



Indiana Department of Environmental Management
Office of Water Quality
Wetlands Section

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October 25, 2024

IDEM ID Number:
2024-845-45-MTM-IWIP

Closing Date:
November 15, 2024

Corps of Engineers ID Number:

PUBLIC NOTICE

To all interested parties: This letter shall serve as a formal notice of the receipt of an application for a **State Isolated Wetland Individual Permit** by the Indiana Department of Environmental Management (IDEM). The purpose of the notice is to inform the public of active applications submitted for permits required under IC 13-18-22 and to solicit comments and information on any impacts to water quality related to the proposed project. IDEM will evaluate whether the project complies with Indiana's water quality standards as set forth at 327 IAC 2 and all applicable provisions of IC 13-18-22.

1. Applicant: Mark Lackey
404 Washington Street
Valparaiso, IN 46383

2. Agent: Soil Solutions, Inc.
360 Indiana Avenue, Suite B
Valparaiso, IN 46383

3. Project location: Lake County

Latitude: 41.509612, Longitude: -87.291078

The north side of East 61st Avenue approximately 0.30 miles east of the intersection of South Colorado Street and East 61st Street, Hobart.

4. Affected waterbody: Isolated Wetlands

5. Project Description: The applicant proposes to impact 0.99 acre of isolated to facilitate residential development. The applicant proposes to mitigate for impacts to aquatic resources by deed restrict or place an environmental notice on 7.05 acres of wetland and 5.06 acres of surround upland forest. The deed restriction / environmental notice would prevent disturbance of the soils, vegetation, and hydrology of the property. According to the consultant, the mitigation property is potential habitat for two threatened and endangered species: Blandings Turtle (*Emydoidea blandingii*) and smooth veiny pea (*Lathyrus venosus*).

Comment period: Any person or entity who wishes to submit comments or information relevant to the aforementioned project may do so by the closing date noted above. Only comments or information related to water quality or potential impacts of the project on water quality can be considered by IDEM in the state isolated wetland permit review process.

Public Hearing: Any person may submit a written request that a public hearing be held to consider issues related to water quality in connection with the project detailed in this notice. The request for a hearing should be submitted within the comment period to be considered timely. The request should also state the reason for the public hearing as specifically as possible to assist IDEM in determining whether a public hearing is warranted.

Questions?

Additional information may be obtained from Marty Maupin, Project Manager, at mmaupin@idem.in.gov or 317-233-2471. Please address all correspondence to the project manager and reference the IDEM project identification number listed on this notice. Indicate if you wish to receive a copy of IDEM's final decision.

Written comments and inquiries may be forwarded to -

Indiana Department of Environmental Management
100 North Senate Avenue
MC65-42 WQS IGCN 1255
Indianapolis, Indiana 46204-2251
FAX: 317/232-8406



APPLICATION FOR AUTHORIZATION TO DISCHARGE DREDGED OR FILL MATERIAL TO ISOLATED WETLANDS AND/OR WATERS OF THE STATE

State Form 51821 (R2 / 11-15)

Indiana Department of Environmental Management

- INSTRUCTIONS:** 1. Read the instruction sheet before filling out this form.
2. You must complete all applicable sections of this form

1. Applicant Information		2. Agent Information	
Name of Applicant Mark Lackey		Name of Agent Soil Solutions Inc	
Mailing address (Street/ PO Box/ Rural Route, City, State, ZIP Code) 404 Washington St Valparaiso IN 46383		Mailing address (Street/ PO Box/ Rural Route, City, State, ZIP Code) 360 Indiana Ave, Suite B Valparaiso IN 46383	
Daytime Telephone Number 219-916-3712		Daytime Telephone Number 219-465-5885	
Fax Number		Fax Number	
E-mail address (optional) mlackeyg@gmail.com		E-mail address (optional) jmcquestion@soilsolutions-inc.com	
Contact person (required) Mark Lackey		Contact person John McQuestion	
3. Project / Tract Location			
County Lake		Nearest city or town Hobart	
U.S.G.S. Quadrangle map name (Topographic map) Gary		Project street address (if applicable) 4010 E 61st Avenue, Hobart IN 46342	
Quarter Southwest	Section 1	Township 35 North	Range 8 West
Type of aquatic resource(s) to be impacted (Attach Worksheet One.) Emergent/ Scrub Shrub Wetland		Project name or title (if applicable) Hickory Hollow	
Other location descriptions or driving directions Traveling north on Interstate-65, take the exist for 61st Avenue East. Travel east on 61st Avenue for approximately 1.4 miles. The project area is on the north side of 61st avenue, approximately 0.25 miles east of Colorado Street.			
4. Project Purpose and Description (Use additional sheet(s) if required.)			
Has any construction been started? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Anticipated start date (month, day, year) Fall, 2024	
If yes, how much work is completed? N/A			
Purpose of project and overview of activities Mark Lackey owns a 56 acre parcel on 61st Avenue in Hobart, Lake County, Indiana. He would like to use the property for a 67 lot residential development. The site was delineated in 2022, and two wetlands were identified on site: Wetland 2, an isolated, emergent/ scrub-shrub wetland, and Wetland 1, a jurisdictional scrub-shrub wetland surrounding a tributary of Deep River. Mr. Lackey would like to impact the 0.99 acre isolated wetland in order to construct 3 lots as part of his overall site development. Mr. Lackey proposes to mitigate for the impacts at a 1.5:1 ratio, requiring 1.49 acres of mitigation. In order to mitigate for the impacts, Mr. Lackey proposes to deed restrict 7.05 acres of the higher quality wetland/ stream complex on the east side of the property, along with 5.65 acres of the surrounding upland forest, for a total of 12.7 acres of deed restricted habitat on site. Construction of the development is proposed to begin in Fall of 2024 and will take approximately 1 year to complete. See attached for additional information.			

5. Avoidance, Minimization, and Mitigation Information: Applicants must answer all of the following questions

(Use additional sheet(s) if necessary - provide a detailed response to all applicable questions.)

A. For projects with Class II isolated wetlands –

1. Is there a reasonable alternative to the proposed activity?

There is no reasonable alternative to the proposed activity. The residential development proposes 67 lots of various sizes. Wetland 2, the wetland to be impacted, spans three of the largest lots within the development. Eliminating those lots would make the development financially in-viable. Additionally, due to the topography on site, and in order to preserve the higher quality wetland and surrounding upland forest on the east side of the site, the lot lay out could not be altered to avoid impacts to Wetland 2.

2. Is the proposed activity reasonably necessary or appropriate?

Wetland impacts were minimized to only the lower quality wetland on site in order to protect the higher quality wetland complex and surrounding upland. Preservation of the stream, surrounding wetlands, and surrounding upland forest was of higher importance as it provides a buffer to the wetlands, habitat corridor along a tributary of Deep River for wildlife, and is part of a larger continuous wetland and habitat system. In order to preserve that habitat complex, and accommodate all the lots in the proposed development, impacts to the lower quality wetland were unavoidable and determined to be appropriate for this project.

B. For projects with Class III wetlands, adjacent wetlands, and/or streams, rivers, lakes or other water bodies –

1. Is there a practicable alternative to the proposed activity?

N/A

2. Have practicable and appropriate steps to minimize impacts to water resources been taken?

N/A

Describe all compensatory mitigation required for unavoidable impacts.

Mr. Lackey proposes to mitigate for the 0.99 acres of impact at a 1.5:1 ratio. We believe a 1.5:1 ratio to be sufficient due to the disturbed and degraded nature of the wetland being impacted. Wetland 2 was dominated by cattail and reed canary grass, invasive/ noxious species and was surrounded by agricultural field on the north, east and south, and residential development on the west.

Given a 1.5:1 mitigation ratio, the project will require 1.49 acres of mitigation.

In order to mitigate for the impacts, Mr. Lackey proposed to deed restrict 7.05 acres of Wetland 1 at a 15% ratio for 1.06 acres of credit and 5.65 acres of the surrounding upland forest at a 10% ratio for 0.57 acres of credit. Due to the high quality of the wetland and surrounding upland, and it's potential to be habitat for 2 T&E species - the Blandings Turtle (*Emydoidea blandingii*) and smooth veiny pea (*Lathyrus venosus*) - we believe deed restriction of the 12.7 acres, for 1.63 acres of credit, to be sufficient mitigation as it exceeds the 1.48 acres of proposed mitigation for the 0.99 acres impact.

6. Drawing / Plan Requirements (Applicants must provide the following.)

- Top/aerial/overhead views of the project site showing existing conditions and proposed construction.
- Cross sectional view of areas of fill or alterations to streams and other waters.
- North arrow, scale, property boundaries.
- Include wetland delineation boundary (*if applicable*). Label all wetlands (jurisdictional, isolated and exempt) as I-1, I-2, I-3, etc. and the mitigation areas as M-1, M-2, etc.
- Location of all surface waters, including wetlands, erosion control measures, existing and proposed structures, fill and excavation locations, disposal area for excavated material, including quantities, and wetland mitigation site (*if applicable*).
- Approximate water depths and bottom configurations (*if applicable*).

7. Supplemental Application Materials (Applicants must provide the following.)

- A wetland delineation of all wetlands on the project site (*for projects with wetland impacts*).
- At least three photographs of the project site. Indicate the photo locations on the project plans.
- If isolated wetlands are present, a letter from the Corps of Engineers verifying this statement.
- Wetland mitigation plan and monitoring report.
- Classification of all isolated wetlands on the tract (*if isolated wetlands are present onsite*).
- Copies of all applicable local permits and/or resolutions pertaining to the project or tract.
- Tract history (*see instructions*).

8. Additional information that MAY be required (IDEM will notify you if needed.)

- Erosion control and/or storm water management plans.
- Sediment analysis.
- Species surveys for fish, mussels, plants and threatened or endangered species.
- Stream habitat assessment.
- Any other information IDEM deems necessary to review the proposed project.

Worksheet – Summary of Onsite Water Resources and Project Impacts

A. Jurisdictional Wetlands (Existing Conditions)			Jurisdictional Wetlands (Proposed Impacts)		
Wetland Type	Size of wetland (acreage)	To be Impacted?	Acreage	Fill quantity (cys)	ATF
<input type="checkbox"/> EM <input type="checkbox"/> SS <input type="checkbox"/> FO		<input type="checkbox"/> Yes <input type="checkbox"/> No			
<input type="checkbox"/> EM <input type="checkbox"/> SS <input type="checkbox"/> FO		<input type="checkbox"/> Yes <input type="checkbox"/> No			
<input type="checkbox"/> EM <input type="checkbox"/> SS <input type="checkbox"/> FO		<input type="checkbox"/> Yes <input type="checkbox"/> No			
<input type="checkbox"/> EM <input type="checkbox"/> SS <input type="checkbox"/> FO		<input type="checkbox"/> Yes <input type="checkbox"/> No			
<input type="checkbox"/> EM <input type="checkbox"/> SS <input type="checkbox"/> FO		<input type="checkbox"/> Yes <input type="checkbox"/> No			
<input type="checkbox"/> EM <input type="checkbox"/> SS <input type="checkbox"/> FO		<input type="checkbox"/> Yes <input type="checkbox"/> No			
<input type="checkbox"/> EM <input type="checkbox"/> SS <input type="checkbox"/> FO		<input type="checkbox"/> Yes <input type="checkbox"/> No			

Describe the type and composition of fill material to be placed in wetlands on the project site:

Describe the type and composition and quantity (*cubic yards*) of material proposed to be dredged or excavated from wetlands on the project site:

B. Isolated Wetlands (Existing Conditions)			Isolated Wetlands (Proposed Impacts)			
Wetland Class	Type	Size of wetland (acreage)	To be Impacted?	Acreage	Fill quantity (cys)	ATF
<input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3	<input checked="" type="checkbox"/> NF <input type="checkbox"/> F	0.99	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	0.99	4791	
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> NF <input type="checkbox"/> F		<input type="checkbox"/> Yes <input type="checkbox"/> No			
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> NF <input type="checkbox"/> F		<input type="checkbox"/> Yes <input type="checkbox"/> No			
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> NF <input type="checkbox"/> F		<input type="checkbox"/> Yes <input type="checkbox"/> No			
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> NF <input type="checkbox"/> F		<input type="checkbox"/> Yes <input type="checkbox"/> No			
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> NF <input type="checkbox"/> F		<input type="checkbox"/> Yes <input type="checkbox"/> No			

Describe the type and composition of fill material to be placed in isolated wetlands on the project site:
Approximately 4,791 cubic yards of clean earthen fill will be placed in the isolated wetland on site.

Describe the type and composition and quantity (*cubic yards*) of material proposed to be dredged or excavated from isolated wetlands on the project site:
N/A

C. Bridges and Stream Crossings - provide the following information for EACH structure (Use additional sheet(s) if required.)

Stream name
N/A

Description of impacts

Length of upstream bank impacts:
Left side: _____ Right side: _____

Length of downstream bank impacts:
Left side: _____ Right side: _____

Bank protection fill placed below the Ordinary High Water Mark: _____ Volume per running foot: _____

Bank protection fill placed below the Ordinary High Water Mark: _____ Area of coverage: _____

D. Bank Stabilization – provide the following information for EACH segment (Use additional sheet(s) if required.)

Water body name

N/A

Description of impacts

Length of shoreline or bank protection

Volume (*cubic yards*) of bank protection fill placed below the Ordinary High Water Mark per running footArea (*square feet*) of bank protection fill placed below the Ordinary High Water Mark**E. Stream Relocation**

Water body name

N/A

Description of impacts

Length of existing channel to be relocated (*linear feet*)Length of new channel to be constructed (*linear feet*)

Existing channel to be backfilled?

 Yes No

Type of relocation

 Piping Open Channel Other: _____Type of fill and volume (*cubic yards*)**F. Open Water Fill**

Water body name

N/A

Description of impacts

Area of water body to be filled (*acres*)Type of fill and volume (*cubic yards*)

Notes and Instructions for Authorization to Discharge Dredged or Fill Material to a State Regulated Wetland and/or Waters of the State Permit Application Form and Worksheet

Note to applicants:

This form is to be used by all persons who intend to discharge dredged or fill materials into wetlands, isolated wetlands, or any other water body regulated under state and federal law. Specifically, this form is to be used for the following:

1. Application for Section 401 Water Quality Certification for any project not covered by the Indiana Regional General Permit
2. Application for a State Regulated Wetland Permit authorized under HEA 1798 and HEA 1277, excluding any activities authorized under any of the State Regulated Wetland General Permits

Consult the Office of Water Quality Web site for information on the types of authorizations and requirements for projects regulated under these laws.

<http://www.in.gov/idem/wetlands/index.htm>

Do not submit this form until you are familiar with the various authorizations and proper forms for obtaining these authorizations. An application submitted on the incorrect form may result in delays in processing.

Applicants should also contact the Indiana Department of Natural Resources (DNR) regarding potential permit requirements associated with construction in a floodway or a public freshwater lake. You can reach the DNR Division of Water at (317) 232-4160 or toll free at (877) WATER-55.

Instructions for Completing the Application and Worksheet

Address all applications or questions to:

Indiana Department of Environmental Management
Office of Water Quality
Section 401 Water Quality Certification/State Isolated Wetlands Program
100 North Senate Ave.
Indianapolis, Indiana 46204

Telephone: (800) 451-6027 or (317) 233-8488

Print clearly or type.

Attach additional 8.5" x 11" sheets as necessary.

APPLICATION

Note: Some wetland activities may impact both U.S. navigable waters and state regulated isolated wetlands. In those situations, the project will require a Section 401 Water Quality Certification and Section 404 U.S. Corps of Engineers permit AND approval under the new State Isolated Wetland Regulatory Program. When IDEM receives an application that involves an activity that may impact both intrastate navigable waters and a state regulated wetland, current state law requires that we evaluate each activity using different authorities. IDEM will, at the request of an applicant, evaluate a project with multi-jurisdictional wetlands under the Section 401 certification framework and will provide one authorization for the project, applying the state regulated isolated wetlands law and federal Clean Water Act Section 401 authorities. If an applicant prefers that all IDEM approvals occur within one streamlined review process, a separate letter specifically requesting a combined review of the entire project should be submitted concurrently with the application.

Block 1 - Applicant Information

Provide your name, address, and telephone number. You MUST provide a contact name. For complex projects or projects with multiple contractors and responsible parties, designation of a single point of contact will speed up the review process and enable more timely responses to requests for information.

Block 2 - Agent Information

If you choose to be represented by an agent, provide the agent's address and telephone information. You are not required to have an agent.

Block 3 - Project Location

Provide specific information relating to the location of your proposed project. Provide accurate maps depicting the project location. Try to keep detail on maps to a minimum, focusing instead on the location of structures and associated water bodies. Consult the USGS Quadrangle maps for information on the quarter, section, township and range of the project. IDEM may require that you submit full size plans to supplement the 8 1/2" by 11" map sheets if the project is large or complex.

Block 4 - Project Purpose and Description

Provide the proposed or actual start date and the anticipated completion date. If you have started your project before obtaining authorization, you may be in violation of federal and/or state law. Give a narrative description of the proposed project. You should include any supplemental environmental reports, assessments, or other documents that explain or justify the proposed configuration of the project. Describe the purpose of the project (that is, what goal or outcome will be met by the construction of the project).

Block 5 - Avoidance, Minimization, and Mitigation Information

You must describe possible alternatives to the proposed project that would avoid impacts to the aquatic resource that were considered during the project planning process. You must also describe ways to minimize impacts considered during the project planning process, including a description of how you plan to contain any dredged/excavated material to prevent re-entry into waterways or wetlands. Examples of alternatives include construction on the upland portions of the property; rerouting a roadway to avoid a wetland; or alternate design plans. Minimization of the impacts may decrease any mitigation requirements that might otherwise apply. Minimization may include reduction of the amount of dredging, filling, or vegetative clearing. For isolated wetlands only, enclosure of a copy of (1) a resolution of the executive of the county or municipality in which the wetland is located or (2) a permit or other approval from a local government entity having authority over the proposed use of the property on which the wetland is located; that includes a specific finding that the wetland activity is part of a legitimate use proposed by the applicant on the property, substitutes for the information required on avoidance and minimization.

Answer all the questions in detail, providing example, drawings, or other supporting information to illustrate the steps taken to consider alternatives. Provide reasons why various alternatives were or were not considered.

In general, all impacts to wetlands or other waters that require the use of this form will require some form of compensatory mitigation. A detailed description of the mitigation plan must be provided, including: the location of the mitigation site, the size and type of mitigation to be performed, the construction sequence, timing of the mitigation, information on post construction monitoring, mitigation techniques, and success criteria of the mitigation site. A mitigation plan, with overview drawings, planting lists, cross sectional views, and other relevant information is recommended as a supplement to answer this question.

Block 6 - Drawing/Plan Requirements

You must submit drawings/plans that are on 8 1/2 by 11 inch sheets. Your project will be delayed if these materials are not submitted in the formats specified in the application.

Block 7 - Supplemental Application Materials

All projects involving impacts to wetlands must be accompanied by a wetland delineation using the procedures established in the U.S. Army Corps of Engineers Wetland Delineation Manual, Technical Report Y-87-1 (January 1987). This delineation must be approved or reviewed by the Corps of Engineers in order for IDEM to determine the impacts to water bodies associated with the project. DO NOT submit an application involving impacts to wetlands without a wetland delineation. For projects that involve impacts to isolated wetlands, a letter from the Corps of Engineers that specifically makes this determination must be provided or the application will not be processed. Submittal of photographs depicting the project site is highly encouraged. Photos must be clearly labeled with the direction of the shot, the area depicted, and notes on relevant features. A map depicting the location of photos on the project site is also useful and should be included whenever photos are submitted.

For project sites with isolated wetlands, a tract history is also required. This history provides information on all the wetlands on the site prior to January 1, 2004, and describes any and all activities within these wetlands, including impacts allowed to wetlands exempt from regulation under the various provisions of federal and state law. Direct questions regarding this requirement to IDEM staff for clarification.

Block 8 - Additional Information That May Be Required

You are not required to submit the information specified in this section unless directed to do so by IDEM. However, you may submit the information if you anticipate that such information will be required. For example, if you are aware of issues on the proposed project site which may impact water resources, such as the presence of contaminated soils or sediments, endangered species, well field protection areas, or previously permitted activities on the project site, information regarding these points must be submitted with the certification application.

Block 9 - Permitting Requirements

Provide information regarding your application to the Corps of Engineers. If you have not yet contacted the Corps of Engineers, you must do so as soon as possible (SEE BLOCK 7). Provide information regarding any other federal, state, or local permits, variances, licenses, or certifications required for your project. Please indicate whether they were approved, denied, or are pending.

Block 10 - Adjoining Property Owners and Addresses

List the names and addresses of landowners adjacent to the property on which your project is located. Adjacent property owners are persons who share property lines with your property. Inclusion of names and addresses of other persons (or entities) potentially affected by your project must include persons within your neighborhood, lake association, or in the general vicinity that may have an interest in your project. Consult with IDEM for further clarification.

Block 11 - Signature - Statement of Affirmation

You must sign and date the application. If the applicant is a corporation, a responsible person from that corporation must sign. No other signatures will be accepted. The application will not be processed without the appropriate signature.

WORKSHEET

Note: When calculating any type of impact, all areas that are affected by placement of fill, bank armoring, culverting, excavation, or any other activity must be counted. When calculating open water impact, all areas within lakes, rivers, streams and the like must be counted. This includes areas under new bridge piers, beaches, and boat ramps, as examples. The Ordinary High Water Mark means that line on the shore of a water body established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, natural destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

- Fill out only the sections of this worksheet that apply to your project. -

Section A - Wetlands

This section is for wetlands determined to be under the jurisdiction of the U.S. Army Corps of Engineers (Corps) and that require a Section 404 permit as well as a Section 401 Water Quality Certification from IDEM. List the type of wetland as Emergent (EM), Scrub shrub (SS), or Forested (FO). "Emergent wetland" means a wetland characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. "Scrub shrub wetland" means a wetland dominated by woody vegetation having a height greater than three and two-tenths (3.2) feet, and a stem diameter less than three (3) inches. This includes true shrubs, young trees, and trees and shrubs stunted by environmental conditions. "Forested wetland" means a wetland dominated by woody vegetation that has a diameter, at breast height, greater than three (3) inches, regardless of total height. The size of the wetland must be determined by conducting a wetland delineation consistent with the protocols established in the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual. The applicant must list whether or not the wetland will be impacted, the acreage of the impact, and the quantity of fill to be discharged into the wetland. The applicant must identify whether or not this is an after-the-fact (ATF) permit. An ATF permit is for impacts to wetlands or other water bodies under the jurisdiction of IDEM that did not receive authorization before the impacts occurred. Additionally, the applicant must describe the type and composition of material proposed to be discharged or removed from the wetland.

Section B - Isolated Wetlands

This section is for wetlands the Corps has determined to be isolated and no longer under their jurisdiction. The Corps jurisdictional determination letter must be included with the application. Isolated wetlands are considered State Regulated Wetlands and proposed impacts to these wetlands will be reviewed pursuant to IC 13-18-22. The class of wetland must be determined by the definitions outlined in IC-13-11-2-25.8. This is determined by assessing the vegetation type,

hydrologic function, habitat functions, values of the wetland, and disturbances to the wetland. The applicant must determine the type of wetland by designating the wetland as either Non-Forested (NF) or Forested (F). The size of the wetland must be determined by conducting a wetland delineation consistent with the protocols established in the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual. The applicant must list whether or not the wetland will be impacted, the acreage of the impact, and the quantity of fill to be discharged into the wetland. The applicant must identify whether or not this is an after-the- fact (ATF) permit. An ATF permit is for impacts to wetlands or other water bodies under the jurisdiction of IDEM that did not receive authorization before the impacts occurred. Additionally, the applicant must describe the type and composition of material proposed to be discharged or removed from the wetland.

Section C - Bridges and Stream Crossings

This section is for projects that impact streams in order to construct, maintain, or protect structures used to cross the stream. The applicant must list the name of the stream to be impacted by the proposed project. The stream name can be found on the USGS Topographic map. If the stream does not have a name, identify it as a tributary to the next stream or water body with a name. Describe the proposed impacts in detail. Include the lengths of bank impacts to both banks upstream and downstream. Determination of left and right banks is made in the following manner- at the point furthest upstream on the project site, face downstream - the left bank is on your left and the right bank is on your right. Identify the volume per running foot of material to be discharged below the Ordinary High Water Mark (OHWM). Identify the total area below the OHWM to receive a discharge of fill material.

Section D - Bank Stabilization

This section is for projects that discharge fill material in order to stabilize eroding land along streams, lakes, or other water bodies. The applicant must list the name of the water body to be impacted by the proposed project. The name of the water body can be found on the USGS Topographic map. If the water body does not have a name, identify it as a tributary to the next stream or water body with a name. Provide the length of shoreline or bank impact. Identify the volume per running foot of material to be discharged below the Ordinary High Water Mark (OHWM). Identify the total area below the OHWM to receive a discharge of fill material.

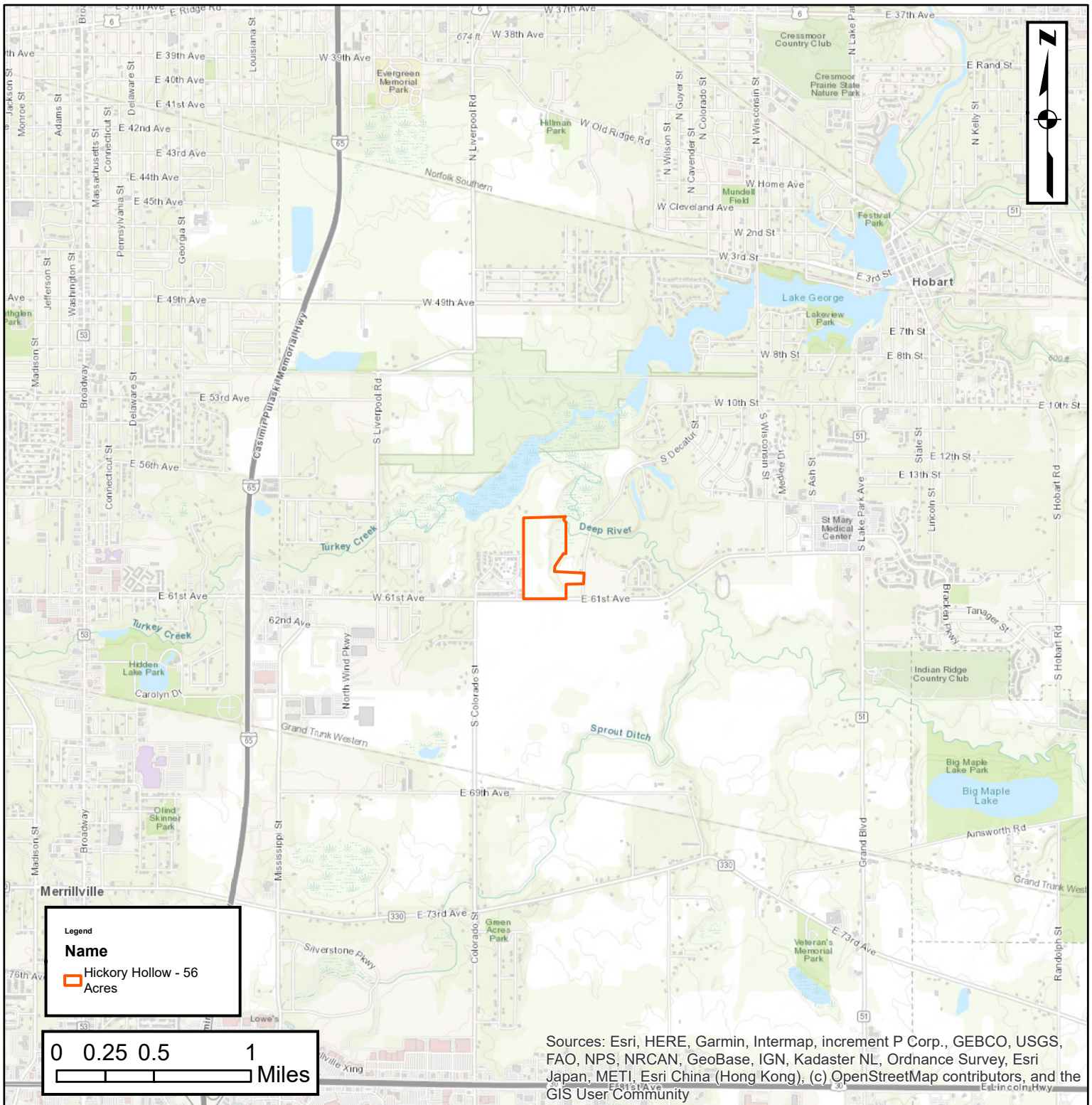
Section E - Stream Relocation

This section is for projects that propose to relocate a stream from its existing banks either by open channel construction or by stream piping. The applicant must list the name of the stream to be impacted by the proposed project. The stream name can be found on the USGS Topographic map. If the stream does not have a name, identify it as a tributary to the next stream or water body with a name. Describe the impacts to the stream. Provide the linear feet of existing channel to be relocated and the length of new channel to be constructed. The applicant must state whether the old channel is proposed to be filled and describe the type and quantity of fill to be used to fill the old channel. The applicant must also provide the type of relocation, new channel or piping.

Section F - Open Water Fill

This is for projects where the fill material extends beyond the edge of the shoreline into open water. Some examples include the filling of pit mines, borrow pits, and other land reclamation projects. Provide the name of the water body to be impacted. If the water body does not have a name, identify it as unnamed open water body. Describe the impacts to the water body including the area to be filled and the type and quantity of fill material to be discharged.

Figure 1: Hickory Hollow Project Location



SOIL SOLUTIONS INC.

A Soil and Environmental Consulting Company

360 Indiana Avenue
P.O. Box 229
Valparaiso, Indiana 46384
phone: (219) 465-5885

Location

Lat 41.51041 Long -87.290967

SE 1/4 OF SW 1/4, OF S1, T35N, R8W

Hobart Township, Lake County, Indiana

Project Info

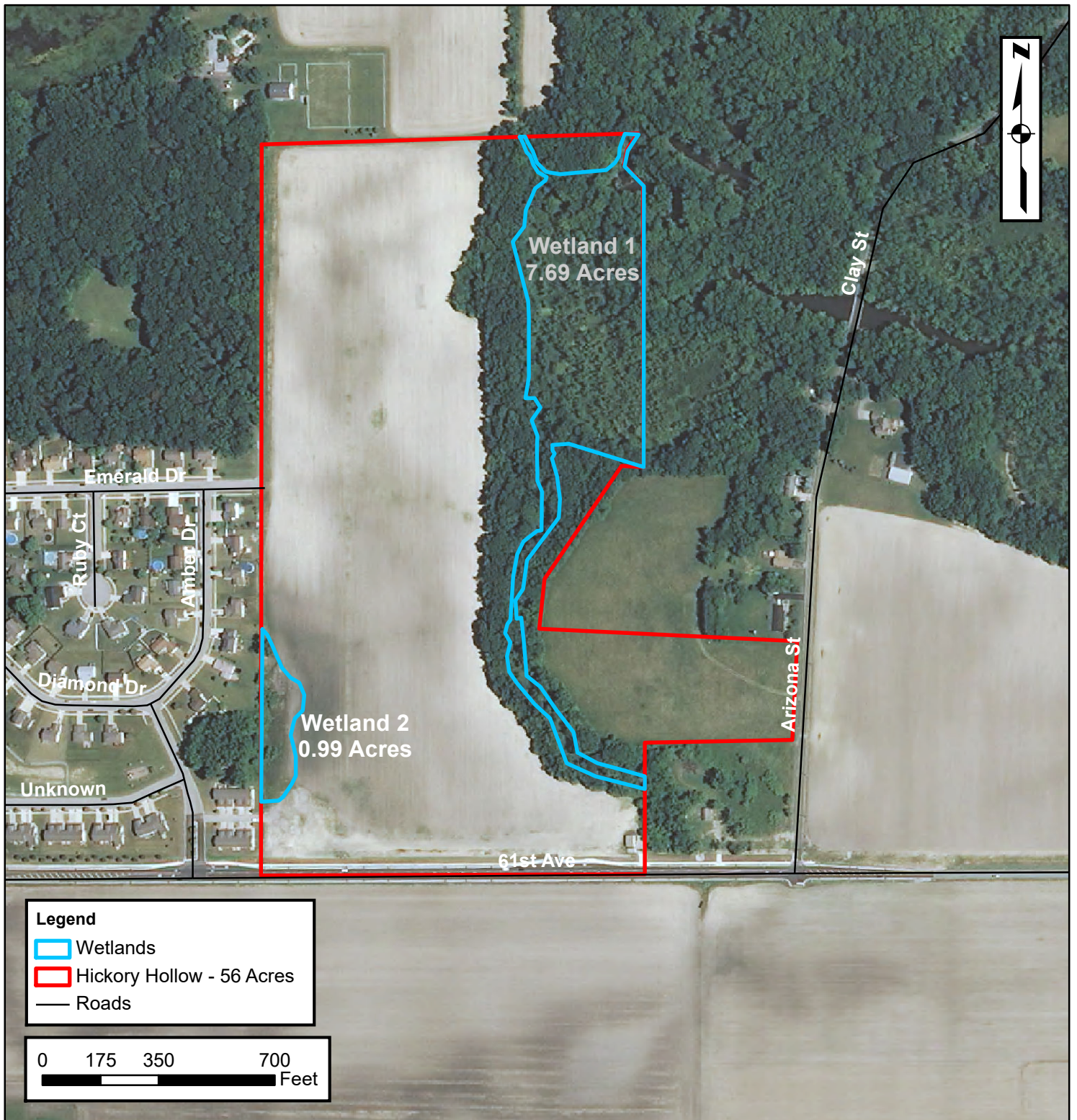
SSI Project #: 25-28D(21)W1

Created: April 13, 2022

Project Location

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCAN, Esri

Figure 3. Wetland Survey



A Soil and Environmental Consulting Company

360 Indiana Avenue
P.O. Box 229
Valparaiso, Indiana 46384
phone: (219) 465-5885

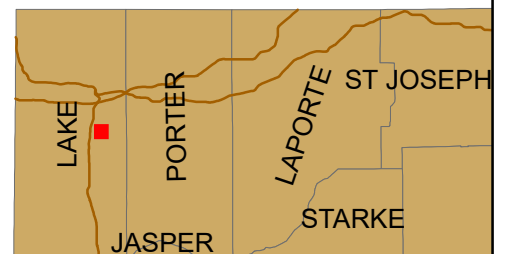
Location

Lat 41.509674 Long -87.299275
SE 1/4 of the SE 1/4 of Sec 2, T35N, R8W
Ross Township, Lake County, Indiana

Project Info

SSI Project #: 25-28D(17)W1
Created: September 11, 2024

Project Location



Hickory Hollow

WETLAND MITIGATION PLAN



9/21/2024

Hickory Hollow, Hobart, Indiana

Prepared for:

Mark Lackey
404 Washinton St
Valparaiso IN 46383

Prepared by:

Soil Solutions, Inc.
A Soil and Environmental
Consulting Company
360 Indiana Avenue
P.O. Box 229
Valparaiso, Indiana 46384

SSI Project # 25-28D(23)P2

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 Existing vegetation..... 11

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Introduction

The purpose of this submittal is to propose a mitigation plan for the proposed unavoidable wetland impacts at the Hickory Hollow residential development in Hobart, Lake County, Indiana. The 56 acre parcel is undeveloped. Two wetlands were identified on site: one scrub-shrub wetland surrounding a tributary of Deep River, and one isolated scrub-shrub wetland. The purpose of the wetland mitigation is to compensate for the proposed loss of 0.99 acres of isolated wetland that will be filled to facilitate development of three of the largest lots within the Hickory Hollow development.

The wetland impacts will be mitigated for through on site preservation of the larger, higher quality wetland surrounding Deep River and surrounding forest. The wetland to be impacted is disturbed and dominated by invasive species. The project impacts are limited to the lower quality wetland on site so the developer proposes a 1.5:1 mitigation ratio which would require 1.49 acres of mitigation. Wetland mitigation will be through the preservation and deed restriction of 7.05 acres of wetland/ stream complex and 5.65 acres of surrounding upland forest. Table 1 below summarizes the proposed mitigation.

Table 1. Summary of impacts and mitigation ratios.

Site		Acres	Mitigation Credit
Total Wetland Impacts	0.99 Emergent wetland, FQI = 8.62	0.99 Acres	
Mitigation Ratio	Total Mitigation Ratio of 1.5:1	1.48 Acres	
On Site Mitigation	Wetland preservation and deed restriction, 15% ratio	7.05 Acres	1.06 Acres
On Site Mitigation	Upland forest preservation and deed restriction, 10% ratio	5.65 Acres	0.57 Acres
Total Mitigation Credit			1.63 Acres

Justification

The Hickory Hollow development was designed to impact the agricultural field, and low quality wetland on site and avoid impacts to the stream channel and adjacent upland forest on the east side of the property. Avoidance of the isolated wetland on the west side of the property is not possible as that is the location for three of the largest lots in the development, and it would not make financial sense to eliminate those lots. However, the wetland being impacted is dominated by invasive species, is more heavily disturbed due to the adjacent farming, and does not provide as much habitat or value as the wetland stream corridor and surrounding upland forest. The developer proposes to deed restrict 12.7 acres of the property: 7.05 acres of wetland/ stream channel and 5.65 acres of surrounding upland forest. The developer would like to propose a 15% mitigation credit for the deed restriction of the

wetland/ stream channel, as tributary of Deep River and part of a significantly larger wetland complex, most of which is managed and protected by land agencies (Figure 6). This wetland/ stream channel could provide habitat for the threatened and endangered Blanding's Turtle (*Emydoidea blandingii*) and is of moderate to high quality (FQA = 27.48) with decent diversity (Species Richness = 48). A 15% mitigation credit for the deed restriction of the 7.05 acres of wetland on site would result in 1.06 acres of credit.

The developer would also like to propose a 10% mitigation credit for the upland forest being deed restricted as it is also of moderate to high quality (FQA = 30.37), provides a buffer between the wetland and proposed development, and also provides excellent habitat for local wildlife and breeding ground for the threatened Blanding's Turtle. A 10% mitigation credit for 5.65 acres of moderate to high quality uplands would result in 0.56 acres of credit.

Wetland 2, to be impacted, is a 0.99 acre scrub-shrub wetland at the edge of an agricultural field. The wetland has lower species diversity with thirty-five species observed of which 74% were native. Additionally, the dominant species within the wetland were non-native (*Phragmites australis* and *Typha X glauca*) resulting in a FQI of 8.62 for Wetland 2 and an average C value of 1.46. Wetland 1 and the surrounding upland forest are of higher quality, are less disturbed, provide better habitat and higher wetland functions, and are part of a larger wetland complex to the north, most of which is managed and protected by land trusts and government agencies. The impacted wetland provides moderately poor wildlife habitat and limited wetland functions given the lower diversity and dominance of invasive species, as well as its location within a disturbed landscape. Deed restricting the higher quality habitat within the development should be sufficient compensation for the wetland impact at the Hickory Hollow development and results in the preservation of a larger acreage than required by the proposed mitigation ratio.

Mitigation Plan

1. Mitigation Goals and Objectives

Impact Site

- Describe and quantify the aquatic resource type and functions that will be impacted at the proposed impact site. Include temporary and permanent impacts to the aquatic environment.

Two wetlands were identified on site, one of which will be impacted. Wetland 1 is a jurisdictional scrub-shrub/ stream complex dominated by American elm, green ash, downy hawthorn, swamp agrimony, and black snakeroot. Wetland 2 is a shrubby/ emergent isolated wetland dominated by common reed and cattail. All of Wetland 2 will be impacted.

Table 2. Summary of the proposed wetland impacts.

Wetland ID	Community Type	Size	Acres impacted	Impact #	Cubic Yards of Fill
Wetland 2	Scrub-shrub/ Emergent	0.99 Acres	0.99	I-1	4791
Totals			0.99		4791

Wetland 2 is a 0.99 acre emergent/ scrub-shrub wetland on the west side of the property. This wetland is surrounded by agricultural field to the north, east and south, and residential development to the west. Wetland 2 was dominated by common reed (*Phragmites australis*), cattail (*Typha X glauca*), and Indian hemp (*Apocynum cannabinum*). Wetland 2 was determined to be isolated during USACE site inspection. All 0.99 acres of the Wetland 2 will be impact (Impact-1; I-1) as part of the residential development.

Functions and Values

The functions and values of the wetlands within the project area were assessed using the Hydrogeomorphic (HGM) classification system as described by Mark Brinson in *A Hydrogeomorphic Classification for Wetlands* (1993) and *An Approach for assessing Wetland Functions Using Hydrogeomorphic Classification, Reference Wetlands, and Functional Indices* (Smith et al., 1995). For purposes of comparison between the impact site and the mitigation site, the 0.99 acres of impact wetlands were grouped into one wetland assessment area (WAA), and the 12.7 acres of deed restricted area was grouped into a second WAA (Figure 5, Appendix A). A WAA is defined by Smith et al. (1995) is a wetland area within the proposed project area that is physically continuous and homogenous in terms of the hydrogeomorphic criteria used to define regional wetland subclasses.

Identification and Characterization of Wetlands

Each WAA was characterized using the HGM system based on the geomorphic setting, water source, and hydrodynamics and classified using the Cowardin Wetland classification system (Cowardin et al., 1979). This information is recorded in Table 3.

Table 3. Classification and characterization of the three wetland assessment areas. Wetlands are identified in the column labeled “Wetland#”.

WAA #	Wetland #	Geomorphic setting	Water source	Hydrodynamics	Cowardin or Rosgen Classification	USACE Jurisdiction
1	2	Depressional	Precipitation; Runoff	Vertical fluctuations	PEM1C	Isolated
2	1	Depressional	Precipitation; Runoff	Vertical fluctuations	PFO1C, R2UBH	Jurisdictional

Functions and Values Assessment

Wetlands were assessed based on functions and values related to hydrologic and biogeochemical processes, functions related to habitat, cultural values and research and scientific values. To simplify assessment, each function or value was given a qualitative wetland score of poor, fair, or good and recorded on Wetland Functions and Values datasheets in Appendix B.

Wetland Assessment Areas

WAA #1 contains Wetland 2 that will be impacted by the Hickory Hollow residential development. This wetlands encompasses 0.99 acres onsite. This wetland is lower quality, dominated by invasives, surrounded by disturbed landscape, and provides limited habitat. See data sheet WAA #1 in Appendix B for details.

WAA #2 contains Wetland 1 and surrounding forested uplands to be deed restricted on site, 12.7 acres. These areas included oak/ hickory forest, emergent/ scrub-shrub wetland, and the tributary of Deep River on site. This area is larger, contiguous, and connected off site to a larger complex that is largely protected by government agencies and land trusts. The preservation area has greater species diversity and quality, and provides excellent habitat for wildlife and potentially two threatened/ endangered species. Additionally, this area provides a larger amount of natural stormwater storage and natural filtration. See data sheet WAA #2 in Appendix B for details.

Summary of Functions and Values Assessment

WAA #1, the impacted wetland (0.99 acres) and WAA #2, the deed restricted area (12.7 acres) both have intact vegetation. WAA #1 is of lower quality and smaller in size, surrounded by disturbed and developed landscape while WAA #2 is larger, a complex of habitat types and is of moderate to high quality. Both areas provide decent water storage and dissipate energy and recycle nutrients. However, WAA #2 is larger, more diverse, part of a larger, contiguous wetland system, and has more layers of habitat resulting in a significantly higher value.

- *Describe aquatic resource concerns in the watershed (e.g. flooding, water quality, habitat) and how the impact site contributes to overall watershed/regional functions. Identify watershed or other regional plans that describe aquatic resource objectives.*

The Hickory Hollow development lies within the Deep River – Turkey Creek watershed (HUC 040400010505). A tributary of Deep River is on site, and Deep River is immediately northeast of the property. In 2002, a plan was published to address concerns within the Turkey Creek watershed. The plan outlines goals to minimize the introduction of sediment and other pollutants into Lake George by developing partnerships, improve water quality education through the watershed, eliminate illegal discharges/ failing septic systems, and promote consistency among communities developing stormwater programs.

The Hickory Hollow development will support the Turkey Creek watershed management plan by preserving not only a tributary of Deep River, but also the surrounding upland forest. The surrounding forest will provide excellent filtration for possible sediment run off before it reaches the tributary. Additionally, the preserved area will be donated to a land trust that will monitor and protect the area in perpetuity. This will allow for continued monitoring to minimize or eliminate illegal discharges, and also expands partnerships within the watershed.

- *Describe and quantify the aquatic resource type and functions for which the mitigation project is intended to compensate.*

The mitigation wetland is intended to compensate for the functions related to hydrologic and biogeochemical processes and wildlife habitat that the impact wetlands can provide. These functions are limited in the impact wetland due to its low quality and position within a disturbed landscape; while the mitigation wetland provides greater wetland functions and values because of its quality, size, and position within a larger complex that is largely protected and managed.

- *Describe the contribution to overall watershed/regional functions that the mitigation site(s) is intended to provide.*

The mitigation wetland includes the deed restricted stream surrounding wetland along with adjacent upland forest on site that will continue to provide natural stormwater retention, wildlife habitat, and natural stormwater filtration.

2. Baseline Information for Impact and Proposed Mitigation Sites

- *Coordinates (preferably using differential global positioning system [DGPS]) & written location description (including block, lot, township, range and section, county, watershed, as appropriate and pertinent.*

Impact Area

Latitude: 41.508376 Long: -87.292226

Part of the SW ¼ of Section 1, Township 35 North, Range 8 West

Parcel #1) 45-12-01-376-001.000-018

Mitigation Area

Latitude: 41.511283 Long: -87.289155

Part of the SW ¼ of Section 1, Township 35 North, Range 8 West

Parcel #1) 45-12-01-376-001.000-018

- *Maps (e.g., site map with delineation (verified by the Corps), map of vicinity, map identifying location within the watershed, USGS Quad, NWI map, NRCS soils map, zoning or planning maps; indicate area of proposed fill on site map).*

See attached maps in permit application and in this mitigation plan.

- *Aerial/Satellite photos.*

See attached maps in permit application and in this mitigation plan.

- *Classification - Hydrogeomorphic as well as Cowardin classification, Rosgen stream type, NRCS classification, as appropriate.*

See Table 3 on Page 8.

- *Quantify wetland resources (acreage) or stream resources (linear feet) by type(s).*

See Table 2, page 7 of this mitigation plan.

- *Assessment method(s) used to quantify impacts to aquatic resource functions (e.g., FQA, IBI, etc.); explain findings. The same method should be used at both impact and mitigation sites.*

A FQA was used to assess floristic diversity (Appendix G of the permit application) and HGM was used to assess wetlands functions and values (see above and in Appendix B of this mitigation plan).

Provide data on physical attributes of sites (soils, vegetation, hydrology)

A wetland will not be created as mitigation for wetland impact, rather existing wetlands will be deed restricted and preserved. Because of this no information is provided below for planned hydrology, vegetation, or soils.

Existing hydrology

- *Water budget. Include water source(s) (precipitation, surface runoff, groundwater, stream) and losses(s). Provide budgets for both wet and dry years.*
Precipitation and surface runoff.
- *Hydroperiod (seasonal depth, duration, and timing of inundation and/or saturation), percent open water.*
Seasonally saturated/ seasonal flow of the stream.
- *Historical hydrology of mitigation site if different than present conditions*
N/A
- *Contributing drainage area (acres).*
N/A

Existing vegetation

- *List of species on site, indicating dominants.*
See FQA, Appendix G in permit application.
- *Provide a floristic quality assessment (FQA).*
See Appendix G in permit application.
- *Approximate percent vegetative cover; community structure (canopy stratification).*
100% cover.
- *Map showing location of plant communities.*
N/A
- *Provide a survey of existing wetlands.*
See Appendix B, Figure 3 in permit application.

Existing soils

- *A detailed soil profile description (or one for each area if different soils series exist within the proposed mitigation site) that is described to the series level and to a minimum depth of 40 inches. The soil profile description shall describe at a minimum the following for each horizon:*
 - *horizon designation*
 - *color (using the Munsell soil color charts)*
 - *texture (using USDA textures)*
 - *redoximorphic features, including their color, abundance (few, common or many), and contrast (faint, distinct or prominent)*

Soils within the wetland to be preserved were loamy clay in texture with a matrix color of 10YR 3/1 in the upper 7 inches and a matrix of 10YR 4/1 with 10YR 4/6 and 10YR 5/8 colored mottles in the second horizon.

- *A detailed description of the stream substrate (for stream mitigation projects).*
N/A
- *Provide a map showing the locations of the soil series and/or stream substrate descriptions.*
See permit application, Appendix F – Delineation Report.
- *Existing wildlife usage (indicate possible threatened and endangered species habitat, migratory birds and other wildlife resources).*
The proposed preservation wetlands could provided habitat for the endangered Blanding’s Turtle (*Emydoidea blandingii*) and also the smooth veiny pea (*Lathyrus venosus*).
- *Historic and current land use; note prior converted cropland.*
N/A

- *Current owner(s)*
- *Watershed context/surrounding land use.*
See attached maps.
- *Description of watershed land uses (percent Ag, forested, wetland, developed).*
Forested, wetland, preserved.
- *Size/Width of natural buffers (describe, show on map).*
See attached maps.
- *Description of landscape connectivity: proximity and connectivity of existing aquatic resources and natural upland areas (show on map).*
Preserved area would be a southern addition in a complex of preserved and protected wetland areas. See attached map.

Describe historic and existing land uses and resources impacted

Impact Site

The proposed impact site is composed of agricultural field, a tributary of Deep River and the surrounding forest. The property is surrounded by residential development to the west, agricultural fields to the south and east, and protected natural area to the north.

Mitigation Site

N/A

Describe reference site attributes if available

Wetland is not being created as mitigation for wetland impact so this section is not applicable.

3. Mitigation Site Selection and Justification

Describe process of selecting proposed site

N/A

Likelihood of success, future land use compatibility, etc.

- *Site-specific objectives: Description of mitigation type(s), acreage(s) and proposed compensation ratios.*

N/A

- *Watershed/regional objectives: Description of how the mitigation project will compensate for the functions identified in the Mitigation Goals section 1(c).*

N/A

- *Description of how the mitigation project will contribute to aquatic resource functions within the watershed or region (or sustain/protect existing watershed functions) identified in the Mitigation Goals section. How will the planned mitigation project contribute to landscape connectivity?*

N/A

- *Likely future adjacent land uses and compatibility.*

N/A

- *Description of site selection practicability in terms of cost, existing technology, and logistics.*

N/A

- *If the proposed mitigation is off-site and/or out-of-kind, explain why on-site or in-kind options are not practicable or environmentally preferable.*

The wetland impacts will be mitigated for through deed restricting the un-impacted wetlands on site. There is no room to develop additional wetlands on site.

- *Existing and proposed mitigation site deed restrictions, easements and rights-of-way. Demonstrate how the existence of any such restriction will be addressed, particularly in the context of incompatible uses.*

A combination of unimpacted wetlands and upland forest, totaling 12.7 acres will be deed restricted on site. These areas will be restricted from further development or tree clearing (except for dead or dying hazardous plant matter). The area will be donated to a local land trust and remain in the ownership and responsibility of the land trust.

- *Explanation of how the design is sustainable and self-maintaining. Show by means of a water budget that there is sufficient water available to sustain long-term wetland or stream hydrology. Provide evidence that a legally defensible, adequate and reliable source of water exists.*

N/A

4. Mitigation Work Plan

N/A

Construction Plan

Grading plan

- *Indicate existing and proposed elevations and slopes.*

N/A

- *Describe plans for establishing appropriate microtopography. Reference wetland(s) can provide design templates.*

N/A

- *Description of construction methods (e.g., equipment to be used)*

N/A

- *Description of soil erosion and sediment control measures.*

N/A

- Construction schedule (expected start and end dates of each construction phase, expected date for as-built plan).
N/A

Describe planned hydrology, vegetation, soils, buffers, etc.

Planned hydrology

- *Source of water.* – N/A
- *Connection(s) to existing waters.* – N/A
- *Hydroperiod (seasonal depth, duration, and timing of inundation and saturation), percent open water, water velocity. Provide hydrographs and a summary table with depth-duration data for the 1-, 2-, 5-, 10-, and 100-year, 24 hour storm events, at a minimum.* – N/A
- *Potential interaction with groundwater.* – N/A
- *Existing monitoring data, if applicable; indicate location of monitoring wells and stream gauges on site map.* – N/A
- *Stream or other open water geomorphic features (e.g., riffles, pools, bends, deflectors).* – N/A
- *Structures requiring maintenance (show on map) Explain structure maintenance.* – N/A
- *Representational cross sections that show planned normal water elevations and high water elevations.* – N/A

Planned vegetation

- *Native plant species composition (e.g., list of acceptable native hydrophytic vegetation).* – N/A
- *Source of native plant species (e.g. salvaged from impact site, local source, seed bank) stock type (bare root, potted, seed) and plant age(s)/size(s).* – N/A
- *Plant zonation/location map (refer to grading plan to ensure plants will have an acceptable hydrological environment).* – N/A
- *Plant spatial structure - quantities/densities, % cover, community structure (e.g., canopy stratification).* – N/A
- *Expected natural regeneration from existing seed bank, plantings, and natural recruitment.* – N/A

Planned soils

- *Soil profile* – N/A
- *Source of soils (e.g., existing soil, imported impact site hydric soil), target soil characteristics (organic content, structure, texture, permeability), soil amendments (e.g., organic material or topsoil).* – N/A
- *Soil compaction control measures.* – N/A

Planned habitat features (identify large woody debris, rock mounds, etc. on map). – N/A

Planned buffer (identify on map). – N/A

Evaluation of the buffer's expected contribution to aquatic resource functions.

N/A

5. Performance Standards

Identify success criteria

- *Identify clear, precise, quantifiable parameters that can be used to evaluate the status of desired functions. These may include hydrological, vegetative, faunal and soil measures. (e.g., plant richness, percent exotic/invasive species, water inundation/saturation levels). Describe how performance standards*

will be used to verify that objectives identified in 3(b) and 3(c) have been attained.

N/A

- *Set target values or ranges for the parameters identified. Ideally, these targets should be set to mimic the trends and eventually approximate the values of a reference wetland(s).*

Compare functions lost and gained at impact and mitigation sites

See Appendix B.

Describe soils, vegetation and hydrology parameter changes

N/A

6. Site Protection and Maintenance

List parties and responsibilities

- *Party(ies) responsible and their role (e.g. site owner, easement owner, maintenance implementation). If more than one party, identify primary party.*
 - Mark Lackey, the developer will be responsible for all costs associated with deed transfer
 - Soil Solutions, Inc. will act as an agent for the applicant, Mark Lackey, to oversee mitigation.
 - Woodland Savannah Land Trust will be responsible for maintenance and ownership of the open spaces being deed restricted.

Provide evidence of legal protective measures

- *Long-term legal protection instrument (e.g. conservation easement, deed restriction, transfer of title).* Documentation on legal protection is forth coming. Woodland Savannah Land Trust will own the deed restricted areas.

Maintenance plan and schedule

- *Maintenance plan and schedule (e.g. measures to control predation/grazing of mitigation plantings, temporary irrigation for plant establishment, replacement planting, structure maintenance/repair, etc.).*
N/A

- *Invasive species control plan (plant and animal).*
N/A

- *Funding plan for management after District signs off.*
N/A

7. Monitoring Plan

Provide monitoring schedule, identify party (ies) and responsibilities

N/A

Specify data to be collected, including assessment tools and methodologies

Data to be collected and reported, how often and for what duration (identify proposed monitoring stations, including transect locations on map).

N/A

8. Adaptive Management Plan

Identify party (ies) and responsibilities

There is no adaptive management plan for this restoration as no wetland is being created.

Remedial measures (financial assurances, management plan, etc.)

- Identification of potential challenges (e.g., flooding, drought, invasive species, seriously degraded site, extensively developed landscape) that pose a risk to project success. Discuss how the design accommodates these challenges.
- Discussion of potential remedial measures in the event mitigation does not meet performance standards in a timely manner.
- Description of procedures to allow for modifications of performance standards if mitigation projects are meeting mitigation goals, but in unanticipated ways.

Management in perpetuity, Endowment, Transfer to land stewardship organization or agency, and easily understood comprehensive management plan.

N/A.

9. Financial Assurances

Identify party (ies) responsible for assurances

Specify type of assurance, contents and schedule

For each of the following, identify party(ies) responsible to establish and manage the financial assurance, the specific type of financial instrument, the method used to estimate assurance amount, the date of establishment, and the release and forfeiture conditions:

N/A

References:

Brinson, Mark A. A Hydrogeomorphic Classification for Wetlands. United States Army Corps of Engineers (USACE), Wetlands Research Program Technical Report WRP-DE-4. 1993.

Cowardin, L. M., Carter, V., Golet, F. C., and LaRoe, E. T. *Classification of wetlands and deepwater habitats of the United States*. U.S. Fish and Wildlife Service, Office of Biological Services, FWS/OBS-79/31, Washington, DC. 1979.

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Indiana Department of Natural Resources. Indiana Wetlands Conservation Plan. June, 1996.

Resource Management Group, *National List of Plant Species that Occur in Wetland Region 3, North Central*. 1995.

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