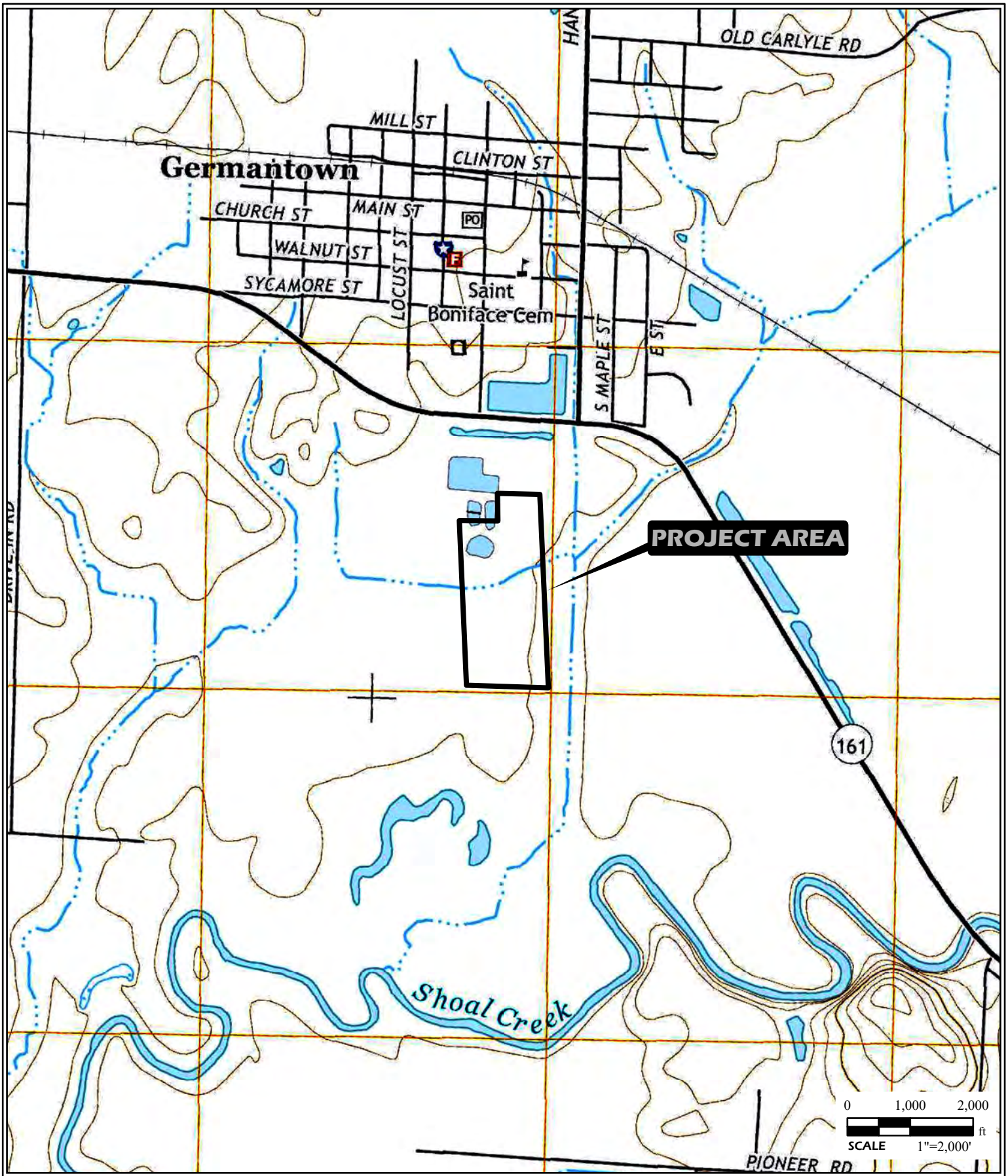
STREET MAP
HTTP://GOTO.ARCGISONLINE.COM/MAPS/WORLD_STREET_MAP

N
W E
S

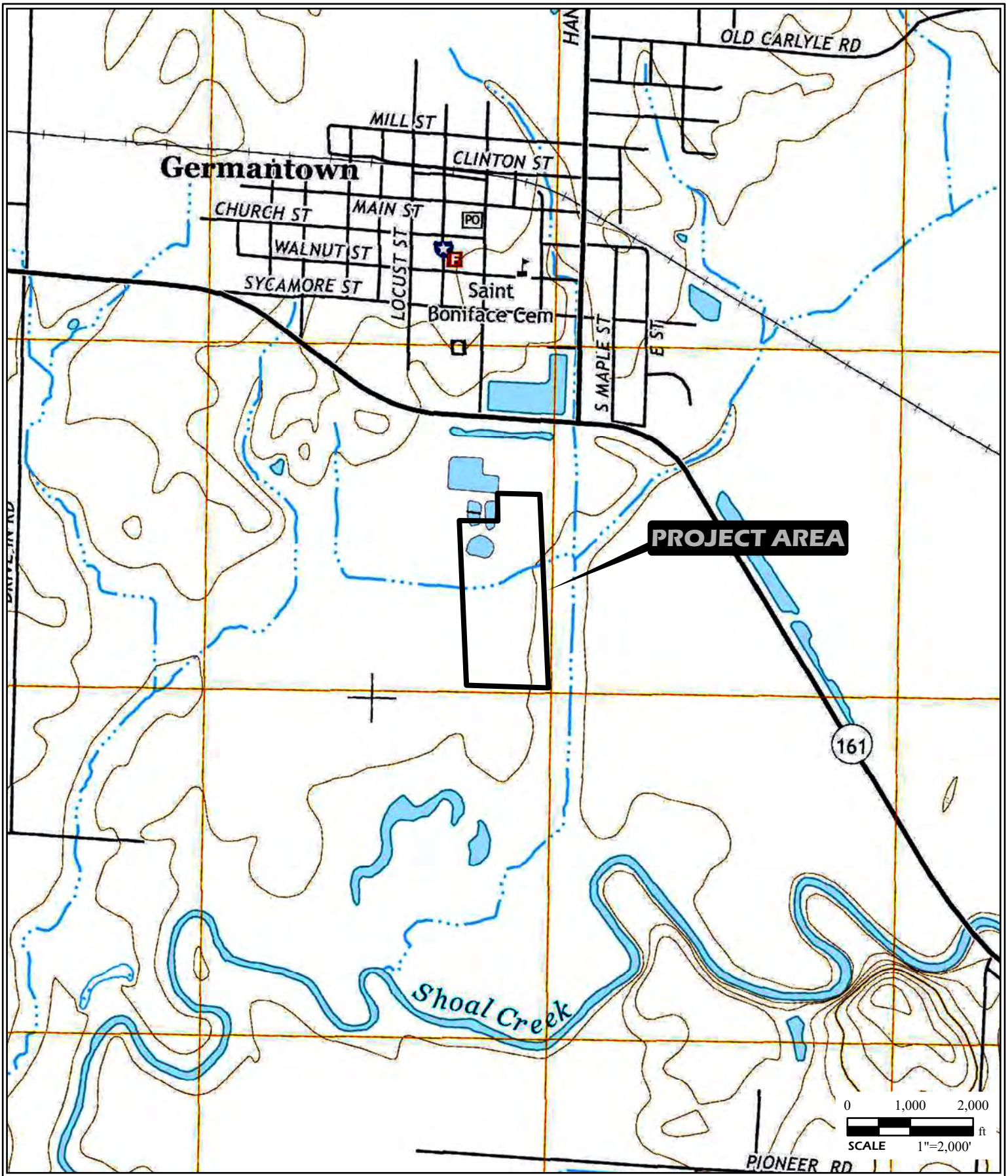
FIGURE
10



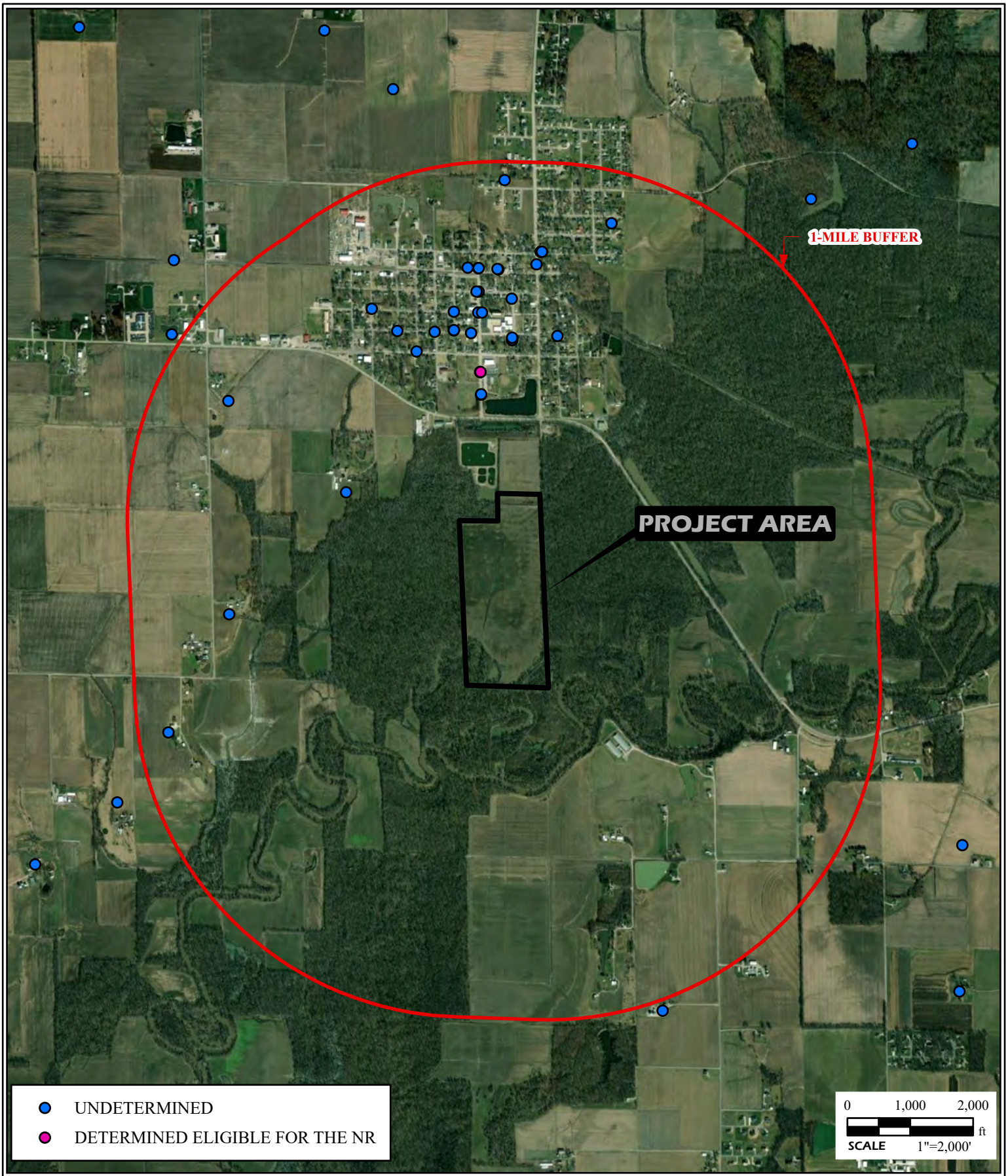
SCI	PROJECT NAME BECKER MITIGATION BANK SITE GERMANTOWN, ILLINOIS			GENERAL NOTES/LEGEND USGS TOPOGRAPHIC MAP BREESE, ILLINOIS QUADRANGLE DATED 2012 10' CONTOURS STREET MAP HTTP://GOTO.ARCGISONLINE.COM/MAPS/WORLD_STREET_MAP	N W E S
	2012 TOPOGRAPHIC MAP				
	DRAWN BY: KMC CHECKED BY: BMC	DATE 02/2022	JOB NUMBER 2022-0108.40		FIGURE 11



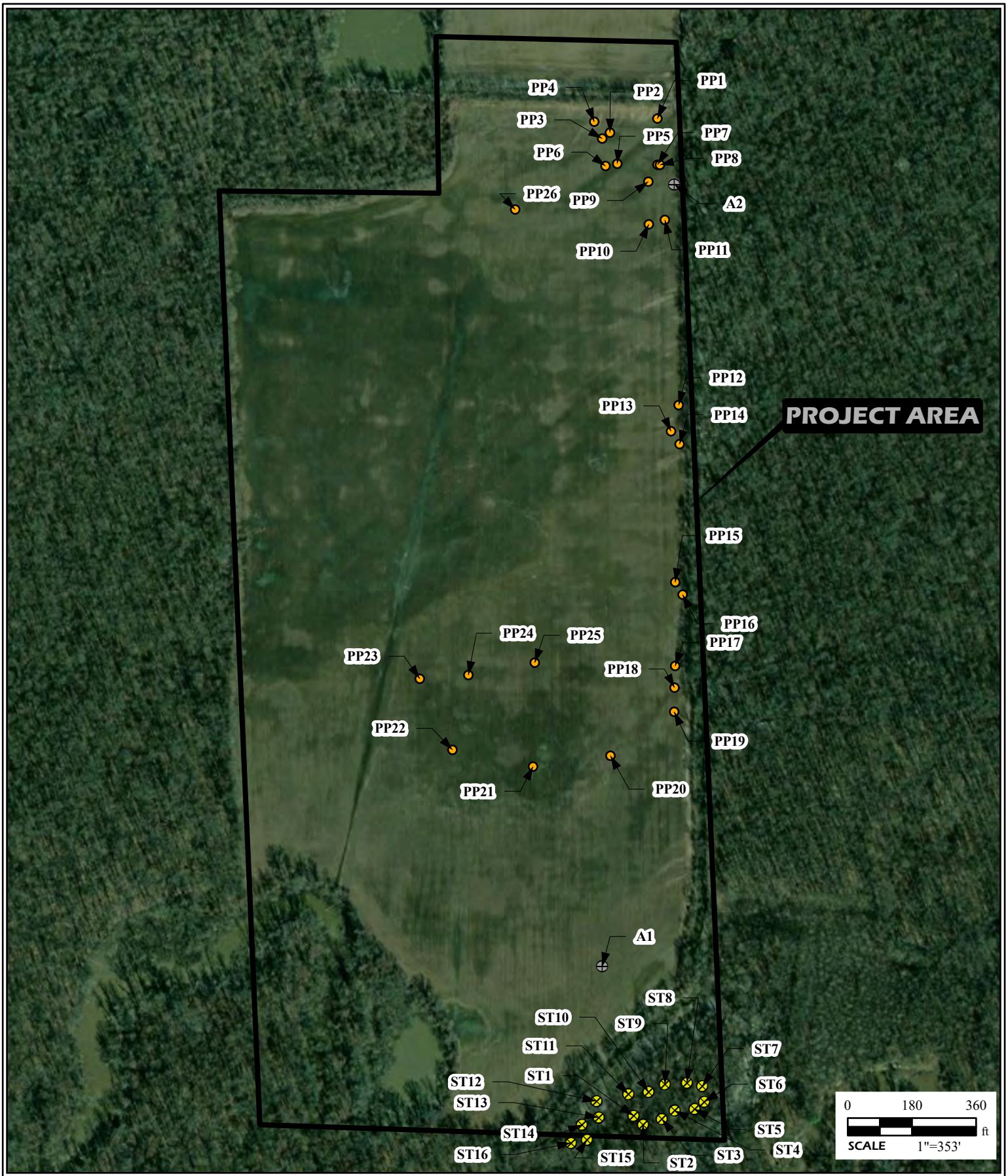
PROJECT NAME: BECKER MITIGATION BANK SITE GERMANTOWN, ILLINOIS				GENERAL NOTES/LEGEND USGS TOPOGRAPHIC MAP BREESE, ILLINOIS QUADRANGLE DATED 2015 10' CONTOURS STREET MAP HTTP://GOTO.ARCGISONLINE.COM/MAPS/WORLD_STREET_MAP
2015 TOPOGRAPHIC MAP				
DRAWN BY: KMC	DATE: 02/2022	JOB NUMBER: 2022-0108.40		
CHECKED BY: BMC				FIGURE: 12



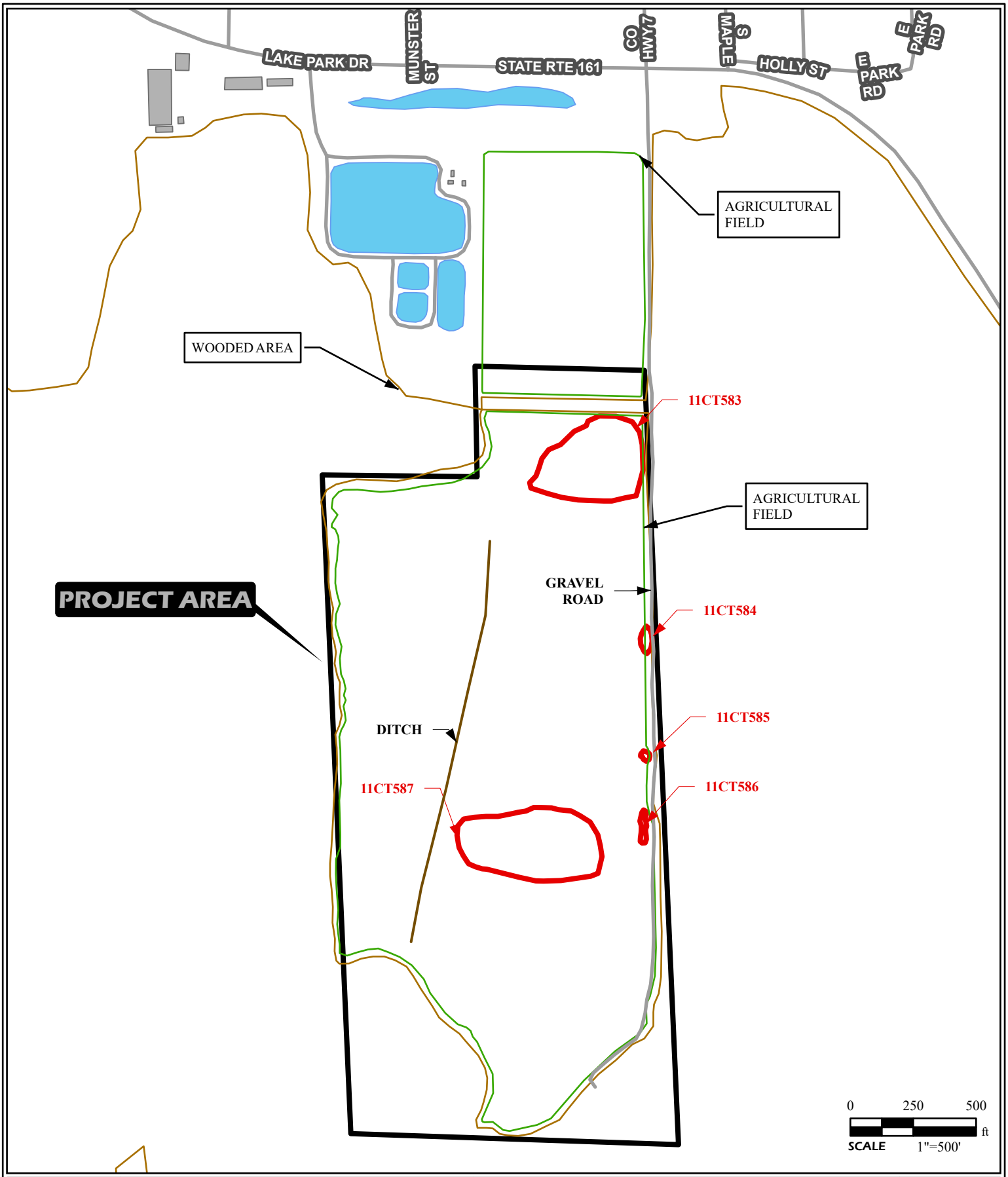
PROJECT NAME: BECKER MITIGATION BANK SITE GERMANTOWN, ILLINOIS				GENERAL NOTES/LEGEND USGS TOPOGRAPHIC MAP BREESE, ILLINOIS QUADRANGLE DATED 2021 10' CONTOURS STREET MAP HTTP://GOTO.ARCGISONLINE.COM/MAPS/WORLD_STREET_MAP
2021 TOPOGRAPHIC MAP				
DRAWN BY: KMC	DATE: 02/2022	JOB NUMBER: 2022-0108.40		
CHECKED BY: BMC				FIGURE: 13



SCI	PROJECT NAME: BECKER MITIGATION BANK SITE GERMANTOWN, ILLINOIS			GENERAL NOTES/LEGEND
	HARGIS MAP			HARGIS DATA ACCESSED 11/21/2021. AERIAL PHOTOGRAPH OBTAINED FROM ARCGIS ONLINE, WORLD IMAGERY. DIMENSIONS AND LOCATIONS ARE APPROXIMATE; ACTUAL MAY VARY. DRAWING SHALL NOT BE USED OUTSIDE THE CONTEXT OF THE REPORT FOR WHICH IT WAS GENERATED.
	DRAWN BY: KMC CHECKED BY: BMC	DATE: 02/2022	JOB NUMBER: 2022-0108.40	N W E S FIGURE 14



PROJECT NAME: BECKER MITIGATION BANK SITE GERMANTOWN, ILLINOIS				GENERAL NOTES/LEGEND ⊕ HAND AUGER ⊗ SHOVEL TEST ● PIECE PLOT AERIAL PHOTOGRAPH OBTAINED FROM ARCGIS ONLINE, WORLD IMAGERY. DIMENSIONS AND LOCATIONS ARE APPROXIMATE; ACTUAL MAY VARY. DRAWING SHALL NOT BE USED OUTSIDE THE CONTEXT OF THE REPORT FOR WHICH IT WAS GENERATED.
TESTING MAP				N W E S
DRAWN BY: KMC	DATE: 02/2022	JOB NUMBER: 2022-0108.40		FIGURE 15
CHECKED BY: BMC				



	PROJECT NAME BECKER MITIGATION BANK SITE GERMANTOWN, ILLINOIS			GENERAL NOTES/LEGEND	N W E S
	SITE SKETCH MAP			AERIAL PHOTOGRAPH OBTAINED FROM ARCGIS ONLINE, WORLD IMAGERY.	
	DRAWN BY KMC CHECKED BY BMC	DATE 02/2022	JOB NUMBER 2022-0108.40	DIMENSIONS AND LOCATIONS ARE APPROXIMATE; ACTUAL MAY VARY. DRAWING SHALL NOT BE USED OUTSIDE THE CONTEXT OF THE REPORT FOR WHICH IT WAS GENERATED.	FIGURE 16

Appendix B

Photo 1. Overview of project area under corn stubble. View to the west.

Photo 2. Overview of project area under corn stubble. View to the north.

Photo 3. View of drainage ditch. View to the north.

Photo 4. Overview of frozen water in project area. View to the northwest.

Photo 5. View of ground surface visibility of agricultural field.

Photo 6. View of improved drainage. View to the northwest.

Photo 7. Overview of wooded portion of project area. View to the west.

Photo 8. View of rubble and push pile within southwest portion of project area. View to the southeast.

Photo 9. View of shovel test 4.

Appendix C

Illinois Archaeological Site Recording Form

County Clinton **Site Name** **Revisit** N

Field No. Site 1 **7.5' Quadrangle** Breese **County Site No.** 583

Ownership Private **Meridian** 3 **Township** 1 N **Range** 4 W **Section** 9 **Recorded** 2022.02.14

WGS84 Latitude 38.544731 **Longitude** -89.535999 **Site Area (sq. m)** 10,393

Known Alternate Names

ENVIRONMENT

Topography Floodplain **Drainage Basin** Shoal

Nearest Water Supply Shoal Creek **Elevation (meters AMSL)** 127

Soil Association Wakeland-Birds-Belknap (s2295)

Description Site is located in a generally level floodplain, approximateley 470 meters south of Lake Park Dr. Site is currently an agricultural field under corn stubble.

SURVEY

Project Name Becker Mitigation Bank **Project Type** Phase I CRM

Ground Cover Stubble **Surface Visibility %** 75

Survey Methods Pedestrian Auger

Site Type Unknown **Standing Structure** N

SITE CONDITION

Extent of Damage Moderate **Main Cause of Damage** Agriculture

MATERIALS OBSERVED

Survey Sampling Strategy Total Collection

Number of Prehistoric Artifacts (count or estimate) 0 **Number of Historic Artifacts (count or estimate)** 24

N	**Prehistoric Diagnostic Artifacts**	N	**Historic Diagnostic Artifacts**
N	**Prehistoric Surface Features**	N	**Historic Surface Features**
N	**Prehistoric Buried Features** **Ave. Depth (cm)** 0	N	**Historic Buried Features** **Ave. Depth (cm)** 0

Description 24 total artifacts recovered: 10 WW/Ironstone sherds, 3 clr glass sherd, 3 brick frag, 4 mlk glass shards, 1 amber glass shard, 2 purple glass shards, 1 aqua glass shard.

TEMPORAL AFFILIATION

☐ Prehistoric Unknown	☐ Woodland	☐ Protohistoric	☐ Frontier Antebellum (1841-April 11, 1861)
☐ Paleoindian	☐ Early Woodland	☐ Historic Native American	☐ Civil War (April 12, 1861-April 9, 1865)
☐ Archaic	☐ Middle Woodland	☑ Historic (generic)	☐ Frontier Post-Civil War (April 10, 1865-1870)
☐ Early Archaic	☐ Late Woodland	☐ Colonial (1673-1780)	☐ Early Industrial (1871-1900)
☐ Middle Archaic	☐ Mississippian	☐ Pioneer (1781-1840)	☐ Urban Industrial (1901-1945)
☐ Late Archaic	☐ Upper Mississippian	☐ Frontier (generic; 1841-1870)	☐ Post-War (1946-present)

Description The whiteware is not strongly diagnostic. The brick frags are not diagnostic. None of the glass is strongly diagnostic.

Surveyor J. Province **Institution** SCI **Survey Date** 2022.01.25 **Curation Facility** ISM

Form By J. Province **Institution** SCI **Report Date** 2022.02.11 **NRHP Listing** N

SHPO Log No. **SHPO 1st Survey Doc No.**

Compliance Status **HSRPA** N

Illinois Archaeological Site Recording Form

County Clinton **Site Name** **Revisit** N

Field No. Site 2 **7.5' Quadrangle** Breese **County Site No.** 584

Ownership Private **Meridian** 3 **Township** 1 N **Range** 4 W **Section** 9 **Recorded** 2022.02.14

WGS84 Latitude 38.542793 **Longitude** -89.535292 **Site Area (sq. m)** 333

Known Alternate Names

ENVIRONMENT

Topography Floodplain **Drainage Basin** Shoal

Nearest Water Supply Shoal Creek **Elevation (meters AMSL)** 127

Soil Association Wakeland-Birds-Belknap (s2295)

Description Site is located in a generally level floodplain, approximatly 430 meters south of Lake Park Dr. Site is currently an agricultural field under corn stubble.

SURVEY

Project Name Becker Mitigation Bank **Project Type** Phase I CRM

Ground Cover Stubble **Surface Visibility %** 75

Survey Methods Pedestrian Auger

Site Type Unknown **Standing Structure** N

SITE CONDITION

Extent of Damage Moderate **Main Cause of Damage** Agriculture

MATERIALS OBSERVED

Survey Sampling Strategy Total Collection

Number of Prehistoric Artifacts (count or estimate) 0 **Number of Historic Artifacts (count or estimate)** 8

N	**Prehistoric Diagnostic Artifacts**	N	**Historic Diagnostic Artifacts**
N	**Prehistoric Surface Features**	N	**Historic Surface Features**
N	**Prehistoric Buried Features** **Ave. Depth (cm)** 0	N	**Historic Buried Features** **Ave. Depth (cm)** 0

Description 8 total artifacts recovered: 1 whiteware/ironstone sherd, 2 clear glass shards, 3 aqua glass shards, 2 brick frags.

TEMPORAL AFFILIATION

	Prehistoric Unknown		**Woodland**		**Protohistoric**		**Frontier Antebellum (1841-April 11, 1861)**
	Paleoindian		**Early Woodland**		**Historic Native American**		**Civil War (April 12, 1861-April 9, 1865)**
	Archaic		**Middle Woodland**	Y	**Historic (generic)**		**Frontier Post-Civil War (April 10, 1865-1870)**
	Early Archaic		**Late Woodland**		**Colonial (1673-1780)**		**Early Industrial (1871-1900)**
	Middle Archaic		**Mississippian**		**Pioneer (1781-1840)**		**Urban Industrial (1901-1945)**
	Late Archaic		**Upper Mississippian**		**Frontier (generic; 1841-1870)**		**Post-War (1946-present)**

Description The whiteware is not strongly diagnostic. The milkglass is not strongly diagnostic. The glass is not strongly diagnostic.

Surveyor J. Province **Institution** SCI **Survey Date** 2022.01.25 **Curation Facility** ISM

Form By J. Province **Institution** SCI **Report Date** 2022.02.11 **NRHP Listing** N

SHPO Log No. **SHPO 1st Survey Doc No.**

Compliance Status **HSRPA** N

Illinois Archaeological Site Recording Form

County Clinton **Site Name** **Revisit** N

Field No. Site 3 **7.5' Quadrangle** Breese **County Site No.** 585

Ownership Private **Meridian** 3 **Township** 1 N **Range** 4 W **Section** 9 **Recorded** 2022.02.14

WGS84 Latitude 38.541528 **Longitude** -89.535316 **Site Area (sq. m)** 93

Known Alternate Names

ENVIRONMENT

Topography Floodplain **Drainage Basin** Shoal

Nearest Water Supply Shoal Creek **Elevation (meters AMSL)** 127

Soil Association Wakeland-Birds-Belknap (s2295)

Description Site is located in a generally level floodplain, approximatly 840 meters south of Lake Park Dr. Site is currently an agricultural field under corn stubble.

SURVEY

Project Name Becker Mitigation Bank **Project Type** Phase I CRM

Ground Cover Stubble **Surface Visibility %** 75

Survey Methods Pedestrian Auger

Site Type Unknown **Standing Structure** N

SITE CONDITION

Extent of Damage Moderate **Main Cause of Damage** Agriculture

MATERIALS OBSERVED

Survey Sampling Strategy Total Collection

Number of Prehistoric Artifacts (count or estimate) 0 **Number of Historic Artifacts (count or estimate)** 2

N	**Prehistoric Diagnostic Artifacts**	N	**Historic Diagnostic Artifacts**
N	**Prehistoric Surface Features**	N	**Historic Surface Features**
N	**Prehistoric Buried Features** **Ave. Depth (cm)** 0	N	**Historic Buried Features** **Ave. Depth (cm)** 0

Description 2 total artifacts recovered: 1 whiteware/ironstone base sherd, 1 clear glass shard.

TEMPORAL AFFILIATION

Prehistoric Unknown	**Woodland**	**Protohistoric**	**Frontier Antebellum (1841-April 11, 1861)**
Paleoindian	**Early Woodland**	**Historic Native American**	**Civil War (April 12, 1861-April 9, 1865)**
Archaic	**Middle Woodland**	Y **Historic (generic)**	**Frontier Post-Civil War (April 10, 1865-1870)**
Early Archaic	**Late Woodland**	**Colonial (1673-1780)**	**Early Industrial (1871-1900)**
Middle Archaic	**Mississippian**	**Pioneer (1781-1840)**	**Urban Industrial (1901-1945)**
Late Archaic	**Upper Mississippian**	**Frontier (generic; 1841-1870)**	**Post-War (1946-present)**

Description The whiteware is not strongly diagnostic. The glass is not strongly diagnostic.

Surveyor J. Province **Institution** SCI **Survey Date** 2022.01.25 **Curation Facility** ISM

Form By J. Province **Institution** SCI **Report Date** 2022.02.11 **NRHP Listing** N

SHPO Log No. **SHPO 1st Survey Doc No.**

Compliance Status **HSRPA** N

Updated 2020.01.23

Illinois Archaeological Site Recording Form

County Clinton **Site Name** **Revisit** N

Field No. Site 4 **7.5' Quadrangle** Breese **County Site No.** 586

Ownership Private **Meridian** 3 **Township** 1 N **Range** 4 W **Section** 9 **Recorded** 2022.02.14

WGS84 Latitude 38.540748 **Longitude** -89.535352 **Site Area (sq. m)** 237

Known Alternate Names

ENVIRONMENT

Topography Floodplain **Drainage Basin** Shoal

Nearest Water Supply Shoal Creek **Elevation (meters AMSL)** 126

Soil Association Wakeland-Birds-Belknap (s2295)

Description Site is located in a generally level floodplain, approximatly 930 meters south of Lake Park Dr. Site is currently an agricultural field under corn stubble.

SURVEY

Project Name Becker Mitigation Bank **Project Type** Phase I CRM

Ground Cover Stubble **Surface Visibility %** 75

Survey Methods Pedestrian Auger

Site Type Unknown **Standing Structure** N

SITE CONDITION

Extent of Damage Moderate **Main Cause of Damage** Agriculture

MATERIALS OBSERVED

Survey Sampling Strategy Total Collection

Number of Prehistoric Artifacts (count or estimate) 0 **Number of Historic Artifacts (count or estimate)** 5

N	**Prehistoric Diagnostic Artifacts**	N	**Historic Diagnostic Artifacts**
N	**Prehistoric Surface Features**	N	**Historic Surface Features**
N	**Prehistoric Buried Features** **Ave. Depth (cm)** 0	N	**Historic Buried Features** **Ave. Depth (cm)** 0

Description 5 total artifacts recovered: 1 amber glass, 3 clear glass shards, 1 aqua glass shard.

TEMPORAL AFFILIATION

Prehistoric Unknown	**Woodland**	**Protohistoric**	**Frontier Antebellum (1841-April 11, 1861)**
Paleoindian	**Early Woodland**	**Historic Native American**	**Civil War (April 12, 1861-April 9, 1865)**
Archaic	**Middle Woodland**	Y **Historic (generic)**	**Frontier Post-Civil War (April 10, 1865-1870)**
Early Archaic	**Late Woodland**	**Colonial (1673-1780)**	**Early Industrial (1871-1900)**
Middle Archaic	**Mississippian**	**Pioneer (1781-1840)**	**Urban Industrial (1901-1945)**
Late Archaic	**Upper Mississippian**	**Frontier (generic; 1841-1870)**	**Post-War (1946-present)**

Description The glass artifacts are not strongly diagnostic.

Surveyor J. Province **Institution** SCI **Survey Date** 2022.01.25 **Curation Facility** ISM

Form By J. Province **Institution** SCI **Report Date** 2022.02.11 **NRHP Listing** N

SHPO Log No. **SHPO 1st Survey Doc No.**

Compliance Status **HSRPA** N

Illinois Archaeological Site Recording Form

County Clinton **Site Name** **Revisit** N

Field No. Site 5 **7.5' Quadrangle** Breese **County Site No.** 587

Ownership Private **Meridian** 3 **Township** 1 N **Range** 4 W **Section** 9 **Recorded** 2022.02.14

WGS84 Latitude 38.540566 **Longitude** -89.536894 **Site Area (sq. m)** 12,425

Known Alternate Names

ENVIRONMENT

Topography Floodplain **Drainage Basin** Shoal

Nearest Water Supply Shoal Creek **Elevation (meters AMSL)** 127

Soil Association Wakeland-Birds-Belknap (s2295)

Description Site is located in a generally level floodplain, approximatly 1 kilometer south of Lake Park Dr. Site is currently an agricultural field under corn stubble.

SURVEY

Project Name Becker Mitigation Bank **Project Type** Phase I CRM

Ground Cover Stubble **Surface Visibility %** 75

Survey Methods Pedestrian Auger

Site Type Unknown **Standing Structure** N

SITE CONDITION

Extent of Damage Moderate **Main Cause of Damage** Agriculture

MATERIALS OBSERVED

Survey Sampling Strategy Total Collection

Number of Prehistoric Artifacts (count or estimate) 0 **Number of Historic Artifacts (count or estimate)** 7

N	**Prehistoric Diagnostic Artifacts**	N	**Historic Diagnostic Artifacts**
N	**Prehistoric Surface Features**	N	**Historic Surface Features**
N	**Prehistoric Buried Features** **Ave. Depth (cm)** 0	N	**Historic Buried Features** **Ave. Depth (cm)** 0

Description 7 total artifacts recovered: 1 aqua glass shard, 2 clear glass shards, 2 whiteware/ironstone, 2 brick frags.

TEMPORAL AFFILIATION

	Prehistoric Unknown		**Woodland**		**Protohistoric**		**Frontier Antebellum (1841-April 11, 1861)**
	Paleoindian		**Early Woodland**		**Historic Native American**		**Civil War (April 12, 1861-April 9, 1865)**
	Archaic		**Middle Woodland**	Y	**Historic (generic)**		**Frontier Post-Civil War (April 10, 1865-1870)**
	Early Archaic		**Late Woodland**		**Colonial (1673-1780)**		**Early Industrial (1871-1900)**
	Middle Archaic		**Mississippian**		**Pioneer (1781-1840)**		**Urban Industrial (1901-1945)**
	Late Archaic		**Upper Mississippian**		**Frontier (generic; 1841-1870)**		**Post-War (1946-present)**

Description The whiteware is not strongly diagnostic. The glass is not strongly diagnostic. The brick frags are not diagnostic.

Surveyor J. Province **Institution** SCI **Survey Date** 2022.01.25 **Curation Facility** ISM

Form By J. Province **Institution** SCI **Report Date** 2022.02.11 **NRHP Listing** N

SHPO Log No. **SHPO 1st Survey Doc No.**

Compliance Status **HSRPA** N

Appendix 9

Environmental Phase 1 Site Assessment

Progea | Global Vision Local Insight

PHASE I ENVIRONMENTAL SITE ASSESSMENT

Shepgarten Farm
Township 1 North, Range 4 West, Section 9
Clinton County, Illinois 62245

PREPARED FOR:
WFI Holdings-B LLC
248 Southwoods Centre
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April 26, 2022

PROJECT SUMMARY

Progea, Inc. (Progea) was retained to conduct a Phase I Environmental Site Assessment (ESA) on the agricultural cropland located within Township 1 North, Range 4 West, Section 9 in Clinton County, Illinois 62245, and commonly known as Shepgarten Farm (the "Site"). This Phase I ESA was performed in accordance with ASTM E 1527-13, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. Any exceptions to, additions to, or deletions from these guidelines are described in the body of this report. A summary of recognized environmental conditions (RECs), controlled recognized environmental conditions (CRECs), and historical recognized environmental conditions (HRECs) is provided below. In addition, Progea has included a listing of other environmental conditions (OECs), which include non-scope ASTM conditions and/or environmental best management practices.

This assessment has revealed no evidence of RECs, HRECs, or CRECs, as defined by ASTM, in connection with the subject property.

Summary of Findings						
Section No.	Section Name	REC	CREC	HREC	OEC	Recommended Action
3.1	Historical Summary					
3.7	Additional Environmental Records Sources					
4.0	Regulatory Database Review					
5.3	Hazardous Material & Waste					
5.4.1, 5.4.2	Storage Tanks					
5.6	Polychlorinated Biphenyls (PCBs)					
5.7	Surface Water Conditions					
5.8, 5.9, 5.10, 5.11, 5.14, 5.15	Evidence of Spills or Releases					
5.16	Wells					
5.21	Asbestos- Containing Materials					
5.22	Lead-Based Paint					
5.23	Mold & Microbial Issues					
5.24	Lead in Drinking Water					
5.25	Wetlands					
5.26	Threatened & Endangered Species					
5.28	Radon					

Section No.	Section Name	REC	CREC	HREC	OEC	Recommended Action
5.29	Air Emissions					
5.31	Vapor Encroachment Condition					
5.12, 5.17, 5.19, 5.20, 5.27, 5.30, 5.32, 5.33	Other					

EXECUTIVE SUMMARY

Progea, Inc. (Progea) was retained to conduct a Phase I Environmental Site Assessment (ESA) on the agricultural cropland located within Township 1 North, Range 4 West, Section 9 in Clinton County, Illinois 62245, and commonly known as Shepgarten Farm (the "Site"). The objective of the assessment was to provide an independent, professional opinion regarding recognized environmental conditions (RECs), as defined by ASTM, associated with the Site. This Phase I ESA was requested for the purpose of qualifying for the landowner liability protections to CERCLA liability.

Subject Property

The Site currently consists of three contiguous parcels of agricultural cropland encompassing approximately 85.70 acres. The Site is currently developed for dryland crop cultivation. Wooded land is located on the southern portion of the Site. No permanent or temporary structures were located on-Site at the time of the inspection, In addition, no domestic water wells, irrigation wells, or oil and gas wells are located on-Site. No large scales areas of dumping or waste accumulation were observed on-Site. No dry cleaners, gas stations, or light industrial facilities are currently located on-Site. The current operations at the Site are not considered a REC.

Historical Review

Review of aerial photographs (1938 - 2017) and historic topographic maps (1906 - 2018) indicate that the Site was vacant land covered in trees and native grasses as early as 1906. By the early 1980s, the wooded areas were cleared, with the exception of the southeastern and southwestern corners, and the Site appeared developed for row crop farming or other agricultural uses. Additionally, two small ponds have been located on the southwester corner of the Site since at least 1906. The Site has appeared in its present-day configuration since the early 1980s. The historic uses of the Site do not represent a REC.

Regulatory Data Review

The Site was not identified on any of the regulatory databases searched and no evidence of current or former dry cleaners, gas stations, or manufacturing facilities located on the Site were indicated in the database review.

Hazardous Materials, Petroleum Products, or Waste

The Site was assessed for signs of storage, use, or disposal of hazardous materials. The assessment consisted of noting evidence (e.g., drums, unusual vegetation patterns, staining) indicating that hazardous materials are currently or were previously located on the Site. No hazardous wastes are currently generated on-Site and no bulk chemicals were observed on-Site. None of the records reviewed indicated the historical use of large quantities of hazardous materials at the Site.

Storage Tanks

The subject property was inspected for evidence of aboveground storage tanks (ASTs). No evidence of ASTs was observed at the Site during the assessment. In addition, no features were observed at the Site that would have required ASTs to be present, and there are no ASTs registered with the Illinois Environmental Protection Agency (IEPA), Bureau of Land (BOL), or the Illinois Office of the State Fire Marshal (OSFM).

The subject property was inspected for evidence of underground storage tanks (USTs) (e.g., vent piping, dispensing equipment, and pavement variations). No evidence of USTs was observed at the Site during the assessment. In addition, no features were observed at the Site that would have required USTs to be present, and there are no USTs registered with the IEPA, BOL, or the Illinois OSFM.

Surface Water Conditions

Two small ponds are located on the southwestern corner of the Site. The ponds related to the on-Site wetlands further described in Section 5.25. The presence of the small ponds is not considered an environmental concern.

Evidence of Spills or Releases

No visible evidence of spills or releases was observed at the time of the Site inspection.

Wells

According to EDR and the Illinois State Geological Survey (ISGS), a water well is located on Site; however, the well was not observed on-Site at the time of the

inspection. Additional review of historical aerial photographs did not identify the water well at the location identified in the databases.

Hazardous Building Materials

The Site does not contain any habitable structures; therefore, the potential presence of hazardous building materials is not considered a concern.

Vapor Encroachment Condition

As part of Progea's evaluation of the potential for chemicals of concern (COCs) to be present at the Site or migrate onto the subject property, Progea conducted a limited Vapor Encroachment Screening (VES). The goal of the VES is to identify potential vapor impacts in the subsurface or within Site buildings caused by the release of COCs into the soil or groundwater at the Site or in near proximity to the Site. As such, Progea reviewed all local, state, and federal database information as well as historical maps and aerial photographs. During the Site visit, Progea did not observe potential contaminant sources that would contribute or cause COCs to be present at the Site. Additionally, Progea did not observe any surrounding facilities that would have potentially caused COCs to migrate onto the subject property. Based on Progea's professional opinion, the potential for Vapor Encroachment Condition (VEC) to be present at the Site is minimal and is not considered an environmental concern.

Non-Phase I ESA Considerations

The Site does not contain any habitable structures; therefore, the potential presence of suspect microbial growth is not considered a concern.

Testing for lead in drinking water was beyond the scope of this assessment as there were no habitable structures present on-Site at the time of the Site inspection.

The Site was inspected for the presence of sensitive ecological areas by noting environmental indicators (e.g., wetlands vegetation, floodplains) located on or immediately adjoining the Site. Evidence of Freshwater Forested/Shrub wetland (PFO1A) was depicted on the US Fish and Wildlife Service, Wetland Mapper in the undeveloped, wooded areas located on the southeastern and southwestern portions of the Site. Additionally, evidence of Riverine wetland (R4SBC) was depicted along the western boundary and transecting the northern most

portion of the Site from east to west. Based on farming exemptions contained in Section 404 of the Clean Water Act, the farming activities conducted on-Site appear to be exempt from wetland permitting requirements as long as the on-Site discharges remain part of normal farming, ranching, and forestry activities. Wetland maps are included in Appendix I.

A review of applicable records for information regarding threatened/endangered species was made on the USFWS Online Database System website. No critical environmental habitats for threatened or endangered species were identified on-Site or on adjoining properties. In addition, no critical habitat features were identified during reconnaissance of the tract. The Site is agricultural cropland partially surrounded by roadways and similarly developed agricultural cropland. The presence of these species in Clinton County is not expected to interfere with the current use of the Site and is not considered an environmental concern.

Clinton County is located in EPA radon Zone 3. EPA radon Zone 3 has predicted average screening concentrations of less than 2 pCi/L. The EPA action level is 4.0 pCi/L. Radon is not expected to represent an environmental concern to current/future occupants or workers at the Site.

Progea did not observe sources of regulated air emissions at the Site at the time of the site reconnaissance.

The Federal Emergency Management Agency (FEMA) flood Insurance Rate Map (FIRM) for Clinton County, number 17027C0170D, dated August 2, 2007, was reviewed for the Site. The Site is located within Zone AE. Zone AE includes special flood hazard areas (SFHA). As there are no structures located on-Site, the flood zone designation is not considered an environmental concern.

Other

No other significant environmental issues were observed during the Site inspection.

Findings, Opinions & Conclusions

Based on the findings of this assessment, there are no obvious indicators that point to the presence or likely presence of contamination at the Site. **This**

assessment has revealed no evidence of RECs, HRECs, or CRECs, as defined by ASTM, in connection with the subject property.

Appendix 10

St. Louis District Mitigation Tree Planting Guidance

St. Louis District Mitigation Tree Planting Guidance

Items the applicant or agent should be provided before the submittal of a Tree Planting Plan:

- All applicants should be provided the NRCS "TREE/SHRUB ESTABLISHMENT"(Missouri-MO NRCS 612 and Illinois-IL NRCS 612) guidance (2011) when proposing tree planting in their mitigation plan.

- Also see "RIPARIAN FOREST BUFFER" guidance (MO NRCS 391 and IL NRCS 391)

- Also see "TREE/SHRUB SITE PREPARATION" guidance, (MO 490 Tree_Shrub Site Preparation and IL 490 Tree_Shrub Site Preparation)

Bare Root Seedling Plantings:

1. The preferred minimum seedling spacing should be 10-ft by 10-ft. This would allow for 436 trees per acre for the initial planting.

2. Per IL NRCS Guidance a 70% survival rate should be achieved at the end of the monitoring period (No less than 5-years of monitoring). This equates to 305 trees per acre at the end of the monitoring period.

3. If an applicant proposes greater tree spacing or fewer trees per acre initially, than the survival rate may be higher or lower. In this case the final number of trees per acre still MUST BE 300 TREES PER ACRE, regardless.

4. Only 20% of the surviving trees after the monitoring period may be from natural recruitment (Volunteer Trees).

5. Volunteer trees accepted as replacement for planted trees must be of a size commensurate with (or larger than) the surviving planted stock.

6. All sites should be planted to hard mast tree species. If soft mast trees species are approved within a mitigation plan, no more than 20% of the total planted tree species should be soft mast. Project managers may determine if soft mast tree species should be planted within a particular mitigation project on a case by case basis. For example, if a site shows heavy growth of volunteer soft mast species prior to construction of a mitigation project, than the percentage may be reduced or soft mast species may not even be approved for planting at the site.

*In summary, the PREFFERED Spacing is 10 X 10 with a PREFFERED survival rate minimum of 70% after the monitoring period. However, if the spacing and survival rate preferences are not used for a particular site, there SHALL BE a minimum of 300 surviving trees per acre (may include the 20% of trees from natural recruitment) at the end of the monitoring period.

Containerized Tree Plantings:

1. The preferred minimum tree spacing should be 20-ft by 20-ft. This would allow for 109 trees per acre for the initial planting.

2. Per IL NRCS Guidance a 70% survival rate is suggested. However, for containerized trees the District would like each site to achieve an 80% survival rate at the end of the monitoring period (No less than 5-years of monitoring). This equates to 87 trees per acre at the end of the monitoring period.

3. The minimum number of surviving trees per acre must be 87 at the end of the monitoring period regardless of spacing and planting rate densities.

4. Only 20% of the surviving trees after the monitoring period may be from natural recruitment (Volunteer Trees).

5. Volunteer trees accepted as replacement for the planted trees must be of a size commensurate with (or larger than) the surviving planted stock.

6. All sites should be planted to hard mast tree species. If soft mast trees species are approved within a mitigation plan, no more than 20% of the total planted tree species should be soft mast. Project managers may determine if soft mast tree species should be planted within a particular mitigation project on a case by case basis. For example, if a site shows heavy growth of volunteer soft mast species prior to construction of a mitigation project, than the percentage may be reduced or soft mast species may not even be approved for planting at the site.

*In summary, the PREFFERED Spacing is 20 X 20 with a PREFFERED survival rate minimum of 80% after the monitoring period. However, if the spacing and survival rate preferences are not used for a particular site, there SHALL BE a minimum of 87 surviving trees per acre (may include the 20% of trees from natural recruitment) at the end of the monitoring period.

Direct Seeding:

If an applicant proposes direct seeding within their mitigation plan, the applicant shall follow the NRCS "TREE/SHRUB ESTABLISHMENT" guidance (Missouri-MO NRCS 612 and Illinois-IL NRCS 612). Reference the “Direct Seeding” section.

Modifications to tree a planting plan based on site performance:

This guidance should be utilized when reviewing and approving a proposed mitigation plan. It provides the minimum requirements that should be authorized when reviewing a tree planting plan within a mitigation proposal. The District has also determined that because no two sites are the same and unforeseen circumstances can arise, then the tree planting rates, spacing, species and survival rates can be modified only after at least two years of monitoring. This will allow the applicant to modify the tree planting plan based on on-site observation and change in conditions

of a site. This allows the District, the agency performing mitigation site compliance, to modify a plan based on the variety of conditions each individual site may go through. However, by providing this guidance initially, it will allow the District and the applicant to stay consistent when reviewing and putting mitigation plans out on public notice for the resources agencies and the public to comment on.