

**AMERICAN TRANSMISSION SYSTEMS,
INCORPORATED
A FIRSTENERGY COMPANY**

LETTER OF NOTIFICATION

**KNOX-NOTTINGHAM 138 kV TRANSMISSION LINE
REBUILD PROJECT
NEW STACY BUC TO NOTTINGHAM SUB SEGMENT**

OPSB CASE NO.: 23-1013-EL-BLN

November 28, 2023

**American Transmission Systems, Incorporated
76 South Main Street
Akron, Ohio 44308**

LETTER OF NOTIFICATION
Knox-Nottingham 138 kV Transmission Line
Rebuild Project -New Stacy BUC to Nottingham Sub Segment

The following information is being provided in accordance with Ohio Administrative Code (OAC) Chapter 4906-6 for the application and review of Accelerated Certificate Applications. Based upon the requirements found in Appendix A to OAC Rule 4906-1-01, this Project qualifies for submittal to the Ohio Power Siting Board (“Board”) as a Letter of Notification application.

4906-6-05: ACCELERATED APPLICATION REQUIREMENTS

4906-6-05(B)(1): Name and Reference Number

Name of Project: Knox-Nottingham 138 kV Transmission Line
Rebuild Project – New Stacy BUC to Nottingham Sub Segment
 (“Project”).

Reference Number: 2031-2 (New Stacy BUC to Nottingham
Segment)

Reference Number: 3224-2 (Nottingham-Yager No. 1)

4906-6-05 (B)(1): Brief Description of the Project

In this Project, American Transmission Systems, Incorporated (“ATSI”), a FirstEnergy company, proposes to rebuild the approximate 10-mile New Stacy BUC to Nottingham segment of the approximately 44-mile Knox-Nottingham 138 kV Transmission Line and an approximately 3.6-mile section of the Nottingham-Yager No. 1 138 kV Transmission Line that is immediately adjacent to the Knox-Nottingham 138 kV Transmission Line (“Project”).

The New Stacy BUC-Nottingham Segment extends from existing structure 276, the point of interconnection with Buckeye Power, to existing structure 15922 (new structure 210) in Harrison County. The approximate 3.6-mile rebuild section of the Nottingham-Yager No.

1 138 kV Transmission Line starts at existing structure 3292, a conjunction of multiple transmission lines, and extends to existing structure 3268 in the vicinity of AEP's Nottingham Substation. The Project will traverse Archer, Cadiz and Athens Townships in Harrison County, Ohio. The Project will be comprised of the following:

1. The Project consists of rebuilding the existing 10 miles of single-circuit New Stacy BUC-Nottingham 138 kV Transmission Line and a portion of the Nottingham-Yager No. 1 138 kV Transmission Line, approximately 3.6 miles, by using a combination of steel structures on concrete foundations or directly embedded steel structures. The transmission lines are currently constructed on wood pole H-frame structures. The new centerline alignment for the approximate 3.6 miles of commonality will be located within existing right-of-way, midway between the two existing transmission lines. The two existing lines will be removed once construction is complete.
2. The existing conductor, 477 kcmil 24/7 ACSR, will be replaced with 795 kcmil 26/7 ACSR.

The general location of the Project is shown in Exhibit 1, a partial copy of the United States Geological Survey, Harrison County. Exhibit 2 is a partial copy of ESRI aerial imagery. A general layout of the Project is shown in Exhibit 3.

In April 2021, representatives of ATSI met with technical and legal Staff of the Ohio Power Siting Board ("OPSB Staff") to discuss ATSI's 64-mile Knox-Nottingham Project, which is divided into two sections: the 44-mile Knox-Nottingham and the 20-mile Holloway-Nottingham #1 and #2. The 44-mile Knox-Nottingham section is in turn divided into four segments, resulting in a total of five project segments. As noted below in section 4906-6-05(B)(2), there were several logistical aspects of the rebuild project that contributed to a joint decision between ATSI and OPSB Staff that the Project would be framed in accordance with each segment. Due to restrictions on construction, outage

schedules, and the need to minimize service disruptions, the improvements required to fix deteriorating facility conditions cannot be completed in a single project and must be broken into segments. This Project is the 4th segment to be submitted to the OPSB, with one segment remaining hereafter. The breakdown of project segments is as follows:

- Knox to Washington Segment (Approved and certificated by the OPSB in Case No. 21-0667-EL-BLN)
- Kilgore (Polo Road) – New Stacy BUC Segment (Approved and certificated by the OPSB in Case No. 22-0285-EL-BLN)
- Holloway Sub to Nottingham Sub Segment (Approved and certificated by the OPSB in Case No. 23-0141-EL-BLN)
- Washington to Kilgore (Polo Road) Segment (To be Filed)

4906-6-05 (B)(1): Letter of Notification Requirement

The Project meets the requirements for a Letter of Notification because the Project is within the types of projects defined by Item (2)(b) of the Application Requirement Matrix for Electric Power Transmission Lines, Appendix A of OAC Rule 4906-1-01. This item states:

(2) Adding new circuits on existing structures designed for multiple circuit use, replacing conductors on existing structures with larger or bundled conductors, adding structures to an existing transmission line, or replacing structures with a different type of structure, for a distance of:

(b) More than two miles.

The proposed Project is within the requirements of Item (2)(b) as it involves replacing structures and conductor for a distance greater than two miles.

4906-6-05 (B)(2): Need for the Project

ATSI needs to rebuild all 64 miles of the Holloway to Knox 138 kV Transmission Line in light of deteriorating facility conditions and the growing amount of maintenance required to maintain the line as-is. The primary benefit of the Project is to enhance system reliability through protection from unplanned outages, and to augment ATSI’s operating flexibility as well as system resiliency by replacing deteriorating wood poles and by updating the existing conductor and shield wires. In turn, replacement of these facilities supports future load growth in the area for new and existing customers. Routine line inspections have shown an ever-increasing number of active conditions that require repair, leading to an overall worsened line condition. The most recent transmission line inspection conducted by a third-party contractor in April 2020, found that 44 of 67 structures (approximately 66%) of the New Stacy (BUC)–Nottingham Segment were defective and pose reliability concerns. The same inspection found that 17 of 26 structures (approximately 65%) of the 3.6-mile section of the Nottingham-Yager No. 1 138 kV Transmission Line were defective and pose reliability concerns. Table 1 summarizes the results of that inspection.¹

Table 1– Pole Inspection Summary

Defect Type	Defect Count
Woodpecker Holes	41
Decay	13
Failed Sound Test	7

¹ Similar structural problems are present along the entire Holloway-Knox 138 kV Transmission Line. However, as noted above, the improvements required to fix these deteriorating facility conditions cannot be completed in a single project and must be broken into segments, designed to accommodate construction sequencing, outage schedules, and the need to minimize service disruptions.

Wood poles are considered rejected when defects render a pole unsafe, unreliable, or non-compliant with current code, including the rejection of wood poles when the pole strength has been reduced to 2/3rd of the original design strength. This is in line with the National Electrical Safety Code (“NESC”) Table 261-1, note 2, which states: “wood and reinforced structures shall be replaced or rehabilitated when deterioration reduces the structure strength to 2/3 of that required when installed...”

The primary reasons for structure rejection on this Project are damage caused by woodpeckers (a major maintenance concern for all wood poles), failed sound tests, and decay. Woodpecker holes cause structural degradation of varying severity, depending upon where on the structure the damage takes place. The standard maintenance procedures include filling the holes and wrapping the pole in a metal mesh to prevent further damage; however, woodpeckers typically return to either a different location on the same pole or go to a different pole and the problem continues. If woodpecker damage occurs near a critical point on the structure, such as the x-brace or crossarm attachment points, the pole must be replaced. Ultimately, woodpeckers may return to cause the same type of damage. The proposed upgrade to steel structures eliminates this maintenance issue.

As part of this Project, ATSI proposes to upgrade the conductor to its standard of 795 kcmil 26/7 ACSR, which will allow for future load growth and generator connections, if any occur, while adding sufficient margins to the transmission system. The new proposed conductors meet FirstEnergy’s current standard. Upgrading to the current standard will improve reliability and performance.

Lastly, the shield wires will be replaced with one 7#8 Alumoweld shield wire and one Optical Ground Wire (“OPGW”) in the second position. Since 2016, it has been a FirstEnergy practice to include OPGW in one of the static wire positions for any transmission line rebuild project. This enables the modernization of grid protection and control communication between substations.

The need for the entire Knox-Nottingham project was first presented at the August 31, 2018 Subregional Regional Transmission Expansion Plan (SRRTEP) Committee Western meeting. A month later, on September 28, 2018, the proposed solution was presented and was assigned PJM supplemental RTEP number s1718. Since that time, the scope of the overall Project changed, including the rebuild of a portion of the Nottingham-Yager No. 1 138 kV Transmission Line. The Project was re-presented at the September 11, 2020 SRRTEP Committee Western meeting and assigned RTEP number s2389. The PJM SSRTEP-Western presentation slide from the 2020 meeting is included as Exhibit 4 and provides additional details of the project drivers.

4906-6-05 (B)(3): Location of the Project Relative to Existing or Proposed Lines

The location of the Project relative to existing or proposed lines is shown in the ATSI Transmission Network Map, included as part of the confidential portion of the FirstEnergy Corp. 2023 Long-Term Forecast Report. This map was submitted to the PUCO in Case No. 23-0504-EL-FOR under Rule 4901:5-5:04 (C)(2)(b) of the Ohio Administrative Code. The map is incorporated by reference only. This map shows ATSI's 345 kV and 138 kV transmission lines and transmission substations including the Knox-Nottingham 138 kV Transmission Line. The Project is included on page 38 of the Long-Term Forecast Report and is a part of the larger Holloway-Nottingham-Knox 138 kV Line Rebuild Project. The general location and layout of the project area is shown in Exhibits 1 and 2.

4906-6-05 (B)(4): Alternatives Considered

Due to the physical condition of the existing transmission line and nature of the Project, there were only two alternatives considered; replacement of only the identified failed structures, or a full rebuild.

Alternative 1:

Replace 41 failed wood H-frame structures on the New Stacy (BUC)–Nottingham Segment and 17 failed wood H-frame structures on the Nottingham-Yager No. 1 138 kV Transmission Line with wood H-frame structures and re-use the existing conductor and shield wire. Includes construction of approximately 9.71 miles of access roads and restoration after replacement.

Alternative 2

Rebuild 10 miles of transmission line and 3.6 miles of the adjacent Nottingham-Yager No.1 138 kV Transmission Line, consisting of replacing all existing wood pole structures with steel monopoles, replacing conductor with 795 kcmil 26/7 ACSR and replacing the shield wire with 7/8# Alumoweld shield wire and OPGW. Includes construction of approximately 10.17 miles of access roads and restoration after project completion.

Several factors were considered by ATSI in opting to rebuild the entire line rather than continuing to maintain the deteriorating facilities. These factors include:

Existing Wood Pole Condition

As described in Section 4906-6-05 (B)(2), approximately 66% (New Stacy BUC-Nottingham) and approximately 65% (Nottingham-Yager No. 1 138 kV Transmission Line) of the wood poles have physical damage and/or signs of deterioration. This percentage will only increase over time, resulting in multiple returns by maintenance and repair crews, increased impacts, and greater costs. Replacing all the wood poles with steel structures eliminates damage caused by woodpeckers, reduces maintenance, and extends the life of the facilities.

Conductor Replacement and Upgrade

ATSI proposes to replace and upgrade the conductor to its current standard of 795 kcmil 26/7 ACSR as part of the Project. As stated above, this upgrade would not be completed under the Alternative 1 scenario. Not only would replacement of the conductor bring the

conductor to current standards, but replacement would also increase the line rating to 275 MVA (Summer Normal). The upgrade will improve reliability and performance, as well as support future load growth in the area. Replacing the conductor as part of this Project also eliminates the need for a complete reconductor project in the coming years as the conductor is aging along with the rest of the facilities.

Communications

Although outside the scope of this application, this Project will also facilitate ATSI's replacing the existing shield wire with one 7#8 Alumoweld shield wire and one OPGW. With the addition of OPGW in the proposed Project, ATSI is able to modernize grid protection and control communications between substations. Since the installation method is identical to traditional shield wire, the cost per mile of adding OPGW is negligible compared to the return on the investment from a reliability and communication perspective. If pole replacement is done under a maintenance approach, OPGW would not be installed, and a separate alternative fiber route may be required to meet communication enhancement needs.

Land Use and Sensitive Areas

As referenced in Section 4906-6-05 (B)(10), the land use in the area of the Project is primarily rural residential, agricultural, and mining. Disruption to landowners and/or operators is minimized in the proposed Project, as opposed to the multiple number of access times that would be necessary under the maintenance alternative. In cases where crops are planted, multiple access increases the potential for crop damage and payment for associated crop losses.

The United States Fish and Wildlife Service ("USFWS") and the Ohio Department of Natural Resources ("ODNR") identified the state and federally listed species that may potentially be affected by the Project. Seasonal restrictions, along with avoidance and minimization measures, were identified to reduce impacts to these species.

Overall land use impacts, including but not limited to crop and other environmental features, increase with multiple mobilizations as compared to a single construction project, as proposed. These impacts, along with the installation of barriers or matting and adhering to seasonal restrictions, lead to increased costs and complicate construction sequencing and outage coordination.

Safe and Reliable Service

ATSI has a duty to provide safe and reliable service to its customers and the condition of the New Stacy BUC-Nottingham Segment and a portion of the Nottingham-Yager No. 1 138 kV Transmission Line presents a significant risk to ATSI's ability to meet this obligation. The New Stacy BUC-Nottingham Segment and the 3.6-mile section of the Nottingham-Yager No. 1 138 kV Transmission Line serve multiple delivery points, including Buckeye Power's New Stacy Substation and AEP's Nottingham Substation.

The best approach is, therefore, to completely rebuild the New Stacy BUC-Nottingham Segment and the 3.6-mile section of the Nottingham-Yager No. 1 138 kV Transmission Line. ATSI believes that the rebuild project is the most cost-effective and least impactful approach to ensure its ability to continue to provide safe and reliable service to its customers.

4906-6-05 (B)(5): Public Information Program

ATSI's manager of External Affairs will advise local officials of features and the status of the proposed Project as necessary. ATSI will maintain a copy of this Letter of Notification, along with other Project information, on FirstEnergy's website:

https://www.firstenergycorp.com/about/transmission_projects/ohio.html.

ATSI will publish notice of the Project in the Harrison News Herald within 7 days of filing this Letter of Notification application. The notice will comply with OAC 4906-6-08(A)(1)-(6). In addition to the public notice, ATSI will mail letters in accordance with OAC 4906-6-08(B) explaining the Project to affected landowners and tenants and

informing them of the Project’s anticipated construction and restoration activities sequencing, including the start date and overall time frame.

During all phases of this Project, the public may contact ATSI through the transmission projects hotline at 1-888-311-4737 or via email at:

transmissionprojects@firstenergycorp.com.

4906-6-05 (B)(6): Construction Schedule

The construction schedule for this Project is expected to begin as early as February 2024 and is proposed to be completed/in-service by January 2025.

4906-6-05 (B)(7): Area Map

Exhibit 1 depicts the general location of the Project. Exhibit 2 provides a partial copy of ESRI aerial imagery of the Project area.

4906-6-05 (B)(8): Property Owner List

The Project is located on existing right-of-way. New temporary access rights may be required as part of the Project. Exhibit 5 contains a list of properties affected by the Project, specifying whether ATSI either has obtained or has not yet acquired the necessary easement/right-of-way/land rights.

4906-6-05 (B)(9): TECHNICAL FEATURES OF THE PROJECT

4906-6-05 (B)(9)(a): Operating Characteristics

The transmission line construction will have the following characteristics:

Voltage:	138 kV
Conductors:	795 kcmil 26/7 ACSR
Static Wire:	OPGW and 7#8 Alumoweld
Insulators:	Polymer and/or Porcelain
ROW Width:	150 feet (100-foot cleared corridor)

Land Requirements: Access Rights

Structure Types: Exhibit 6: 138 kV Double Circuit Steel Pole, Deadend (approximately 2 Structures)

Exhibit 7: 138 kV Double Circuit Steel Pole, Strain (approximately 4 Structures)

Exhibit 8: 138 kV Double Circuit Steel Pole, Suspension (approximately 20 Structures)

Exhibit 9: 138 kV Single Circuit Steel Pole, Suspension (approximately 30 Structures)

Exhibit 10: 138 kV Single Circuit Steel Pole, Deadend (approximately 2 Structures)

Exhibit 11: 138 kV Single Circuit Steel Pole, Strain (approximately 4 Structures)

Exhibit 12: 138 kV Single Circuit Steel Pole, Angle (approximately 4 Structures)

Exhibit 13: 138 kV Single Circuit Steel Pole, Switch (approximately 1 Structure)

Exhibit 14: 138 kV Single Circuit Steel Pole, Tap (approximately 1 Structure)

4906-6-05 (B)(9)(b): Electric and Magnetic Fields

There are no occupied residences or institutions within 100 feet from the existing transmission line centerline, therefore, no Electric and Magnetic Field (“EMF”) calculations are required by this code provision.

4906-6-05 (B)(9)(c): Estimated Cost

The estimated capital cost for the proposed Project is approximately \$39,112,000. Although not statutorily required for approval but at the request of OPSB Staff, ATSI is providing that ATSI’s costs will be captured and allocated via FERC formula rates for the ATSI Transmission Zone, Attachment H-21 in the PJM OATT.

4906-6-05 (B)(10): SOCIAL AND ECOLOGICAL IMPACTS

4906-6-05 (B)(10)(a): Land Uses

The Project is located in Archer, Cadiz and Athens Townships in Harrison County, Ohio.

4906-6-05 (B)(10)(b): Agricultural Land

A list of all agricultural land and acreage including agricultural district land is provided in Exhibit 5.

4906-6-05 (B)(10)(c): Archaeological or Cultural Resources

On behalf of ATSI, Jacobs Engineering Group Inc. (“Jacobs”) submitted a Section 106 Review (“Review”) for the entire Knox-Nottingham 138kV Transmission Line Project in August 2020. The Review examined the records available through the Ohio Office of Historic Preservation’s (“OHPO”) online mapping database for known cultural resources within a 1-mile radius of the entire Project footprint (APE). As currently designed, all of the off-ROW preliminary access roads are within the 1-mile study area.

In a letter dated September 16, 2020 (attached as Exhibit 16), the OHPO concurred that the Project, as proposed, will not affect historic properties. Due to periodic updates to the OHPO online mapping system, an updated records review was conducted on September 20, 2023. This review identified 20 OAI (Ohio Archaeological Inventory)-listed archaeological sites, 14 OHI (Ohio Historical Inventory)-listed resources, 4 OGS (Ohio Genealogical Society)-listed cemeteries. Additionally, 21 previous archaeological surveys have been documented within one mile of the Project.

The results of the records review identified 20 OAI-listed archaeological sites within 1-mile of the Project. This includes 12 prehistoric era sites, 7 historic era sites, and one site with prehistoric and historic components. There are no previously recorded archaeological sites within the APE. The closest site to the ROW is site HN0051, a historic artifact scatter

of unknown temporal period approximately 295 feet east of _____ on a small terrace. The site HN0051's NRHP status is currently unknown and will not be affected by the Project.

The results of the records review identified 14 OHI-listed resources within 1-mile of the Project. This includes nine single-family dwellings, four agricultural resources, and one historic bridge. None of the above-ground resources are within the Project ROW. The closest OHI-listed above-ground resource is HAS0031611, also known as the John Finical Farm, located approximately 0.09 miles from the project area. The resource is not located next to any existing pole locations and will not be affected by the Project.

The results of the records identified 4 OGS cemeteries within 1-mile of the Project. Of these 4 OGS cemeteries, only one is within the Project ROW, the Hines-Moravian Ridge Cemetery on Deersville Ridge Road. As the Project is in an unoccupied section of the cemetery property, the cemetery will not be affected by the Project.

Two of the 21 previous archaeological surveys intersect the APE. One survey consists of a 1988 Phase I & II investigation in support of a coal-related project. The second survey consists of a 2014 Phase I investigation in support of a 138 kV switch installation.

Based upon this updated review, the Project will not impact any previously recorded archaeological sites or historic properties. Jacobs recommends that no further archaeological or architecture history investigations are required.

4906-6-05 (B)(10)(d): Construction Filings with Local, State and Federal Governmental Agencies

Table 2

Governmental Agency	Documents
Ohio Environmental Protection Agency (OEPA)	General NPDES Construction Storm Water Permit OHC000006
Harrison County Soil and Water Conservation District	Storm Water Pollution Prevention Plan (SWP3) – Review Application
Harrison County	Floodplain Development Review
Ohio Department of Transportation; Harrison County; Athens, Archer, and Cadiz Townships	Driveway Entrance Permits (MR 505, Driveway Permit for Construction within the County Right-of-Way Limits)
Ohio Department of Transportation; Harrison County; Athens, Archer, and Cadiz Townships	Roadway Occupancy Permits and review (MR 505, Use of County Right of Way Permit, Utility Installation Application Permit)
Harrison County; Athens, Archer, and Cadiz Townships	Special Hauling Permit and Road Use Maintenance Agreement (RUMA)
Columbus & Ohio River Railroad	Railroad Crossings Permits

4906-6-05 (B)(10)(e): Endangered, Threatened, and Rare Species Investigation

Jacobs, on behalf of ATSI, submitted a request to the Ohio Department of Natural Resources (“ODNR”) to conduct an Environmental Review of the Project area on January 17, 2023. As part of the Environmental Review, the ODNR conducted a search of the ODNR Division of Wildlife’s Natural Heritage Database to research the presence of any endangered, threatened, or rare species within one (1) mile of the Project area. The ODNR’s response on February 7, 2023, stated that the Natural Heritage Database had two (2) state endangered species, three (3) state threatened species, two (2) state species of

concern and a mussel bed within a one (1) mile radius of the Project area. The Division of Wildlife found that within range of the project area, there are: one (1) state and federally endangered species; one (1) state endangered and federally threatened species; one (1) state endangered and federal species of concern; six (6) state endangered species; and three (3) state threatened species. A copy of ODNR’s response is included as Exhibit 17.

Jacobs also submitted a request to the U.S. Fish and Wildlife Service (“USFWS”) for an Ecological Review on January 17, 2023, to research the presence of any endangered, threatened, or rare species within one (1) mile of the Project area. A copy of USFWS’s Ecological Review response is included as Exhibit 18. The USFWS’s response on January 26, 2023, indicated the federal and state endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (*Myotis septentrionalis*) are within the range of the Project. A list of all endangered species, threatened species, and species of concern identified by ODNR and USFWS is provided in Table 3.

Table 3. List of Endangered, Threatened, and Rare Species

Common Name	Scientific Name	Federal Listed Status	State Listed Status	Affected Habitat
Mammals				
Indiana bat	<i>Myotis sodalis</i>	Endangered	Endangered	Trees and forests
Northern long-eared bat	<i>Myotis septentrionalis</i>	Endangered ²	Endangered	Trees and forests
Little brown bat	<i>Myotis lucifugus</i>	NA	Endangered	Trees and forests
Tricolored bat	<i>Perimyotis subflavus</i>	NA	Endangered	Trees and forests
Birds				
Upland sandpiper	<i>Bartramia longicauda</i>	NA	Endangered	Grasslands

² As of March 2023

Northern harrier	<i>Circus cyaneus</i>	NA	Endangered	Marshes and grasslands
Sharp-shinned hawk	<i>Accipiter striatus</i>	NA	Species of Concern	Forests and agricultural
Barn owl	<i>Tyto alba</i>	NA	Threatened	Forests and agricultural
Amphibians				
Eastern hellbender	<i>Cryptobranchus alleganiensis</i>	Species of Concern	Endangered	Streams
Mussels				
Butterfly	<i>Ellipsaria lineolata</i>	NA	Endangered	Streams
Slippershell mussel	<i>Alasmidonta viridis</i>	NA	Threatened	Streams
Creek heelsplitter	<i>Lasmigona compressa</i>	NA	Species of Concern	Streams
Fish				
Western banded killifish	<i>Fundulus diaphanus menona</i>	NA	Endangered	Streams
Channel darter	<i>Percina copelandi</i>	NA	Threatened	Streams
Paddlefish	<i>Polyodon spathula</i>	NA	Threatened	Streams
River darter	<i>Percina shumardi</i>	NA	Threatened	Streams
Plants				
Drummond's aster	<i>Symphotrichum drummondii</i>	NA	Threatened	Forest openings

The response from ODNR and USFWS indicated the Project is within range of the federal and state endangered Indiana bat, the federal and state endangered northern long-eared bat, the state endangered little brown bat (*Myotis lucifugus*), and the tricolored bat (*Perimyotis subflavus*). Project construction will primarily occur within the existing 100-foot-wide ROW; however, minor tree clearing may be necessary for portions of the Project. Trees adjacent to the existing ROW that are dead, dying, diseased, leaning, significantly encroaching, or prone to failure may require clearing to allow for safe operation of the

transmission line. ATSI will utilize existing access roads and non-forested areas for any proposed access roads for the Project. Minor tree limb trimming may be needed along existing access roads in order to widen the access to the appropriate width required for construction equipment. To mitigate any potential bat roosting habitat impacts, any tree clearing needed for the Project will occur between October 1st and March 31st to minimize impacts to these species. Therefore, there will be no adverse effect to these bat species.

The response from ODNR indicated the Project is within range of the northern harrier (*Circus cyaneus*), a state endangered bird. Impacts to large marshes and grasslands should be avoided during the nesting period of April 15th to July 31st.

The response from ODNR indicated the Project is within range of the upland sandpiper (*Bartramia longicauda*), a state endangered bird. Impacts to dry grasslands, including native grasslands, seeded grasslands, hayfields, and grazed and un-grazed pastures, should be avoided during the nesting period of April 15th to July 31st.

The response from ODNR Ohio Natural Heritage Database indicated the Sharp-shinned hawk (*Accipiter striatus*), a state species of concern bird, and the barn owl (*Tyto alba*), a state threatened bird, have been observed within one-mile of the Project area. No sightings or nests of these species were observed during the environmental surveys of the Project.

The response from ODNR indicated the Project is within the range of the eastern hellbender (*Cryptobranchus alleganiensis*), a state endangered salamander and federal species of concern. There will be no impacts to these species due to the Project's location and no in-stream work is proposed.

The response from ODNR indicated the Project is within the range of three state listed mussels: the butterfly (*Ellipsaria lineolata*, state endangered), slippershell mussel

(*Alasmidonta viridis*, state threatened), and creek heelsplitter (*Lasmigona compressa*, state species of concern). There will be no impacts to these species due to the Project's location and no in-stream work is proposed.

The response from ODNR indicated the Project is within the range of four state listed fish: the western banded killifish (*Fundulus diaphanus menona*, state endangered), channel darter (*Percina copelandi*, state threatened), paddlefish (*Polyodon spathula*, state threatened), and river darter (*Percina shumardi*, state threatened). There will be no impacts to these species due to the Project's location and no in-stream work is proposed.

At the time of the field surveys, Jacobs' biologists documented land use and general habitats along the Project area. Based on this general assessment, Jacobs is identifying locations of grassland areas that may be potential habitat for nesting bird species that were identified by ODNR. This habitat assessment is currently being developed and will be provided to ODNR in a follow-up correspondence for the Project. ATSI has indicated that the installation of the access roads and work pads within any identified grassland habitat areas will take place outside of the corresponding seasonal nesting restrictions. If construction would be needed within the seasonal restricted months, ATSI has indicated that timber matting would be installed along these areas prior to April 15th to avoid impacts to these potential nesting bird species by inhibiting nesting within those work areas.

Jacobs is presently mapping the various habitats within the Project's disturbance area to identify any areas of concern relating to the above-listed species. Coordination with ODNR will continue to evaluate appropriate avoidance and minimization measures, including but not limited to sequencing construction activities to address seasonal restrictions to reduce potential impact.

4906-6-05 (B)(10)(f): Areas of Ecological Concern

Jacobs, on behalf of ATSI, consulted with the ODNR and the USFWS for the presence of any unique ecological sites, geological features, animal assemblages, scenic rivers, state wildlife areas, nature preserves, parks or forest, national wildlife refuges, or other protected natural areas within one (1) mile of the project area. The ODNR's response on February 7, 2023, did not indicate the presence of any areas of ecological concern within the vicinity of the Project area. A copy of ODNR's response is included as Exhibit 17. The USFWS's response on January 26, 2023, did not indicate any federal wilderness areas, wildlife refuges, or designated critical habitat within the vicinity of the Project area. A copy of USFWS's Ecological Review response is included as Exhibit 18.

ATSI contracted Jacobs to conduct a wetland and stream delineation of the Knox-Nottingham 138 kV Transmission Line Rebuild Project – New Stacy BUC to Nottingham Sub Segment. Jacobs' assessment focused on the Project area consisting of approximately 9.7-miles of existing 150-foot wide (100-foot cleared corridor) transmission line right-of-way (ROW), access roads, and work areas. The Project is in Harrison County starting at the Buckeye Power New Stacy Substation and ending at Nottingham Substation, as shown in Exhibits 1 and 2.

Jacobs conducted an environmental survey of the Knox-Nottingham 138 kV Transmission Line Rebuild Project – New Stacy BUC to Nottingham Sub Segment in October 2023. A total of 33 wetlands, 33 streams, and eight ponds were delineated within the environmental survey corridor (ESC) as shown in Figures 3-1 through 3-39 of Exhibit 19. The 33 wetlands totaling 10.17 acres within the ESC included 32 PEM wetlands and one PEM/PSS wetland complex. Of the 33 wetlands, 21 were identified as Category 1 wetlands and 12 were identified as Category 2 wetlands. No Category 3 wetlands were identified within the ESC. The 33 streams totaling 5,873 linear feet within the ESC included 17 ephemeral streams, 10 intermittent streams, and six perennial streams. Three streams had an OEPA designated use, two streams were assessed using QHEI

methodology (drainage area greater than one square mile), and 28 streams were assessed using HHEI methodology (drainage area less than one square mile). Additionally, eight ponds were identified, totaling 1.94 acres within the ESC.

Through the initial design phase, ATSI avoided the placement of structures and access roads within wetlands to the extent practical. No proposed structures will be placed within wetlands along the Project; therefore, no permanent impacts to wetlands will occur. There are 11 unavoidable PEM wetland and one PSS wetland that will be temporarily disturbed by access roads and/or work pads. In these areas, a total of approximately 0.31 acre of wetlands will be temporarily disturbed during construction by the installation of timber matting for access road crossings and work pads. Temporarily affected PEM and PSS wetland areas will be restored to pre-construction contours and the site will be stabilized and seeded after construction as needed. All streams will be crossed above the ordinary high-water mark to avoid impacts and no in-stream work is proposed for the Project. Additionally, ATSI will utilize best management practices to avoid any indirect impact to streams and wetlands through its use of erosion and sediment controls. Streams will either be avoided or bridged (no work below the ordinary high-water mark), and wetlands will be traversed using low ground pressure equipment and/or matted through.

Additionally, a review of the online FEMA Flood Insurance Rate Mapping was performed. Some Project work limits in Harrison County are located within a regulated floodplain. Jacobs will consult with Harrison County Floodplain Administrator for floodplain development review if required.

4906-6-05(B)(10)(g): Other Information

Construction and operation of the proposed Project will be in accordance with the requirements specified in the latest revision of the NESC as adopted by the PUCO and will meet all applicable safety standards established by the Occupational Safety and Health Administration.

No other or unusual conditions are expected that will result in significant environmental, social, health or safety impacts.

4906-6-07: Documentation of Letter of Notification Transmittal and Availability for Public

Review

This Letter of Notification is being provided concurrently with its docketing with the Board to the following officials:

Harrison County

Commissioner Amy Norris
Harrison County Commissioner
538 North Main Street
Cadiz, OH 43907

Commissioner Paul Coffland
Harrison County Commissioner
538 North Main Street
Cadiz, OH 43907

Commissioner Dustin Corder
Harrison County Commissioner
538 North Main Street
Cadiz, OH 43907

Douglas N. Bachman P.E., P.S
Harrison County Engineer
1 Service Garage Rd
Cadiz, Ohio 43907

Archer Township

Matthew Dulkoski
Archer Township Trustee
44690 Jewett Hopedale Rd
Jewett, OH 43986

Troy Blackburn
Archer Township Trustee
87329 Briar Rd
Jewett, OH 43986

Aaron Dodds
Archer Township Trustee
83510 Bakers Ridge Rd
Cadiz, OH 43907

Renea Riesen
Archer Township Fiscal Officer
85201 Bell Hill Rd
Cadiz, OH 43907

Cadiz Township

Ray Poillucci
Cadiz Township Trustee
652 McCready Ave
Cadiz, OH 43907

C Scott Porter
Cadiz Township Trustee
380 Oak Park
Cadiz, OH 43907

Clint Barr
Cadiz Township Trustee
111 Old Steubenville Pike
Cadiz, OH 43907

Brenda Carter
Cadiz Township Fiscal Officer
267 Charleston St
Cadiz, OH 43907

Athens Township

Mr. Robert Applegarth
Athens Township Trustee
43270 Stumptown Rd
Cadiz, OH 43907

Mr. Michael Saffell
Athens Township Trustee
193 N Main St, P.O.Box 28
New Athens, OH 43981

Mr. David Butler
Athens Township Trustee
117 E Wheeling St
New Athens, OH 43981

Mr. David Allen Watson
Athens Township Fiscal Officer
74070 Flushing New Athens Rd.
PO Box 147
New Athens, OH 43981

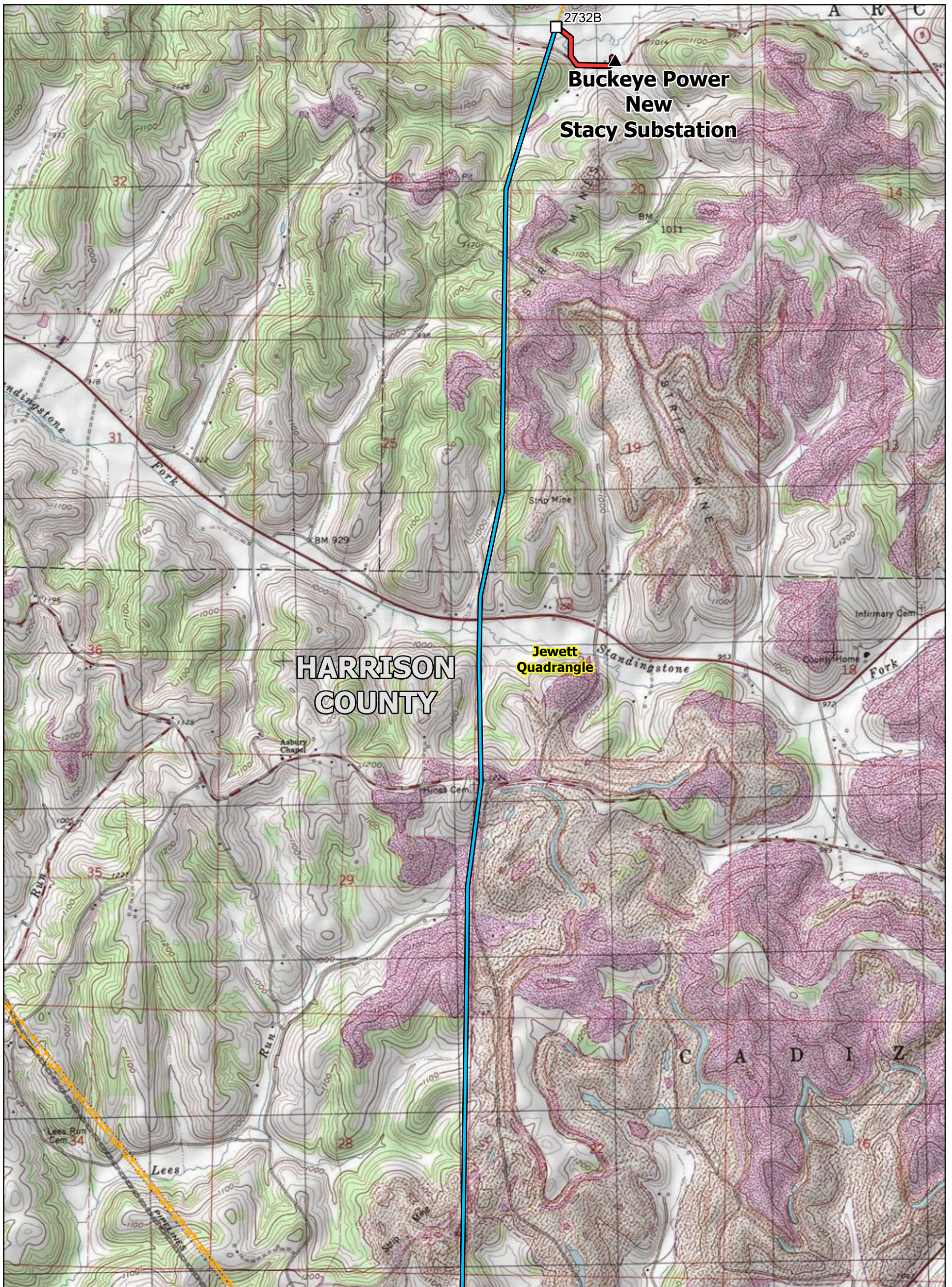
Libraries

Ms. Sandi Thompson, Director
Puskarich Public Library
200 E Market St.
Cadiz, OH 43907

Copies of the transmittal letters to these officials have been included with this application as proof of compliance under OAC Rule 4906-6-07 (B) to provide the Board with proof of notice to local officials as required by OAC Rule 4906-6-07 (A)(1) and to libraries per OAC Rule 4906-6-07 (A)(2).

Information is posted at: www.firstenergycorp.com/about/transmission_project/ohio.html on how to request an electronic or paper copy of this Letter of Notification application.

The link to this website is being provided to meet the requirements of OAC Rule 4906-6-07 (B) and to provide the Board with proof of compliance with the notice requirements in OAC Rule 4906-6-07 (A)(3).

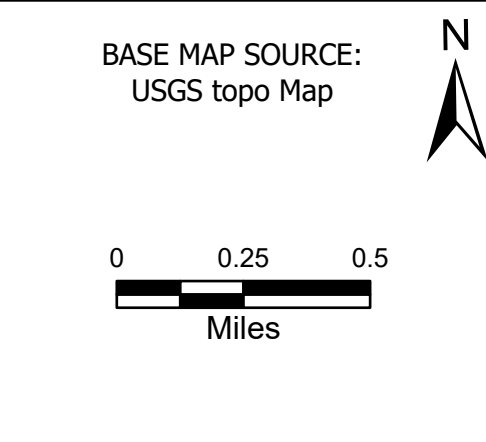




**Buckeye Power
New
Stacy Substation**

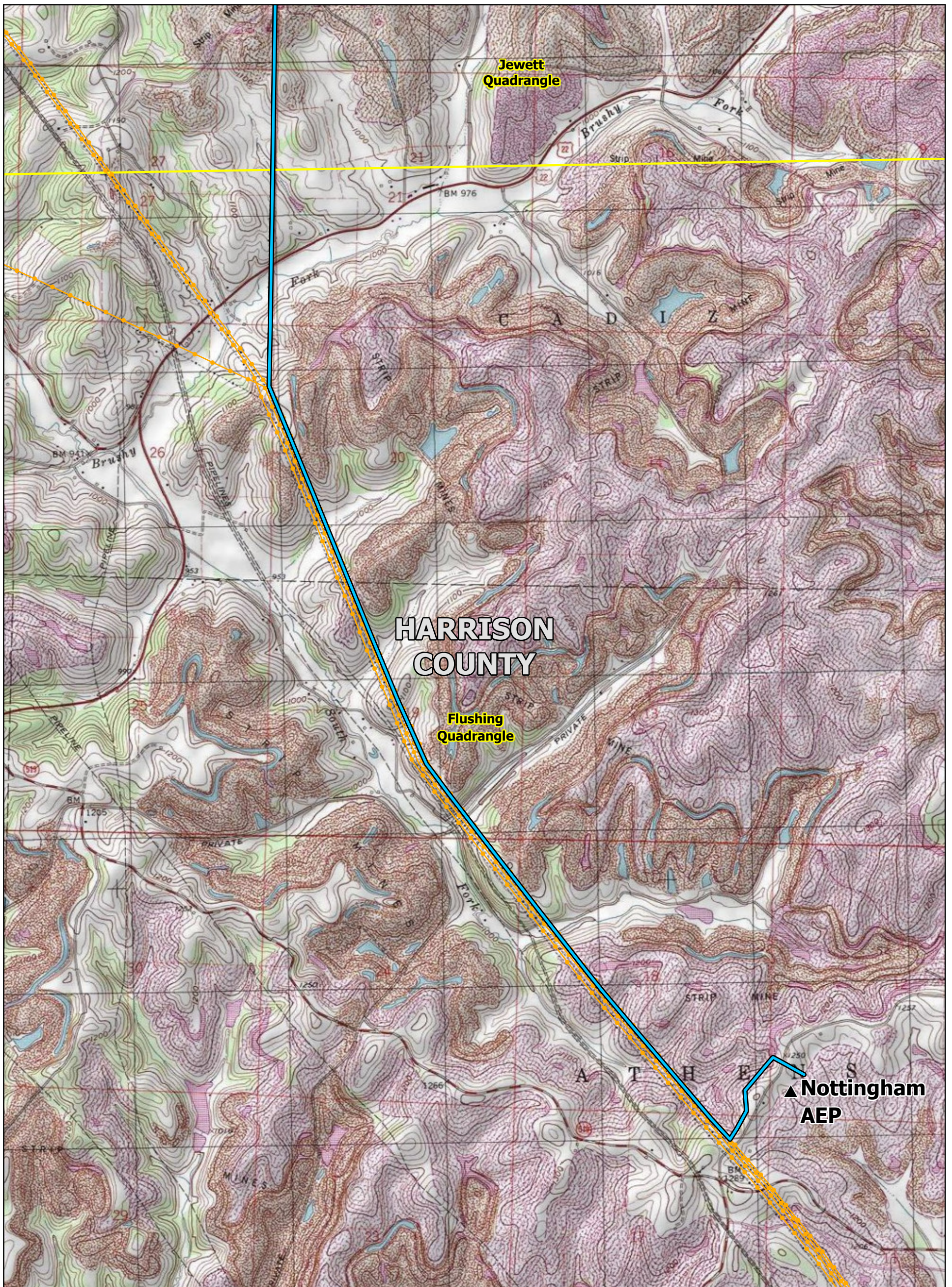
**HARRISON
COUNTY**

**Jewett
Quadrangle**

- Legend**
- ▲ Substation
 - Existing Structure
 - Transmission Line
 - Proposed New Stacy BUC-Nottingham 138kV Centerline (Phase 4)
 - Existing Transmission Line Owned By Others
 - County Boundary
 - Topographical Quadrangle Boundary



 <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	<i>Knox-Nottingham 138 kV Transmission Line Rebuild Project New Stacy BUC - Nottingham Segment</i>
Exhibit 1 TOPOGRAPHIC OVERVIEW MAP	
PN: D3449600	DATE: 10/25/2023
CREATED BY: RD	
REVIEWED BY: BO	



Legend

- ▲ Substation
- Transmission Line
- Proposed New Stacy BUC-Nottingham 138kV Centerline (Phase 4)
- ▭ County Boundary
- ▭ Topographical Quadrangle Boundary









BASE MAP SOURCE:
USGS topo Map

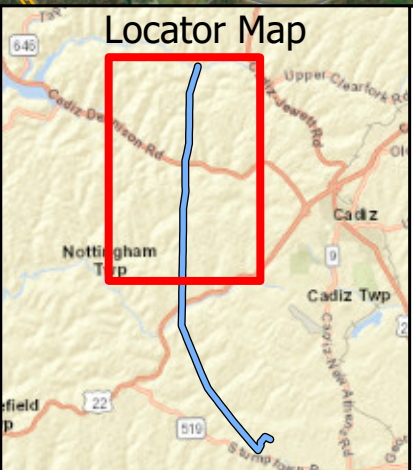
0 0.25 0.5
Miles

	<p><i>Knox-Nottingham 138 kV Transmission Line Rebuild Project New Stacy BUC - Nottingham Segment</i></p>
<p>Exhibit 1-2 TOPOGRAPHIC OVERVIEW MAP</p>	
<p>PN: D3449600</p>	<p>DATE: 10/25/2023</p>
<p>CREATED BY: RD</p>	
<p>REVIEWED BY: BO</p>	





Legend

-  Substation
-  Existing Structure
-  Transmission Line
-  Proposed New Stacy BUC-Nottingham 138kV Centerline (Phase 4)
-  Existing Transmission Line Owned By Others
-  County Boundary



BASE MAP SOURCE:
ESRI World Imagery

N


0 0.25 0.5

Miles

ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	<small>Knox-Nottingham 138 kV Transmission Line Rebuild Project New Stacy BUC - Nottingham Segment</small>
EXHIBIT 2 AERIAL OVERVIEW MAP	
PN: D3449600	DATE: 10/25/2023
CREATED BY: RD	Jacobs
REVIEWED BY: BO	

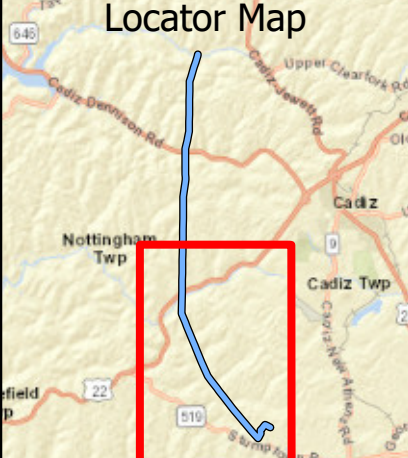


**HARRISON
COUNTY**

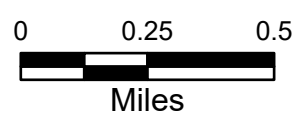
**▲ Nottingham
AEP**

Legend

- ▲ Substation
- Transmission Line
- Proposed New Stacy BUC-Nottingham 138kV Centerline (Phase 4)
- County Boundary



BASE MAP SOURCE:
ESRI World Imagery



*Knox-Nottingham 138 kV
Transmission Line Rebuild Project
New Stacy BUC -
Nottingham Segment*

**EXHIBIT 2 - 2
AERIAL OVERVIEW MAP**

PN: D3449600

DATE: 10/25/2023

CREATED BY: RD

REVIEWED BY: BO





HARRISON COUNTIES
STATE OF OHIO

HARRISON COUNTY
BELMONT COUNTY

3.6 MILE DOUBLE CIRCUIT SECTION

▲ NOTTINGHAM
SUB

KNOX-NOTTINGHAM 138 KV TRANSMISSION LINE
(NEW STACY BUC TO NOTTINGHAM SUB SEGMENT)

NOTTINGHAM - YAGER NO. 1 138 KV TRANSMISSION LINE

△
NEW STACY
BUC SUB

HARRISON COUNTY
CARROLL COUNTY

LEGEND

- ▲ - FIRSTENERGY SUBSTATION
- △ - OTHER SUBSTATION
- - - - - 138KV TRANSMISSION REBUILD
- EXISTING 138 KV TRANSMISSION LINE
(NO WORK PERFORMED)
- — — — — COUNTY BOUNDARIES



Knox-Nottingham 138 kV Transmission Line Rebuild
Project – New Stacy BUC to Nottingham Sub Segment

GENERAL LAYOUT

EXHIBIT 3

PAPER SIZE: 11X8.5

SCALE: NTS

ATSI Transmission Zone

Holloway-Nottingham-Knox 138 kV Line

Previously Presented: 8/31/2018 SRTEP

Problem Statement (Scope and Need/Drivers)

Equipment Material Condition, Performance and Risk

- Improve system reliability and performance
- Remove obsolete and deteriorated equipment
 - 53 to 82 year old construction
 - ~~57%-83%~~ inspection rejection rate
 - ~~Approximately 29 repair records over the past 3 years; increasing trend~~
 - ~~529 active repair conditions; negative increase in maintenance findings~~
- Upgrade to current standards
- Support shale gas load growth area; multiple (6) transmission service connections

Potential Solution:

Holloway-Nottingham-Knox 138 kV Line Rebuild (s1718)

- Rebuild the existing Knox-Nottingham 138 kV Line (Approximately 44 miles).
- Rebuild the existing Nottingham-Holloway #1 138 kV Line (Approximately 21 miles)
- Existing Conductor: Mixed conductor 795 ACSR & 477 ACSR
- Future Conductor: 795 ACSR
- Old Rating 158 MVA SN New Rating 275 MVA SN
- Rebuild the existing Nottingham-Holloway #2 138 kV Line (Approximately 21 miles) sharing a structure with the Nottingham-Holloway #1 138 kV Line
- Old Rating 200 MVA SN New Rating 275 MVA SN
- Rebuild a portion of the Nottingham-Yager #1 138 kV Line (Approximately 3.6 miles) sharing a structure with the Knox-Nottingham 138 kV Line
- Old Rating 200 MVA SN New Rating 275 MVA SN

Alternatives Considered: Maintain existing condition

Estimated Project Cost: \$193.8M

Project ISD: 5/31/2025

Status: Engineering

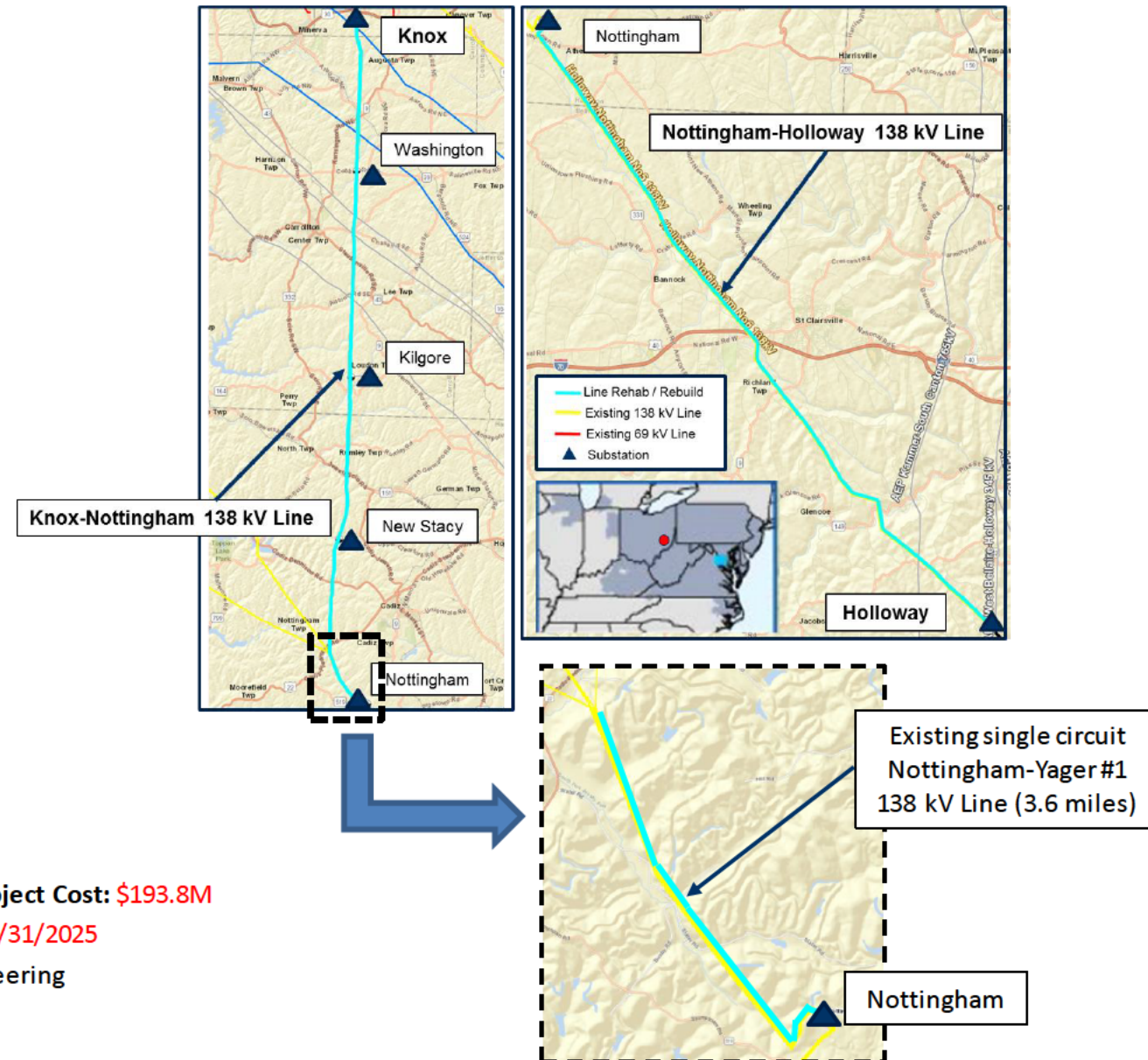
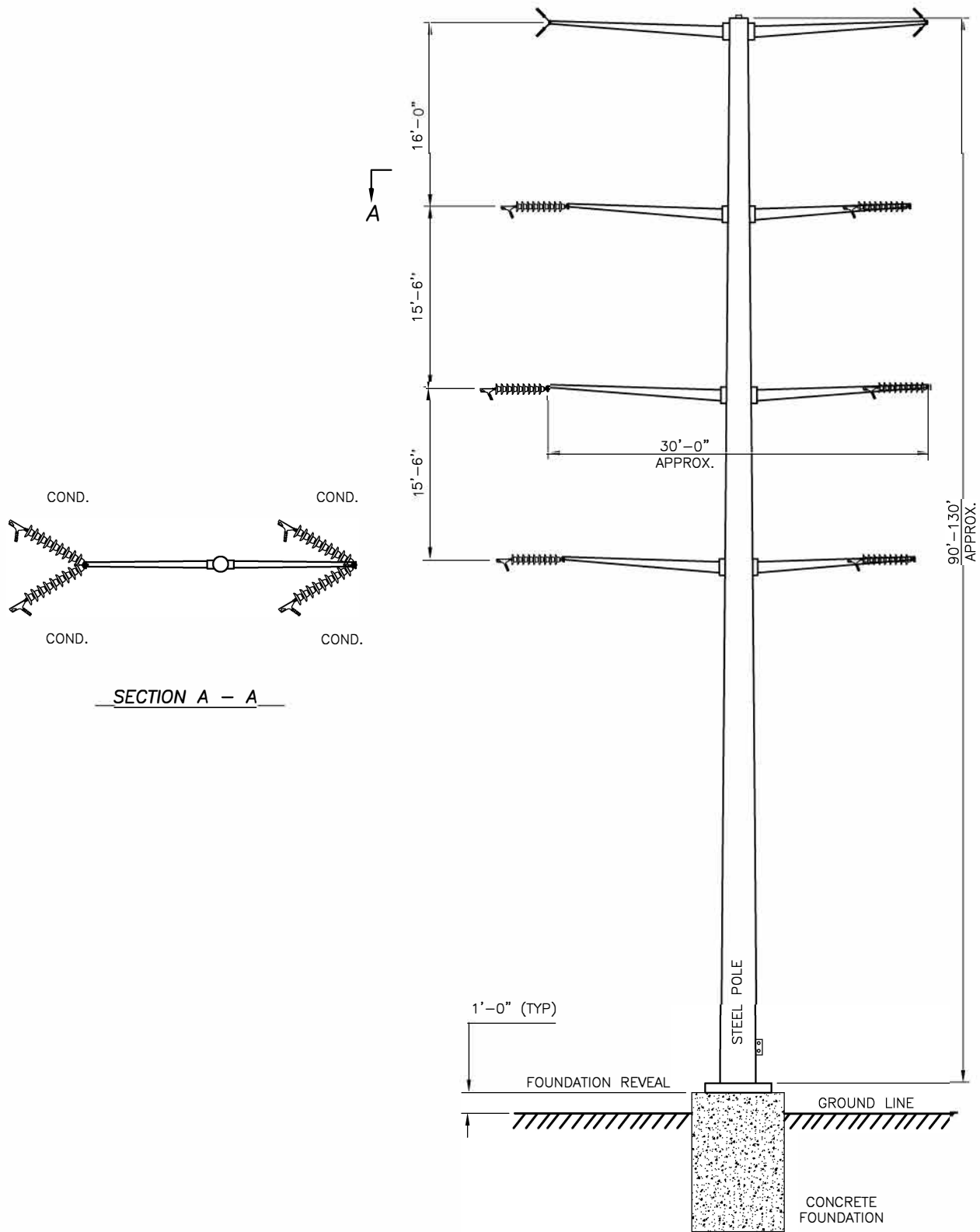


Exhibit 5
Property Owner List and Agricultural Land
Knox-Nottingham 138 kV Transmission Line Rebuild Project –
New Stacy to Nottingham Sub Segment
Case Number 23-1013-EL-BLN

Parcel Number	Acreage	Easement Status	Agricultural District (Yes/No)	Agricultural District Expiration Year
10000345000	221.02	Existing	No	N/A
040000096000, 040000096001	87.8 .1487	Existing	No	N/A
020000265000	12.014	Existing	No	N/A
040000577003	6.7	Existing	No	N/A
040000003004	29.16	Existing	No	N/A
040000578000	1.69	Existing	No	N/A
020000116000	No Data	Existing	N/A	N/A
020000154000 020000129000 020000153000 020000134000 020000136000	105.00 141.00 No Data 7.00 90.129	Existing	No	N/A
010000104000 290000052000	114.00 21.38	Existing	No	N/A
040000581001 040000581002 040000219000 040000581000 040000581003	63.985 72.557 40.875 24.00 3.02	Existing	Yes Yes Yes Yes No	2027
010000068001 010000240000 010000066001 010000076001 010000070004 010000069002 010000157000 040000192000 010000195003 010000070002	56.13 No Data 72.176 71.25 3.294 9.79 71.523 40.837 48.2412 26.13	Existing	No	N/A
020000152000 040000004000 020000131000 020000215000 020000103000	32.26 93.09 476.319 4.159 368.134	Existing	No	N/A
020000448000	190.19	Existing	No	N/A
040000208002, 040000208000	91.6 73.81	Existing	No	N/A
040000189000, 010000154000	29.75 60.00	Existing	No	N/A
040000188000,	84.00	Existing	No	N/A

Exhibit 5
Property Owner List and Agricultural Land
Knox-Nottingham 138 kV Transmission Line Rebuild Project –
New Stacy to Nottingham Sub Segment
Case Number 23-1013-EL-BLN

040000186000	35.279			
040000103002, 040000115005	8.417 5.574	Existing	No	N/A
040000358001, 040000207000, 040000117001, 040000206000	.62 122.5 28.82 52.7	Existing	No	N/A
010000564000	10.32	Existing	No	N/A
020000263000	198.29	Existing	No	N/A
040000117007	13.008	Existing	No	N/A
040000264000, 040000115001, 040000252002, 040000115004, 040000115003, 040000115002	40.00 7.38 8.35 11.78 12.8 59.83	Existing	No	N/A
040000115000, 040000250000, 040000103001, 040000633001, 040000588000, 040000185000	22.633 85.8101 73.0524 12.215 73.28 84.00	Existing	No	N/A
040000192002, 040000192003, 010000066000, 010000156000, 010000156002	55.917 73.698 25.063 29.569 99.23	Existing	Yes Yes No Yes No	2027
010000240000	27.831	Existing	No	N/A
020000212000, 020000217000, 040000094000, 040000072000	639.613 69.096 341.449 606.159	Existing	No	N/A
040000271000, 040000270000	81.75 59.94	Existing	No	N/A
020000215005, 020000215003, 020000252011, 020000215006	8.00 21.45 6.858 24.212	Existing	No	N/A
010000195000	26.9299	Existing	No	N/A
020000252002, 020000215001, 020000217003, 020000215002	63.25 48.07 .33 3.6	Existing	No	N/A
040000655000	1.0	Existing	No	N/A



NOTE:
DETAILS DEPICTED IN FIGURE CAN BE APPLIED FOR ANY TYPE
OF DOUBLE CIRCUIT STEEL POLE DEADEND CONFIGURATION.

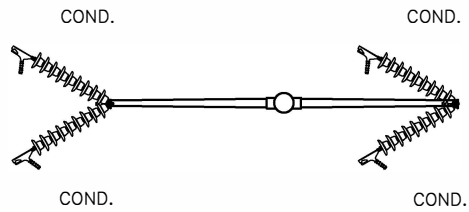
**NOT TO SCALE

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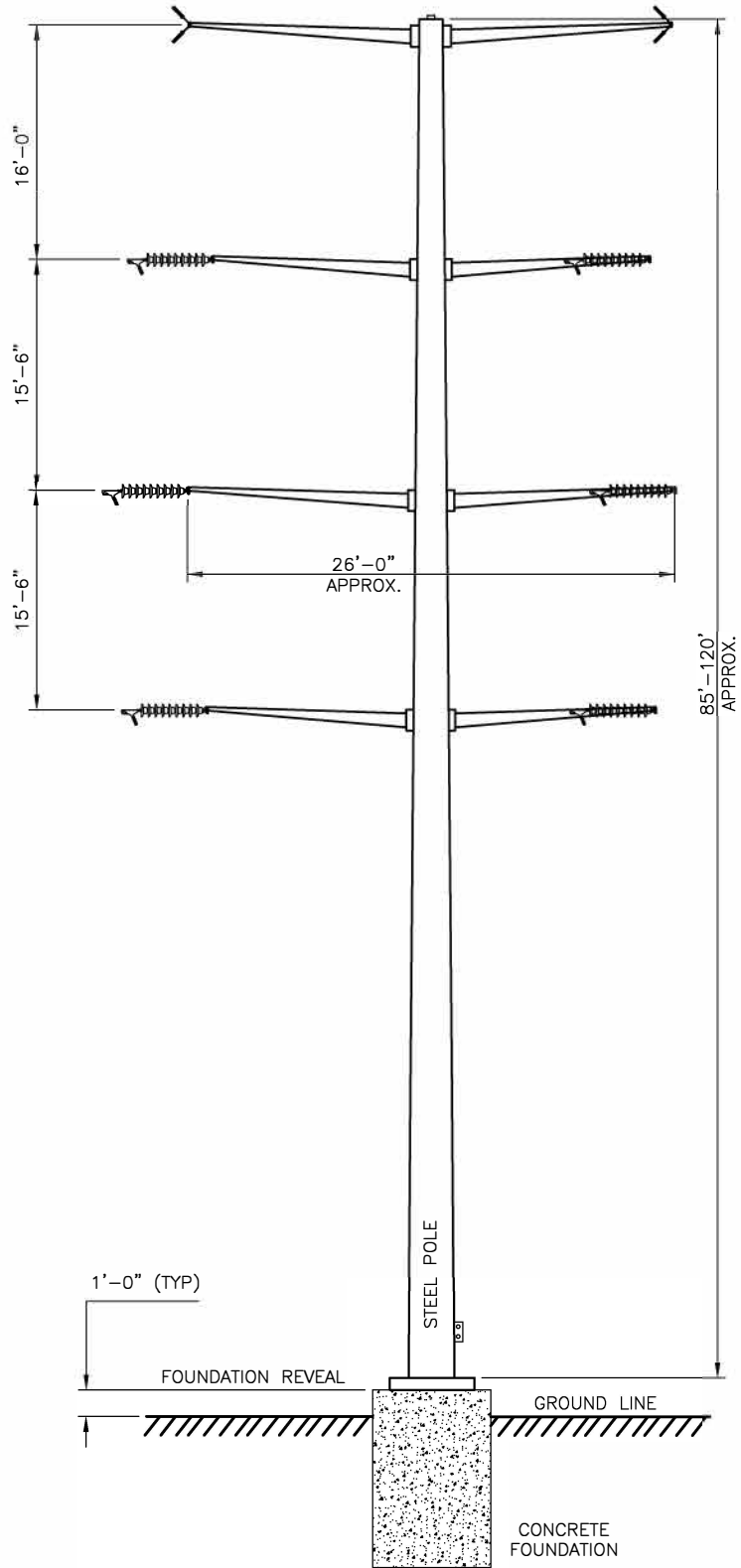
Knox-Nottingham 138 kV Transmission Line Rebuild
Project – New Stacy BUC to Nottingham Sub Segment

138kV DOUBLE CIRCUIT
STEEL POLE, DEADEND

EXHIBIT 6



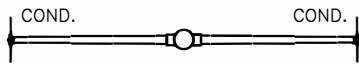
SECTION A - A



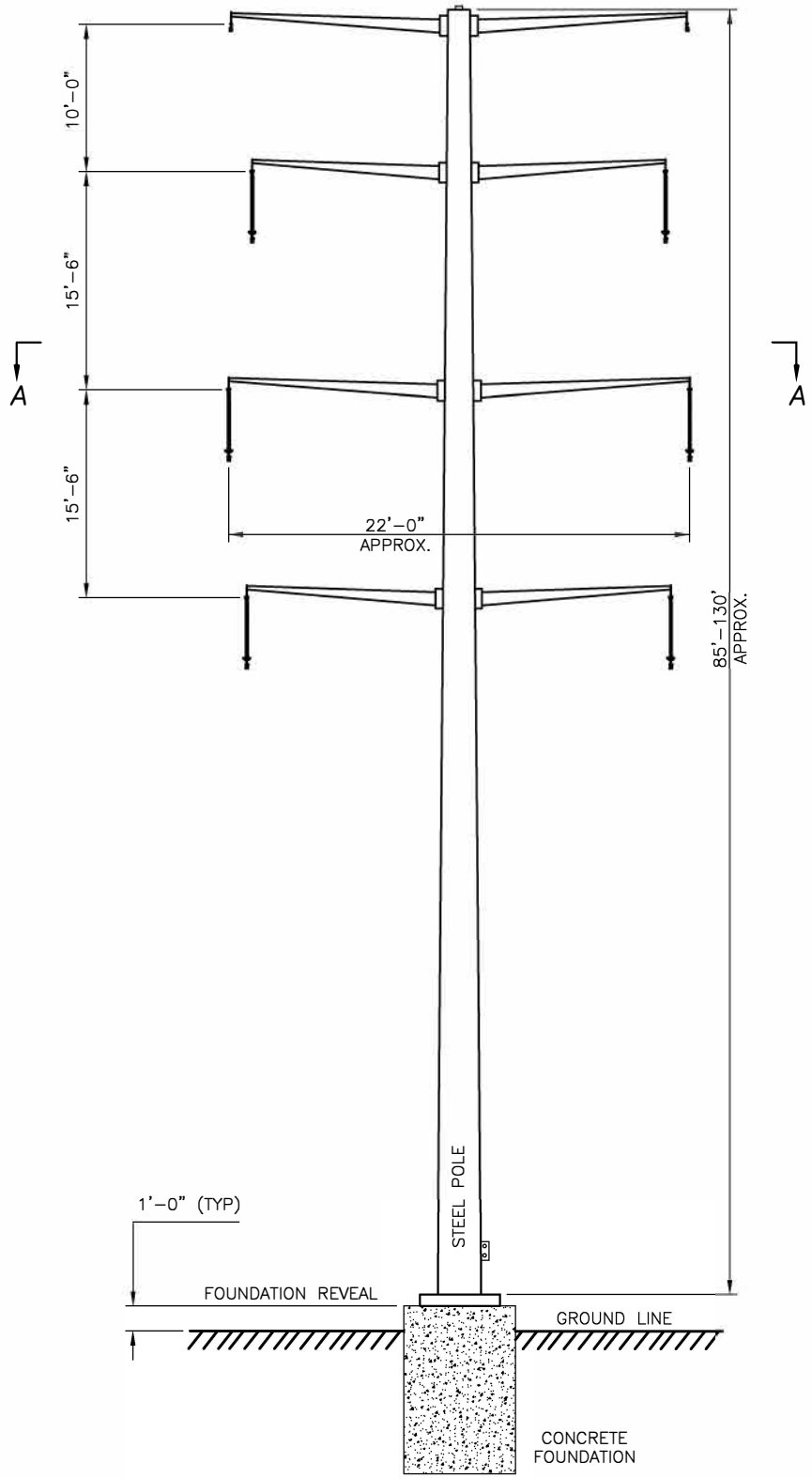
NOTE:
 DETAILS DEPICTED IN FIGURE CAN BE APPLIED FOR ANY TYPE
 OF DOUBLE CIRCUIT STEEL POLE STRAIN CONFIGURATION.

**NOT TO SCALE

	Knox-Nottingham 138 kV Transmission Line Rebuild Project – New Stacy BUC to Nottingham Sub Segment
<h1>138kV DOUBLE CIRCUIT STEEL POLE, STRAIN</h1>	
<h2>EXHIBIT 7</h2>	



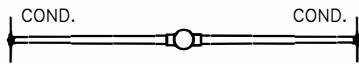
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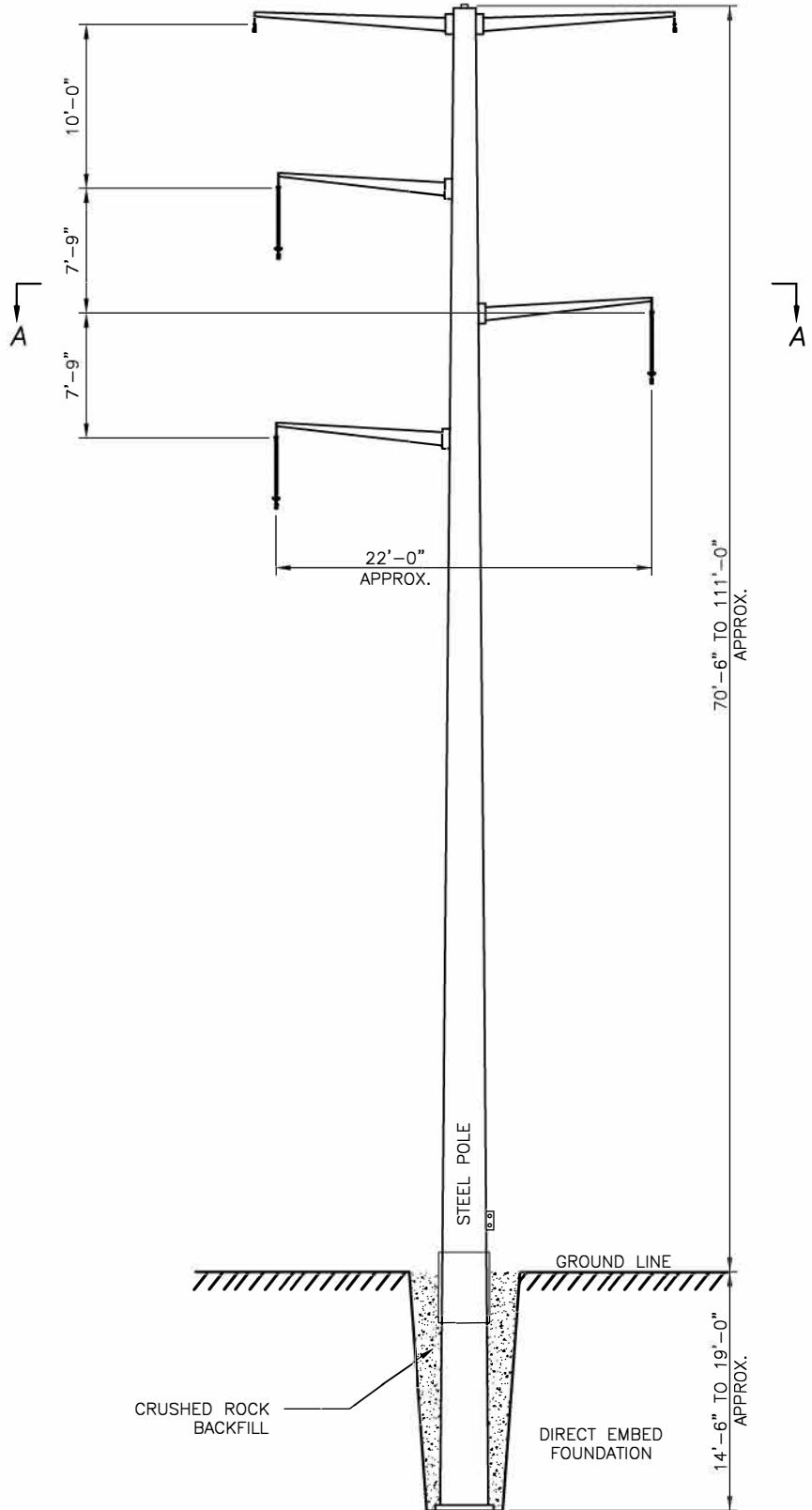
NOTE:
 DETAILS DEPICTED IN FIGURE CAN BE APPLIED FOR ANY TYPE
 OF DOUBLE CIRCUIT STEEL POLE SUSPENSION CONFIGURATION.

****NOT TO SCALE**

	<p>Knox-Nottingham 138 kV Transmission Line Rebuild Project - New Stacy BUC to Nottingham Sub Segment</p>
<p>138kV DOUBLE CIRCUIT STEEL POLE, SUSPENSION</p>	
<p>EXHIBIT 8</p>	



SECTION A - A



NOTE:
 DETAILS DEPICTED IN FIGURE CAN BE APPLIED FOR ANY TYPE
 OF SINGLE CIRCUIT STEEL POLE SUSPENSION CONFIGURATION.

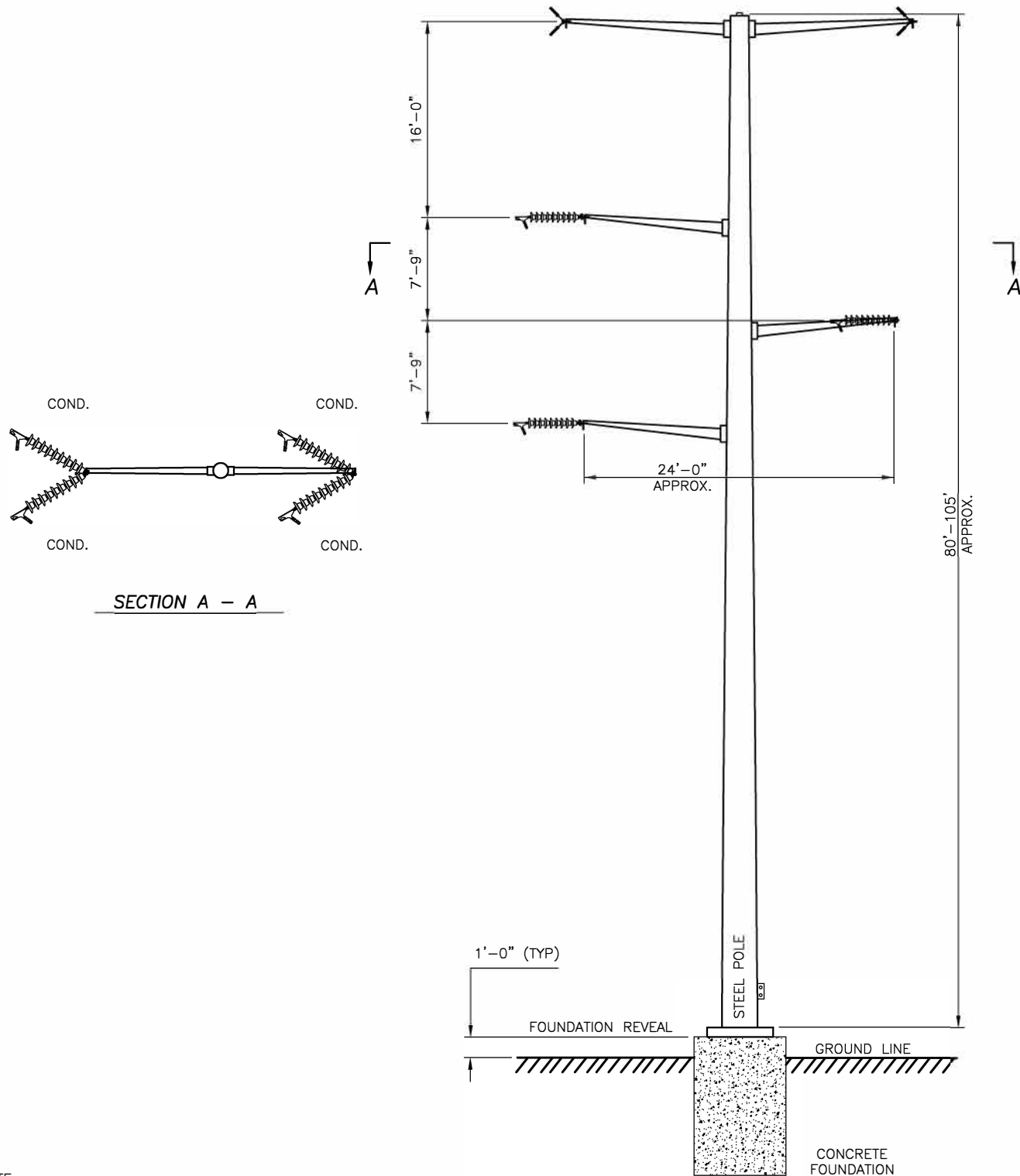
****NOT TO SCALE**



Knox-Nottingham 138 kV Transmission Line Rebuild
 Project - New Stacy BUC to Nottingham Sub Segment

**138kV SINGLE CIRCUIT
 STEEL POLE, SUSPENSION**

EXHIBIT 9



SECTION A - A

NOTE:
 DETAILS DEPICTED IN FIGURE CAN BE APPLIED FOR ANY TYPE
 OF SINGLE CIRCUIT STEEL POLE DEADEND CONFIGURATION.

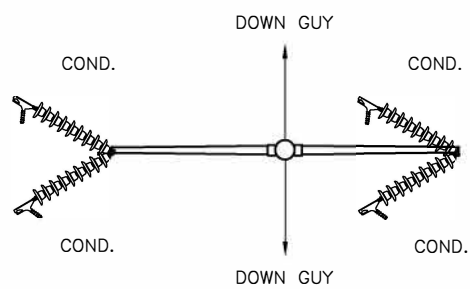
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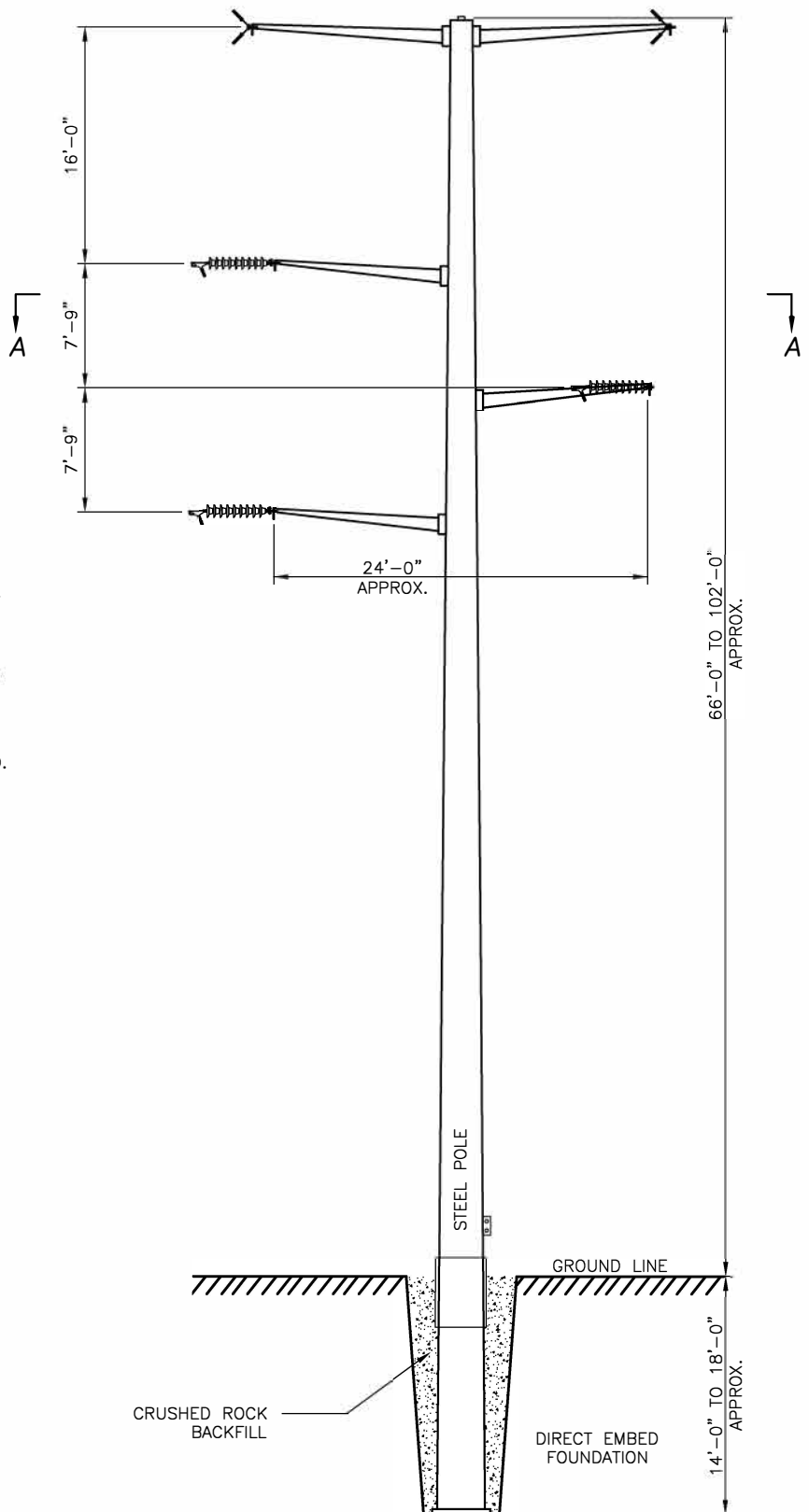
Knox-Nottingham 138 kV Transmission Line Rebuild
 Project – New Stacy BUC to Nottingham Sub Segment

**138kV SINGLE CIRCUIT
 STEEL POLE, DEADEND**

EXHIBIT 10



SECTION A - A



NOTE:
 DETAILS DEPICTED IN FIGURE CAN BE APPLIED FOR ANY
 TYPE OF SINGLE CIRCUIT STEEL POLE STRAIN CONFIGURATION.

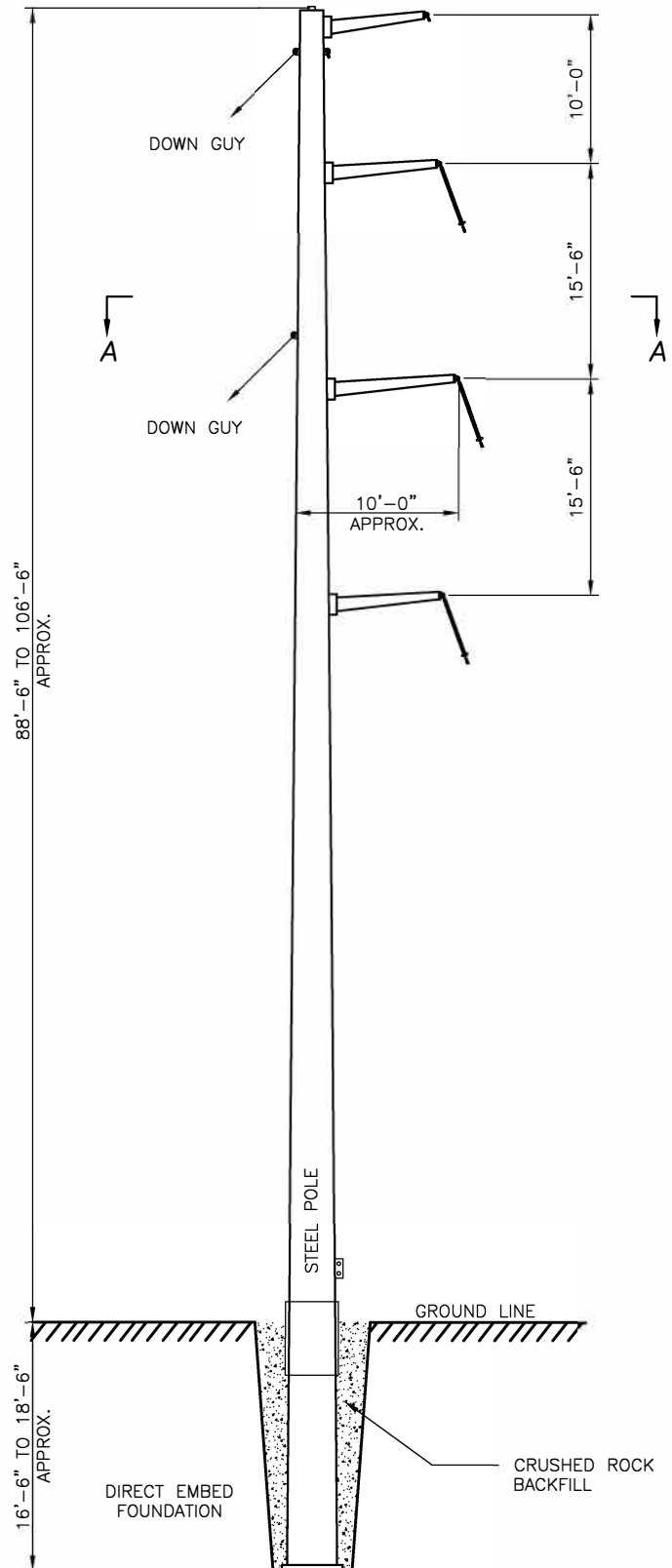
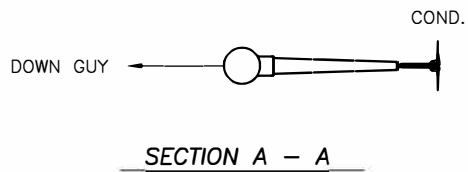
**NOT TO SCALE



Knox-Nottingham 138 kV Transmission Line Rebuild
 Project – New Stacy BUC to Nottingham Sub Segment

138kV SINGLE CIRCUIT
 STEEL POLE, STRAIN

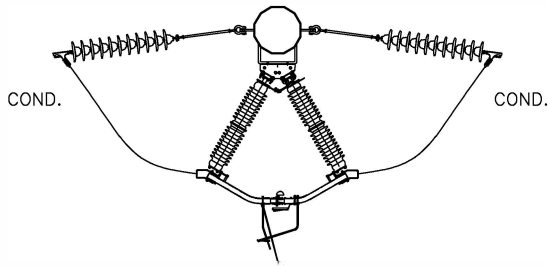
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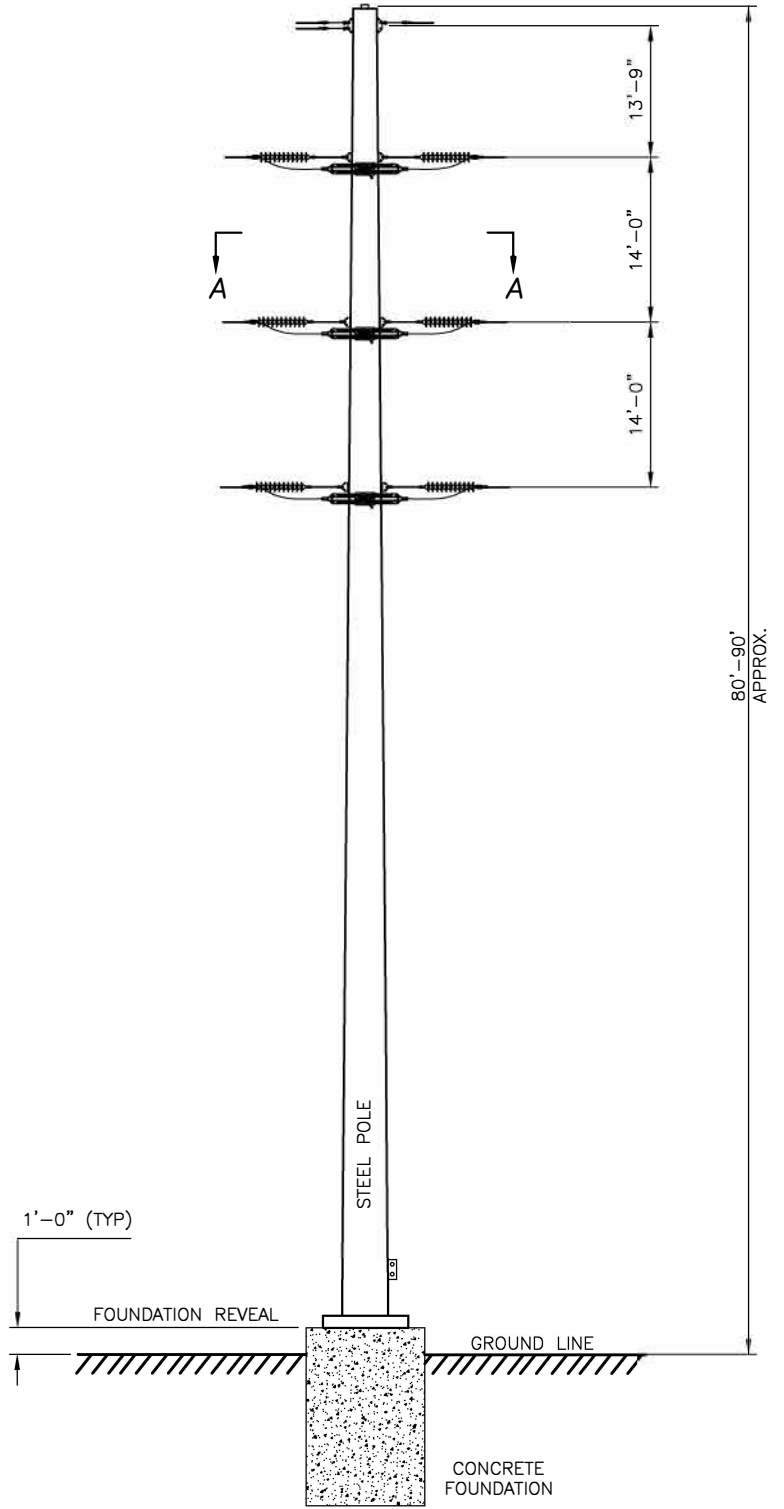
NOTE:
 DETAILS DEPICTED IN FIGURE CAN BE APPLIED FOR ANY
 TYPE OF SINGLE CIRCUIT STEEL POLE ANGLE CONFIGURATION.

****NOT TO SCALE**

<p>ATSI[®] American Transmission Systems, Inc. <small>a subsidiary of FirstEnergy Corp.</small></p>	<p>Knox-Nottingham 138 kV Transmission Line Rebuild Project – New Stacy BUC to Nottingham Sub Segment</p>
<p>138kV SINGLE CIRCUIT STEEL POLE, ANGLE</p>	
<p>EXHIBIT 12</p>	



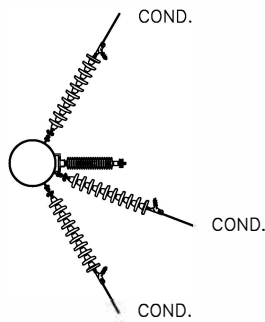
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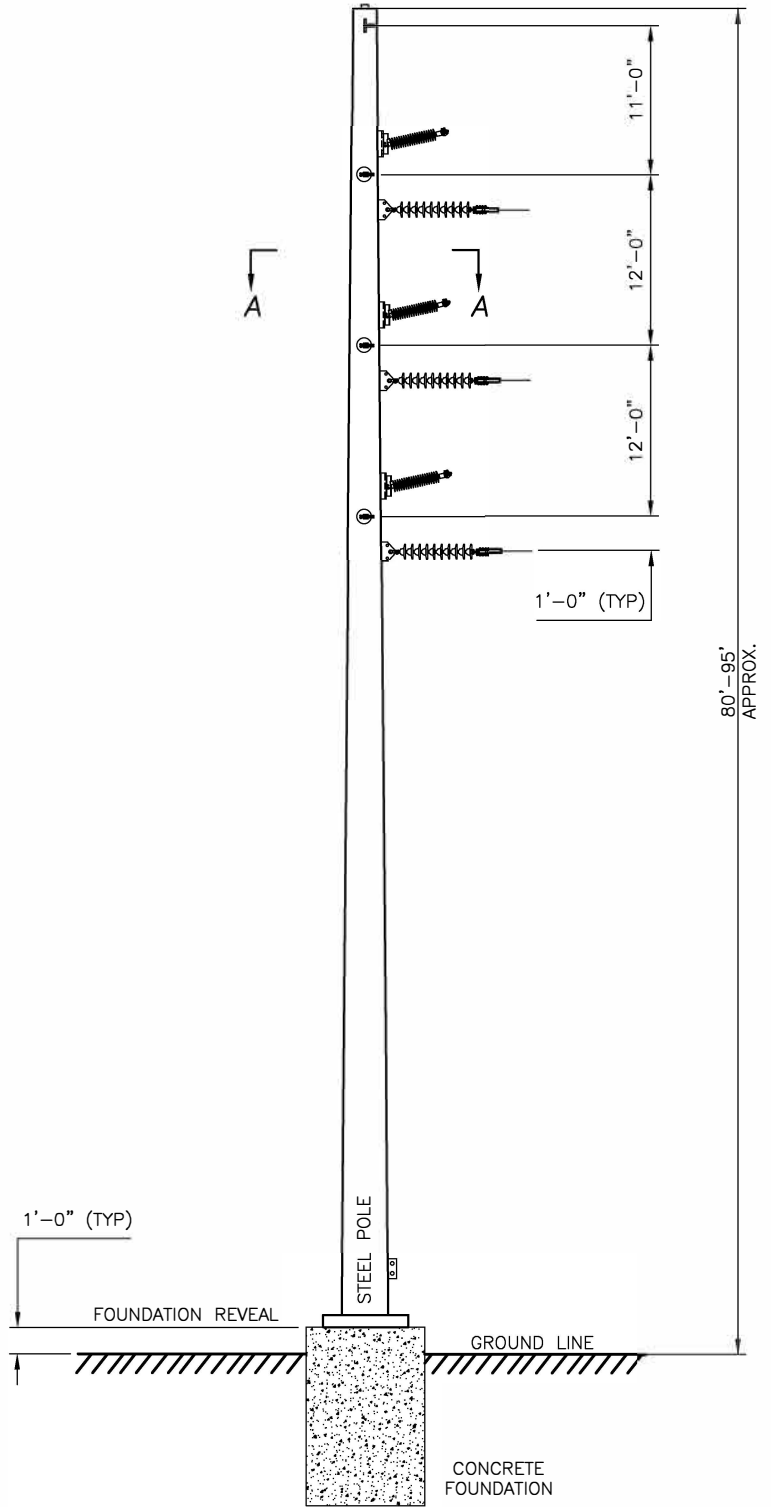
NOTE:
 DETAILS DEPICTED IN FIGURE CAN BE APPLIED FOR ANY TYPE
 OF SINGLE CIRCUIT STEEL POLE SWITCH CONFIGURATION.

**NOT TO SCALE

<p>ATSI[®] American Transmission Systems, Inc. <small>a subsidiary of FirstEnergy Corp.</small></p>	<p>Knox-Nottingham 138 kV Transmission Line Rebuild Project – New Stacy BUC to Nottingham Sub Segment</p>
<p>138kV SINGLE CIRCUIT STEEL POLE, SWITCH</p>	
<p>EXHIBIT 13</p>	



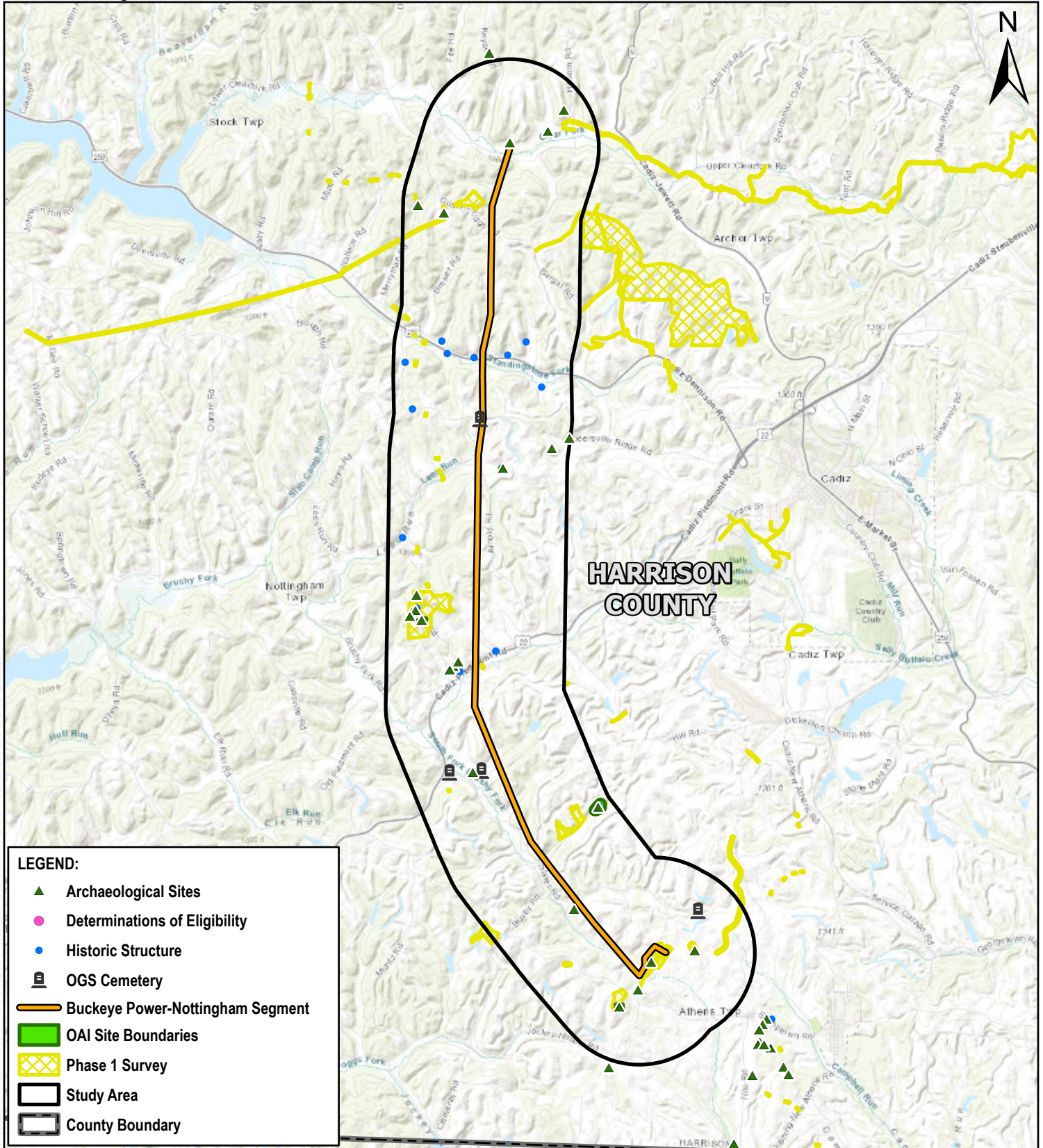
SECTION A - A



NOTE:
 DETAILS DEPICTED IN FIGURE CAN BE APPLIED FOR ANY
 TYPE OF SINGLE CIRCUIT STEEL POLE TAP CONFIGURATION.

****NOT TO SCALE**

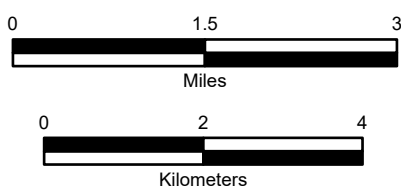
<p>ATSI[®] American Transmission Systems, Inc. <small>a subsidiary of FirstEnergy Corp.</small></p>	<p>Knox-Nottingham 138 kV Transmission Line Rebuild Project – New Stacy BUC to Nottingham Sub Segment</p>
<p>138kV SINGLE CIRCUIT STEEL POLE, TAP</p>	
<p>EXHIBIT 14</p>	



LEGEND:

- ▲ Archaeological Sites
- Determinations of Eligibility
- Historic Structure
- OGS Cemetery
- Buckeye Power-Nottingham Segment
- OAI Site Boundaries
- Phase 1 Survey
- Study Area
- County Boundary

Data Sources:
 Ohio Historic Preservation Office (OHPO), Online Mapping System, accessed 9/29/2023.
 Esri World Topographic Base Map Layer



Knox-Nottingham 138 kV Transmission Line Rebuild Project
 Proposed Buckeye Power-Nottingham kV Centerline
 Harrison County, Ohio

Exhibit 15
 Cultural Resources
 Map

1 inch = 1.5 miles
 Date: 10/19/2023



Path: \\vd\c01\GIS\Projects\GIS\MapServer\MapServer4\Buckeye_Power_Nottingham\Phase_4_Buckeye_Power_Nottingham\Phase_4_Buckeye_Power_Nottingham.aprx



In reply refer to:
2020-MLT-49294

September 16, 2020

Amy C. Favret, M.A., RPA
Jacobs
2 Crowne Point Court, Suite 100
Cincinnati, Ohio 45241

RE: Section 106 Review-Holloway-Knox 138kV Transmission Line Rebuild Project, Belmont, Carroll, Columbiana, and Harrison Counties, Ohio

Dear Ms. Favret:

This letter is in response to the correspondence received on August 17, 2020 regarding the proposed 64-mile long Holloway-Knox 138kV Transmission Rebuild Project in Belmont, Carroll, Columbiana, and Harrison Counties, Ohio. We appreciate the opportunity to comment on this project. The comments of the Ohio State Historic Preservation Office (SHPO) are made pursuant to Section 149.53 of the Ohio Revised Code and the Ohio Power Siting Board rules for siting this project (OAC 4906-5). The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108 [36 CFR 800]).

The proposed project will entail replacing the existing H-frame wood poles with direct embedded steel and drilled shaft H-frame wood poles. The new poles will be installed approximately 10-ft. from the existing poles within the 100-ft. wide right-of-way (ROW). All work will be within the existing ROW except for access roads, which will use existing roads, driveways, or farm lanes. Four pull pads, totaling 0.26-acres, will extend outside of the existing ROW.

A literature review report, *Holloway-Knox 138kV Transmission Line Project, Belmont, Carroll, Columbiana, and Harrison Counties, Ohio* was completed for the entire 64-mile rebuild project. A total of two National Register of Historic Places (NRHP)-listed properties, 165 Ohio Historic Inventory (OHI) properties, two NRHP eligible properties, 43 cemeteries, and 224 Ohio Archaeological Inventory (OAI) sites were identified within the 1.0-mile study area. Of these, one cemetery (Bird/Byrd Cemetery-OGS ID 1381) and two OAI sites (33CO257 and 33CO258) were determined to be within the project ROW. Additionally, one historic architecture survey and 11 Phase I archaeological surveys overlap portions of the ROW.

Sites 33CO257 and 33CO258 are low-density prehistoric lithic scatters previously identified during one of the Phase I surveys. Neither of these sites are near existing poles. Site 33CO257 was recommended for further work, but to date, no additional work has been conducted at the site. As a precautionary measure, a 50-ft. buffer using construction fencing will be placed around site 33CO257 during construction. The Bird/Byrd Cemetery is approximately 151-ft. south of the nearest pole and therefore will not be impacted by the project. Since this cemetery is within the ROW, it is recommended that a 50-ft. buffer using construction fencing also be put up around the cemetery during construction as a precautionary measure.

Due to the nature of the project as a rebuild, it is Jacob's recommendation that no further archaeological or architectural investigations are necessary as the visibility of the existing transmission line should not increase. Our office agrees with this recommendation.

2020-MLT-49294
September 16, 2020
Page 2

Based on the information provided, we agree that the project, as proposed, will have no effect on historic properties. No further coordination is required for this project unless the scope of work changes or archaeological remains are discovered during the course of construction. In such a situation, this office should be contacted as required by 36 CFR § 800.13. If you have any questions, please contact me by e-mail at sbiehl@ohiohistory.org or Joy Williams at jwilliams@ohiohistory.org. Thank you for your cooperation.

Sincerely,

A handwritten signature in blue ink that reads "Stephen M. Biehl". The signature is written in a cursive style.

Stephen M. Biehl, Project Reviews Coordinator (archaeology)
Resource Protection and Review
State Historic Preservation Office

cc: Joy Williams, SHPO

RPR Serial No. 1085225

"Please be advised that this is a Section 106 decision. This review decision may not extend to other SHPO programs."



Ohio Department of Natural Resources

MIKE DeWINE, GOVERNOR

MARY MERTZ, DIRECTOR

Office of Real Estate

John Kessler, Chief
 2045 Morse Road – Bldg. E-2
 Columbus, OH 43229
 Phone: (614) 265-6621
 Fax: (614) 267-4764

February 7, 2023

Jen Wessel
 Jacobs Engineering Group, Inc.
 2 Crowne Point Court
 Cincinnati, OH 45241

Re: 23-0053; Holloway-Knox 138 kV Transmission Line Rebuild Project

Project: The proposed project involves replacing the existing wood h-frame structures of the 138-kV electric transmission line with a combination of new direct embedded steel and drilled shaft H-frame wood pole structures.

Location: The proposed project is located in Archer, Athens, Augusta, Cadiz, Center, Lee, Mead, Perry, Pultney, Richland, Rumley, Washington, West and Wheeling townships; and through the City of St. Clairsville, within Columbiana, Carroll, Harrison, and Belmont counties, Ohio.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

Natural Heritage Database: The Natural Heritage Database has the following data at or within one mile of the project area:

Drummond's Aster (*Symphyotrichum drummondii*), T
 Sharp-shinned Hawk (*Accipiter striatus*), SC
 Upland Sandpiper (*Bartramia longicauda*), E
 Northern Harrier (*Circus hudsonius*), E
 Barn Owl (*Tyto alba*), T
 Slippershell Mussel (*Alasmidonta viridis*), T
 Creek Heelsplitter (*Lasmigona compressa*), SC
 Mussel Bed

The review was performed on the specified project area as well as an additional one-mile radius. Records searched date from 1980. Conservation status abbreviations are as follows: E = state endangered; T = state threatened; P = state potentially threatened; SC = state species of concern; SI = state special interest; U = state status under review; X = presumed extirpated in Ohio; FE = federally endangered, and FT = federally threatened.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for an area is not a statement that rare species or unique features are absent from that area.

Fish and Wildlife: The Division of Wildlife (DOW) has the following comments.

The DOW recommends that impacts to streams, wetlands and other water resources be avoided and minimized to the fullest extent possible, and that Best Management Practices be utilized to minimize erosion and sedimentation.

The majority of the project route within Carroll, Harrison, and Belmont Counties is within the vicinity of records for the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened species, the little brown bat (*Myotis lucifugus*), a state endangered species, and/or the tricolored bat (*Perimyotis subflavus*), a state endangered species. Because presence of state endangered bat species has been established in this area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area. However, limited summer tree cutting inside this buffer may be acceptable after further consultation with DOW (contact Eileen Wyza at Eileen.Wyza@dnr.ohio.gov).

In addition, the entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these bat species predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. The DOW recommends tree cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH ≥ 20 if possible. However, if trees are present within this area, (outside of the area delineated above) and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "[OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING](#)". If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31. However, limited summer tree cutting may be acceptable after consultation with the DOW.

The DOW also recommends that a desktop habitat assessment is conducted, followed by a field assessment if needed, to determine if a potential hibernaculum is present within the project area. Direction on how to conduct habitat assessments can be found in the current USFWS "[RANGE-WIDE INDIANA BAT & NORTHERN LONG-EARED BAT SURVEY GUIDELINES](#)." If a habitat assessment finds that a potential hibernaculum is present within 0.25 miles of the project area, please send this information to Eileen Wyza, for project recommendations. If a potential or known hibernaculum is found, the DOW recommends a 0.25-mile tree cutting and subsurface disturbance buffer around the hibernaculum entrance, however, limited summer or winter tree cutting may be acceptable after consultation with the DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact these species.

The project is within the range of the following listed mussel species.

State Endangered

butterfly (*Ellipsaria lineolata*)

Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact this or other mussel species.

The project is within the range of the following listed fish species.

State Endangered

western banded killifish (*Fundulus diaphanus menona*)

State Threatened

channel darter (*Percina copelandi*)

paddlefish (*Polyodon spathula*)

river darter (*Percina shumardi*)

Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact these or other aquatic species.

The project is within the range of the eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), a state endangered species and a federal species of concern. This long-lived, entirely aquatic salamander inhabits perennial streams with large flat rocks. In-water work in hellbender streams can reduce availability of large cover rocks and can destroy hellbender nests and/or kill adults and juveniles. The contribution of additional sediment to hellbender streams can smother large cover rocks and gravel/cobble substrate (used by juveniles), making them unsuitable for refuge and nesting. Projects that contribute to altered flow regimes (e.g., by increasing areas of impervious surfaces or modifying the floodplain) can also adversely affect hellbender habitat. Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact this species.

The project is within the range of the northern harrier (*Circus hudsonis*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the upland sandpiper (*Bartramia longicauda*), a state endangered bird. Nesting upland sandpipers utilize dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and grasslands established through the Conservation Reserve Program (CRP). If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

Due to the potential of impacts to federally listed species, as well as to state listed species, we recommend that this project be coordinated with the US Fish & Wildlife Service.

Water Resources: The Division of Water Resources has the following comment.

The [local floodplain administrator](#) should be contacted concerning the possible need for any floodplain permits or approvals for this project.

ODNR appreciates the opportunity to provide these comments. Please contact Mike Pettegrew at mike.pettegrew@dnr.ohio.gov if you have questions about these comments or need additional information.

Mike Pettegrew
Environmental Services Administrator

United States Department of the Interior



FISH AND WILDLIFE SERVICE

Ecological Services
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / FAX (614) 416-8994



January 26, 2023

Project Code: 2023-0031065

Reference: AEP Holloway-Knox project 138 kV line rebuild

Dear Mr./Ms,

The U.S Fish and Wildlife Service (Service) has received your recent correspondence requesting information about the subject proposal. We offer the following comments and recommendations to assist you in minimizing and avoiding adverse impacts to threatened and endangered species pursuant to the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq), as amended (ESA).

Federally Threatened and Endangered Species: The endangered Indiana bat (*Myotis sodalis*) and threatened northern long-eared bat (*Myotis septentrionalis*) occur throughout the State of Ohio. The Indiana bat and northern long-eared bat may be found wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and breed that may also include adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, woodlots, fallow fields, and pastures. Roost trees for both species include live and standing dead trees ≥ 3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities. These roost trees may be located in forested habitats as well as linear features such as fencerows, riparian forests, and other wooded corridors. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves, rock crevices and abandoned mines.

Seasonal Tree Clearing for Federally Listed Bat Species: Should the proposed project site contain trees ≥ 3 inches dbh, we recommend avoiding tree removal wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees ≥ 3 inches dbh cannot be avoided, we recommend removal of any trees ≥ 3 inches dbh only occur between October 1 and March 31. Seasonal clearing is recommended to avoid adverse effects to Indiana bats and northern long-eared bats. While incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule (see <https://ecos.fws.gov/ecp/species/9045>), incidental take of Indiana bats is still prohibited without

a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

If implementation of this seasonal tree cutting recommendation is not possible, a summer presence/absence survey may be conducted for Indiana bats. If Indiana bats are not detected during the survey, then tree clearing may occur at any time of the year. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Ohio Field Office. Surveyors must have a valid federal permit. Please note that in Ohio summer mist net surveys may only be conducted between June 1 and August 15.

Section 7 Coordination: If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), then no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed. We recommend the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence. This letter provides technical assistance only and does not serve as a completed section 7 consultation document.

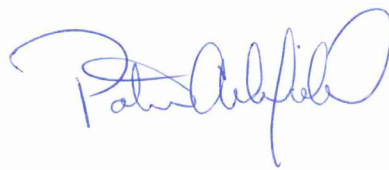
Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus it is important to conserve the functions and values of the remaining wetlands in Ohio (https://epa.ohio.gov/portals/47/facts/ohio_wetlands.pdf). We recommend avoiding and minimizing project impacts to all wetland habitats (e.g., forests, streams, vernal pools) to the maximum extent possible in order to benefit water quality and fish and wildlife habitat. Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the U.S. Army Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. Disturbed areas should be mulched and revegetated with native plant species. In addition, prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

Due to the project type, size, and location, we do not anticipate adverse effects to any other federally endangered, threatened, or proposed species, or proposed or designated critical habitat. Should the project design change, or additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, coordination with the Service should be initiated to assess any potential impacts.

Thank you for your efforts to conserve listed species and sensitive habitats in Ohio. We recommend coordinating with the Ohio Department of Natural Resources due to the potential for the proposed project to affect state listed species and/or state lands. Contact Mike Pettegrew, Acting Environmental Services Administrator, at (614) 265-6387 or at mike.pettegrew@dnr.state.oh.us.

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or ohio@fws.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Patrice Ashfield", enclosed in a light gray rectangular box.

Patrice Ashfield
Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW
Eileen Wyza, ODNR-DOW

Wetland and Waterbody Delineation Report

Buckeye Power-Nottingham 138 kV Transmission Line
Rebuild Project
Harrison County, Ohio

Prepared for



October 2023

Jacobs

Jacobs Engineering Group Inc.
2 Crowne Point Court, Suite 100
Cincinnati, OH 45241

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Acronyms and Abbreviations

ATSI	American Transmission Systems, Incorporated
ESB	environmental survey boundary
FAC	facultative
FACU	facultative upland
FACW	facultative wetland
FEMA	Federal Emergency Management Agency
GNSS	global navigation satellite system
HHEI	Headwater Habitat Evaluation Index
HUC	Hydrologic Unit Code
Jacobs	Jacobs Engineering Group Inc.
kV	kilovolt
NHD	National Hydrography Dataset
NRCS	Natural Resource Conservation Service
NWI	National Wetland Inventory
OAC	Ohio Administrative Code
OBL	obligate
OEPA	Ohio Environmental Protection Agency
OHWM	ordinary high water mark
ORAM	Ohio Rapid Assessment Method
PEM	palustrine emergent
PSS	palustrine scrub/shrub
Project	Buckeye Power-Nottingham 138 kV Transmission Line Rebuild Project
QHEI	Qualitative Habitat Evaluation Index
Report	wetland and waterbody delineation report
ROW	right-of-way
TNW	traditionally navigable waters
UPL	upland
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1 Introduction

This wetland and waterbody delineation report (Report) summarizes the results of the wetland and waterbody delineation surveys conducted on the Buckeye Power-Nottingham 138 kilovolt (kV) Transmission Line Rebuild Project (Project) in Harrison County, Ohio by Jacobs Engineering Group Inc. (Jacobs), for American Transmission Systems, Incorporated (ATSI), a wholly owned subsidiary of FirstEnergy Corporation. ATSI is proposing to replace existing wood h-frame structures with new direct embedded steel and drilled shaft H-frame wood pole structures along approximately 9.7 miles of existing transmission line. The environmental survey boundary (ESB) included the existing right-of-way (ROW) which is primarily 100 feet wide with portions of multiple ROWs that are 330 feet wide, access roads, and work areas. This Report contains the following components:

- Figure 1 in Appendix A provides an overview map of the ESB overlain on USGS topographic maps.
- Figures 2-1 to 2-39 in Appendix A contains U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) soil map units, National Wetland Inventory (NWI) polygons, national hydrography dataset (NHD) streams, and Federal Emergency Management Agency (FEMA) 100-year floodplain information.
- Figures 3-1 to 3-39 in Appendix A provide the location of all features mapped during the delineation by Jacobs biologists. This includes all wetlands, data points, and waterbodies.
- U.S. Army Corps of Engineers (USACE) wetland determination data forms are in Appendix B.
- Ohio Rapid Assessment Method for Wetlands (ORAM) two-page forms are in Appendix C.
- Photographs of designated use streams are in Appendix D.
- Qualitative Habitat Evaluation Index (QHEI) Stream Forms are in Appendix E.
- Headwater Habitat Evaluation Index (HHEI) Stream Forms are in Appendix F.
- Jacobs Open Water/Pond Data Forms are in Appendix G.

2 Background Information

The ESB begins just north of the intersection of Keyser Road and Lower Clearfork Road (40.3281, -81.0650) and extends south to its end at Nottingham Substation near the intersection of Stumptown Road and Cadiz-Flushing Road (40.1934, -81.0360). The ESB crosses the townships of Archer, Cadiz, and Athens, Ohio (Figure 1).

Review of the USGS 7.5-minute topographic maps crossed by the ESB (Jewett and Flushing, Ohio) indicates that the primary waterways that drain the ESB include Clear Fork, Standingstone Fork, Brushy Fork, and South Fork Brushy Fork. Topographic relief is comprised of rolling hills with elevations ranging between 925 feet and 1,249 feet above sea level (Figure 1).

Land use and natural communities observed within the ESB include agricultural, hayfield, transmission line ROW, pasture, maintained lawn, road, upland scrub/shrub, wetlands, streams, and ponds.

2.1 Annual Precipitation

Precipitation history for Pike Island, West Virginia was reviewed prior to completing environmental surveys to determine if climatic conditions were normal at the time of the surveys. Pike Island, West Virginia was the nearest weather station with both historical and recent precipitation records. Rainfall recorded in Pike Island ranged from above average to below average prior to the surveys conducted in early October 2023 (Table 2-1; USDA, 2023), suggesting that climatic conditions were approximately normal for the region and time of year. This was taken into consideration during the delineation.

TABLE 2-1: Recent Precipitation Data

Buckeye Power-Nottingham 138 kV Transmission Line Rebuild Project

Precipitation Data	Jul	Aug	Sep	Total
2023 Monthly Sum ^{1,3}	5.11	4.77	0.58*	10.46*
Normal Precipitation ^{2,3}	2.92 – 4.94	2.83 – 4.18	2.28 – 3.89	10.69 – 13.01
Monthly climatic condition	Above average	Above average	Below average*	Below average*

¹Monthly weather summary from weather station Pike Island (Lock and Dam), WV, 2023

²USDA WETS Station Climate Data 1971-2000 (USDA, 2023)

³Displayed in inches

*Data is missing therefore this is an underestimate

2.2 Drainage Basins

The Project is within the Tuscarawas and Upper Ohio-Wheeling drainage basins, corresponding to 8-digit Hydrologic Unit Codes (HUCs) 05040001 and 05030106, respectively. More specifically the Project crosses the four watersheds outlined in Table 2-2 (USGS, 2023a).

TABLE 2-2: Watersheds Crossed by the Project

Buckeye Power-Nottingham 138 kV Transmission Line Rebuild Project

HUC 12-Digit Code	HUC 12-Digit Name
05040001-15-01	Clear Fork
05040001-15-02	Standingstone Fork
05040001-14-02	Brushy Fork
05030106-03-01	Crabapple Creek

Source: USGS, 2023a

2.3 Traditional Navigable Waters

The U.S. Environmental Protection Agency (USEPA) and USACE assert jurisdiction over “all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce including all waters which are subject to the ebb and flow of the tide” (USACE and USEPA, 2008). These waters are considered traditionally navigable waters (TNW). No TNW directly cross the ESB.

3 Wetland and Waterbody Delineation

3.1 Desktop Review

Prior to conducting the field investigations, Jacobs reviewed the following resources to identify the potential for wetlands within the ESB:

- Aerial photo-based maps (ESRI, 2023)
- Topographic maps (USGS, 2023b)
- NRCS Web Soil Survey (USDA-NRCS, 2022)
- National Wetland Inventory (USFWS, 2023)
- National Hydrography Dataset (USGS, 2023a)

According to the NRCS soil survey of Harrison County (USDA-NRCS, 2022), the ESB consists of 33 soil map units (Figures 2-1 to 2-39). Of these, 22 units are listed as nonhydric, ten are predominantly nonhydric, and one is predominantly hydric (Table 3-1). Hydric or predominantly hydric soils comprise two percent of the ESB.

Generally, hydric soils are those soils that indicate through their color and structure that they have experienced dominantly reducing (i.e., oxygen poor) conditions. Oxygen-poor conditions result from inundation and/or saturation by water. Partially hydric soils have both hydric and non-hydric soil components identified in the soil map unit.

TABLE 3-1: Soil Map Units

Buckeye Power-Nottingham 138 kV Transmission Line Rebuild Project

Soil type	Soil type description	Hydric status	Acres within ESB
AbC2	Aaron silty clay loam, 6 to 15 percent slopes, eroded	Not Hydric	4.13
Bhv1D	Bethesda silt loam, 8 to 25 percent slopes, reclaimed	Predominantly Non-Hydric	2.57
BnD	Berks-Guernsey complex, 15 to 25 percent slopes	Not Hydric	0.74
BnE	Berks-Guernsey complex, 25 to 40 percent slopes	Not Hydric	6.33
CnD	Coshocton silt loam, 15 to 25 percent slopes	Not Hydric	8.32
FcA	Fitchville silt loam, 0 to 3 percent slopes	Predominantly Non-Hydric	2.80
FcB	Fitchville silt loam, 3 to 8 percent slopes	Predominantly Non-Hydric	0.22
GnB	Gilpin silt loam, 3 to 8 percent slopes	Not Hydric	1.39
GnC	Gilpin silt loam, 8 to 15 percent slopes	Not Hydric	2.35
GpC	Gilpin-Lowell complex, 6 to 15 percent slopes	Not Hydric	1.30
GtC	Guernsey silt loam, 8 to 15 percent slopes	Not Hydric	3.32
GuD2	Guernsey silty clay loam, 15 to 25 percent slopes, eroded	Not Hydric	44.79
GuE2	Guernsey silty clay loam, 25 to 40 percent slopes, eroded	Not Hydric	35.21
LnC	Lowell silt loam, 8 to 15 percent slopes	Not Hydric	4.79
LoD2	Lowell silty clay loam, 15 to 25 percent slopes, eroded	Not Hydric	8.07
Me	Melvin silt loam, frequently ponded, 0 to 3 percent slopes	Predominantly Hydric	4.94
Mwc3B	Morristown silty clay loam, 0 to 8 percent slopes, reclaimed	Not Hydric	2.62
Mwc3D	Morristown silty clay loam, 8 to 25 percent slopes, reclaimed	Not Hydric	38.05
Mwc3F	Morristown silty clay loam, 25 to 70 percent slopes, reclaimed	Not Hydric	6.85
Mwd3B	Morristown silty clay loam, 0 to 8 percent slopes, reclaimed, highwall	Not Hydric	0.17

Mwf6B	Morristown channery silty clay loam, 0 to 8 percent slopes, unreclaimed	Predominantly Non-Hydric	0.22
Mwf6D	Morristown channery silty clay loam, 8 to 25 percent slopes, unreclaimed	Predominantly Non-Hydric	6.53
Mwf6F	Morristown channery silty clay loam, 25 to 70 percent slopes, unreclaimed	Predominantly Non-Hydric	6.51
Mwg6D	Morristown channery silty clay loam, 8 to 25 percent slopes, unreclaimed, highwall	Predominantly Non-Hydric	0.55
Mwg6F	Morristown channery silty clay loam, 25 to 70 percent slopes, unreclaimed, highwall	Predominantly Non-Hydric	15.74
No	Nolin silt loam, 0 to 3 percent slopes, occasionally flooded	Predominantly Non-Hydric	1.55
Or	Orrville silt loam, 0 to 3 percent slopes, occasionally flooded	Predominantly Non-Hydric	6.18
RcB	Richland silt loam, 2 to 6 percent slopes	Not Hydric	0.52
UpC2	Upshur silty clay loam, 6 to 15 percent slopes, eroded	Not Hydric	0.51
W	Water	Not Hydric	0.10
WmE	Westmoreland-Coshocton complex, 25 to 40 percent slopes	Not Hydric	6.27
WnE	Westmoreland-Dekalb complex, 25 to 40 percent slopes	Not Hydric	11.09
WnF	Westmoreland-Dekalb complex, 40 to 70 percent slopes	Not Hydric	11.27

NWI data were obtained from the United States Fish and Wildlife Service (USFWS) for review of potential wetlands that may occur within the ESB. The NWI data (USFWS, 2023) identify the type of wetland or open water present at a location using the USFWS classification system (Cowardin et al., 1979). The NWI data indicated that there are 24 NWI features within the ESB (Figure 2-1 to 2-39; USFWS, 2023). This included palustrine emergent, pond, and riverine NWI wetland types (Table 3-2). The presence of an NWI feature is not a definitive indicator that a wetland or waterbody is present. The information on NWI maps is obtained largely from aerial interpretation, may be outdated, and is only sporadically field-checked.

TABLE 3-2: Mapped National Wetland Inventory Features
Buckeye Power-Nottingham 138 kV Transmission Line Rebuild Project

Wetland Type	Description	Count of Mapped Features	Acres within ESB ¹
PEM1c	Palustrine emergent, persistent, seasonally flooded	1	0.26
PUBG	Palustrine unconsolidated bottom, intermittently exposed	6	1.60
PUBGx	Palustrine unconsolidated bottom, intermittently exposed, excavated	5	1.38
R4SBC	Riverine intermittent streambed, seasonally flooded	8	1.10
R5UBH	Riverine unknown perennial unconsolidated bottom, permanently flooded	4	0.80
Total		24	5.13

¹ Numbers have been rounded for presentation purposes. Thus, the total may not reflect the exact sum of the addends.

As shown on the FEMA floodplain panels (Figures 2-1 to 2-39), floodplains associated with Clear Fork, Standingstone Fork, and Brushy Fork cross the ESB (FEMA, 2023).

3.2 Field Survey Methodology

In October 2023, Jacobs biologists surveyed the ESB by walking the area and evaluating for wetlands and other waters of the U.S. The boundaries of each wetland and waterbody within the ESB were delineated and recorded using handheld global navigation satellite system (GNSS) receivers. For waterbodies identified within the Project area, the ordinary high-water mark (OHWM) was used as the jurisdictional boundary.

Wetland data were recorded on USACE Eastern Mountains and Piedmont wetland determination data forms, stream data were recorded on Qualitative Habitat Evaluation Index (QHEI) forms and Headwater Habitat Evaluation Index (HHEI) forms, and pond data were recorded on Jacobs pond/open water forms. All other land use, habitat, and other supplemental data were collected in a digital geodatabase during the environmental survey.

3.2.1 Wetland Delineation

Wetland boundaries were field-delineated according to using the routine onsite methodology described in the Technical Report Y-87-1 *Corps of Engineers Wetlands Delineation Manual* and subsequent guidance documents (Environmental Laboratory, 1987) and according to the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region* (Version 2.0) (USACE, 2012). Wetland delineation data were recorded on the USACE Regional Supplement wetland determination data forms. Representative wetland and upland data points were recorded during the wetland delineation to determine the presence/absence of wetlands and/or to document upland conditions within the Project area. Upland data points were determined not to be within wetlands because they did not have positive indicators of one or more of the three wetland criteria: hydrophytic vegetation, wetland hydrology, and hydric soils.

3.2.1.1 Soils

Jacobs biologists examined soils using a shovel to extract soil cores, which were examined for hydric soil characteristics. A *Munsell Soil Color Chart* (Munsell Color, 2012) was used to identify the hue, value, and chroma of the matrix and concentrations/depletions of the soils. Generally, mottled soils with a matrix chroma of two or less, or unmottled soils with a matrix chroma of one or less are considered to exhibit hydric soil characteristics (Environmental Laboratory, 1987). In sandy soils, mottled soils with a matrix chroma of three or less, or unmottled soils with a matrix chroma of two or less are hydric soils.

3.2.1.2 Hydrology

The *1987 Manual* requires that an area be inundated or saturated to the surface for an absolute minimum of five percent of the growing season. Areas saturated between five percent and 12.5 percent of the growing season may or may not be wetlands, while areas saturated over 12.5 percent of the growing season fulfill the hydrology requirements for wetlands. The *Regional Supplement* states that the growing season dates are determined through onsite observations of the following indicators of biological activity in a given year; (1) above-ground growth and development of vascular plants, and/or (2) soil temperature (12-in. depth is 41 degrees Fahrenheit or higher) as an indicator of soil microbial activity. Therefore, the beginning of the growing season in a given year is indicated by whichever condition occurs earlier, and the end of the growing season by whichever persists later.

The soils and ground surface were examined by Jacobs biologists for evidence of wetland hydrology in lieu of detailed hydrological data. This is an acceptable approach according to the *1987 Manual* and the *Regional Supplement*. Evidence indicating wetland hydrology typically includes primary indicators such as surface water, saturation, water marks, drift deposits, water-stained leaves, sediment deposits, and oxidized rhizospheres on living roots; and secondary indicators such as drainage patterns, geomorphic position, microtopographic relief, and a positive Facultative (FAC)-neutral test (USACE, 2012).

3.2.1.3 Vegetation

Dominant vegetation was visually assessed for each stratum (tree, sapling/shrub, herb, and woody vine) and an indicator status (obligate wetland [OBL], facultative wetland [FACW], facultative [FAC], facultative upland [FACU], upland [UPL]) was assigned to each plant species based on the 2020

National Wetland Plant List (USACE, 2020). Under normal circumstances, an area is determined to have hydrophytic vegetation when any of the following are true: all dominant species are OBL or FACW; more than 50 percent of the dominant species are OBL, FACW or FAC; or the average total cover of plants, when weighted based on indicator status, calculates to a prevalence index of less than or equal to three.

Wetland quality was evaluated using the Ohio Environmental Protection Agency (OEPA) Ohio Rapid Assessment Method (ORAM) for Wetlands Version 5.0 (Mack 2001). Categorization was conducted in accordance with the latest quantitative score calibration (OEPA, 2000). Wetlands are scored based on hydrology, upland buffer, habitat alteration, special wetland communities, and vegetation communities. Each of these subject areas is further divided into subcategories under ORAM v5.0 resulting in a score that describes the wetland using a range from 0 (low quality and high disturbance) to 100 (high quality and low disturbance). Wetlands scored from 0 to 29.9 are grouped into "Category 1", 30 to 59.9 are "Category 2" and 60 to 100 are "Category 3". Transitional zones exist between Categories 1 and 2 from 30 to 34.9 and between Categories 2 and 3 from 60 to 64.9. However, according to the OEPA, if the wetland score falls into the transitional range, it must be given the higher Category unless scientific data can prove it should be in a lower category (Mack, 2001).

3.2.2 Stream Assessment

Jurisdictional streams were identified as those waters that possessed a continuously defined bed and bank, OHWM indicators, and lacked a dominance of upland vegetation in the channel. Per USACE guidance, the OHWM is defined as the "line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (USACE, 2005). Channels that parallel a roadway or railroad were identified as upland drainage features and were not considered to be jurisdictional unless they had an identifiable OHWM, were identified on the USGS topographic map, or represented a presumed relocation of a natural channel.

During the field survey, functional stream assessments were conducted using the methods described in *Methods for Assessing Habitat in Flowing Waters: Using the Qualitative Habitat Evaluation Index* (OEPA, 2006) and *Field Methods for Evaluating Primary Headwater Streams in Ohio* (OEPA, 2020). The QHEI is used to characterize larger streams (drainage areas greater than one square mile), while the HHEI is appropriate for first-order and second-order headwater streams (drainage areas less than one square mile).

4 Field Survey Results

Jacobs biologists surveyed the Project area by walking the ESB and evaluating for wetlands and other waterbodies. A total of 33 wetlands, 33 streams, and eight ponds were delineated and are displayed on the Wetlands and Waterbodies Delineation Map (Figures 3-1 to 3-39). Jacobs defaults to the USACE and OEPA for the final determination of hydrologic connectivity and jurisdiction.

4.1 Wetlands

Thirty-three wetlands totaling 10.17 acres, ranging in size from 0.01 to 1.72 acres, were delineated within the ESB. Thirty-two wetlands were identified as palustrine emergent (PEM) wetlands and one as a PEM/palustrine scrub/shrub (PSS) wetland complex. The reported wetland acreage only corresponds to areas delineated within the ESB, as many wetlands extended beyond the surveyed area.

Completed USACE wetland and upland determination forms are provided in Appendix B; representative photographs were taken of each wetland during the field survey and are appended to each USACE wetland and upland form. Detailed information for each delineated wetland within the ESB is provided in Table 4-1.

TABLE 4-1: Delineated Wetlands

Buckeye Power-Nottingham 138 kV Transmission Line Rebuild Project

Wetland ID	Location		Wetland Type ¹	Acres within ESB	ORAM Score, Category
	Latitude	Longitude			
Wetland BN-01	40.32778	-81.06189	PEM	0.25	28, Category 1
Wetland BN-02	40.32165	-81.06455	PEM	0.50	38.5, Category 2
Wetland BN-03	40.31847	-81.06568	PEM	0.02	28.5, Category 1
Wetland BN-04E	40.30657	-81.06458	PEM	0.01	41, Category 2
Wetland BN-04S	40.30654	-81.06453	PSS	<0.01	41, Category 2
Wetland BN-05	40.30011	-81.06675	PEM	0.51	32.5, Category 2
Wetland BN-06	40.29497	-81.06882	PEM	0.01	10.5, Category 1
Wetland BN-07	40.29331	-81.06684	PEM	0.01	18, Category 1
Wetland BN-08	40.28852	-81.06835	PEM	0.49	18.5, Category 1
Wetland BN-09	40.28069	-81.06904	PEM	0.38	26.5, Category 1
Wetland BN-10	40.27487	-81.06973	PEM	0.02	33, Category 2
Wetland BN-11	40.26885	-81.06985	PEM	0.34	31.5, Category 2
Wetland BN-12	40.26551	-81.06997	PEM	0.15	28, Category 1
Wetland BN-13	40.26255	-81.06997	PEM	0.01	31, Category 2
Wetland BN-14	40.24427	-81.07085	PEM	0.06	27, Category 1
Wetland BN-15	40.23883	-81.07109	PEM	0.08	16, Category 1
Wetland BN-16	40.23100	-81.06863	PEM	0.30	34.5, Category 2
Wetland BN-17	40.23101	-81.06764	PEM	0.06	31.5, Category 2
Wetland BN-18	40.22906	-81.06732	PEM	0.79	36.5, Category 2
Wetland BN-19	40.22133	-81.06352	PEM	0.02	35, Category 2
Wetland BN-20	40.22108	-81.06306	PEM	0.15	22.5, Category 1
Wetland BN-21	40.21700	-81.06079	PEM	1.72	29, Category 1

TABLE 4-1: Delineated Wetlands

Buckeye Power-Nottingham 138 kV Transmission Line Rebuild Project

Wetland ID	Location		Wetland Type ¹	Acres within ESB	ORAM Score, Category
	Latitude	Longitude			
Wetland BN-22	40.21441	-81.05978	PEM	0.19	21.5, Category 1
Wetland BN-23	40.21219	-81.05723	PEM	0.55	27.5, Category 1
Wetland BN-24	40.21192	-81.05686	PEM	0.29	24, Category 1
Wetland BN-25	40.20543	-81.05042	PEM	0.99	39, Category 2
Wetland BN-26	40.20122	-81.04618	PEM	0.08	20.5, Category 1
Wetland BN-27	40.20038	-81.04568	PEM	0.02	16, Category 1
Wetland BN-28	40.19960	-81.04492	PEM	0.10	20, Category 1
Wetland BN-29	40.19870	-81.04358	PEM	0.29	20, Category 1
Wetland BN-30	40.19802	-81.04285	PEM	0.12	22, Category 1
Wetland BN-31	40.19736	-81.04250	PEM	1.58	32, Category 2
Wetland BN-32	40.19392	-81.03632	PEM	0.03	20.5, Category 1
Wetland BN-33	40.19781	-81.03349	PEM	0.02	14.5, Category 1

¹Cowardin et al. 1979.

4.1.1 Wetland ORAM Results

Twenty-one Category 1 wetlands and 12 Category 2 wetlands were identified within the ESB. No Category 3 wetlands were identified within the ESB. Table 4-2 provides ORAM summary information regarding wetlands identified within the ESB and completed ORAM forms are included in Appendix C.

The 21 Category 1 wetlands were all PEM wetlands. These wetlands were classified as Category 1 wetlands based on ORAM scores ranging from 10.5 to 29. Generally, the Category 1 wetlands scored low due to factors such as narrow buffer width, moderate to high intensity surrounding land use, moderate hydrology, poor to fair habitat development, habitat alteration, low quality vegetation communities, lack of horizontal interspersion, presence of invasive species, and minimal microtopography.

The 12 Category 2 wetlands included 11 PEM wetlands and one PEM/PSS wetland. These wetlands were classified as Category 2 wetlands based on ORAM scores ranging from 31 to 41. Generally, the Category 2 wetlands exhibited medium upland buffers, very low to moderately high intensity surrounding land use, sparse to moderate percentage of invasive species, and had habitat and hydrology generally recovered or recovering from previous manipulation due to clearcutting, shrub/sapling removal, and other disturbances.

No Category 3 wetlands were identified within the ESB.

TABLE 4-2: ORAM Wetland Summary

Buckeye Power-Nottingham 138 kV Transmission Line Rebuild Project

Wetland Type	ORAM Category			Number of Wetlands	Acreage within ESB
	Category 1	Category 2	Category 3		
PEM	21	11	0	32	10.15
PEM/PSS	0	1	0	1	0.02
Totals	21	12	0	33	10.17

4.2 Streams

Thirty-three streams were identified, totaling 5,873 linear feet within the ESB. Of the 33 streams, 17 were identified as ephemeral streams, 10 were intermittent streams, and six were perennial streams. Three streams had a designated use assigned by OEPA, two streams were assessed using the QHEI methodology (drainage area greater than one square mile), and 28 streams were assessed using the HHEI methodology (drainage area less than one square mile). The reported stream lengths only correspond to areas delineated within the ESB, as many streams extended beyond the surveyed area.

Completed QHEI forms and HHEI forms are provided in Appendix E and F, respectively. Representative photographs were taken of each stream during the field survey. Photos of designated use streams are provided in the photolog in Appendix D and photos of the remaining streams are appended to their respective stream forms in Appendix E and F. Detailed information for each delineated stream is provided in Table 4-3.

TABLE 4-3: Delineated Streams

Buckeye Power-Nottingham 138 kV Transmission Line Rebuild Project

Stream ID	Location		Flow Regime ¹	Length (feet) within ESB	Average OHWM Width (feet)
	Latitude	Longitude			
Stream BN-01	40.32746	-81.06219	Perennial	276	30
Stream BN-02	40.31851	-81.06573	Ephemeral	140	2
Stream BN-03	40.31630	-81.06576	Ephemeral	156	2
Stream BN-04	40.30528	-81.06625	Ephemeral	150	1
Stream BN-05	40.30397	-81.06641	Ephemeral	30	1
Stream BN-06	40.30021	-81.06657	Ephemeral	51	1
Stream BN-07	40.29497	-81.06881	Intermittent	26	1
Stream BN-08	40.29312	-81.06826	Perennial	384	8
Stream BN-09	40.28835	-81.06816	Ephemeral	250	1
Stream BN-10	40.27692	-81.06958	Intermittent	156	3
Stream BN-11	40.27498	-81.06965	Intermittent	159	1
Stream BN-12	40.26915	-81.06978	Ephemeral	184	2
Stream BN-13	40.26810	-81.06997	Ephemeral	55	1
Stream BN-14	40.26260	-81.07009	Intermittent	114	3
Stream BN-15	40.25011	-81.07055	Intermittent	261	2
Stream BN-16	40.24409	-81.07083	Perennial	106	8
Stream BN-17	40.24000	-81.07112	Ephemeral	44	1
Stream BN-18	40.23906	-81.07121	Ephemeral	22	2
Stream BN-19	40.23115	-81.06771	Intermittent	654	3
Stream BN-20	40.22906	-81.06722	Intermittent	346	2
Stream BN-21	40.22378	-81.06407	Ephemeral	343	2
Stream BN-22	40.22121	-81.06347	Ephemeral	148	1.5
Stream BN-23	40.22099	-81.06314	Intermittent	477	3
Stream BN-24	40.21747	-81.06121	Ephemeral	114	2
Stream BN-25	40.21217	-81.05720	Perennial	294	3
Stream BN-26	40.20522	-81.05031	Perennial	374	8
Stream BN-27	40.20515	-81.04933	Ephemeral	0	3
Stream BN-28	40.20019	-81.04580	Ephemeral	64	1
Stream BN-29	40.19875	-81.04312	Ephemeral	30	2
Stream BN-30	40.19752	-81.04180	Intermittent	237	2.5

TABLE 4-3: Delineated Streams

Buckeye Power-Nottingham 138 kV Transmission Line Rebuild Project

Stream ID	Location		Flow Regime ¹	Length (feet) within ESB	Average OHWM Width (feet)
	Latitude	Longitude			
Stream BN-31	40.19642	-81.04044	Perennial	50	3.5
Stream BN-32	40.19391	-81.03648	Intermittent	107	3
Stream BN-33	40.19603	-81.03597	Ephemeral	72	4

¹Flow regime estimated based on analysis of drainage area, gradient, and observations at the time of survey

4.2.1 Ohio Administrative Code Chapter 3745-1 Designated Use

The OEPA has established water use designation for streams throughout Ohio as outlined in the Ohio Administrative Code (OAC) Chapter 3745-1-07. There were three delineated streams that had a designated use as regulated under OAC Chapter 3745-1 (Table 4-4). Jacobs defaults to the assigned OAC designations and therefore did not assess these streams. Representative photographs are provided in Appendix D.

TABLE 4-4: OAC Chapter 3745-1 Stream Designations

Buckeye Power-Nottingham 138 kV Transmission Line Rebuild Project

Stream ID	Stream Name	OAC Designation
Stream BN-01	Clear Fork	Warmwater Habitat
Stream BN-08	Standingstone Fork	Warmwater Habitat
Stream BN-16	Brushy Fork	Warmwater Habitat

Source: OEPA 2017

4.2.2 QHEI Results

Two streams, totaling 668 linear feet within the ESB, were evaluated using QHEI methodology. One was classified as a Fair Warmwater stream and one as a Poor Warmwater stream. The completed QHEI forms are in Appendix E and Table 4-5 provides a summary of streams identified within the ESB that were assessed using the QHEI.

TABLE 4-5: QHEI Stream Summary

Buckeye Power-Nottingham 138 kV Transmission Line Rebuild Project

Flow Regime	QHEI Narrative Category					Number of Streams	Length (feet) within ESB
	Very Poor Warmwater	Poor Warmwater	Fair Warmwater	Good Warmwater	Excellent Warmwater		
Ephemeral	0	0	0	0	0	0	0
Intermittent	0	0	0	0	0	0	0
Perennial	0	1	1	0	0	2	668
Total	0	1	1	0	0	2	668

¹Flow regime estimated based on analysis of drainage area, gradient, and observations at the time of survey

4.2.3 HHEI Results

Twenty-eight headwater streams, totaling 4,439 linear feet within the ESB, were evaluated using the HHEI methodology. Nineteen of the streams were categorized as modified Class I streams, one as a Class I stream, seven as modified Class II streams, and one as a Class II stream. Of the 28 streams, 17 were ephemeral streams, 10 were intermittent streams, and one was a perennial stream. Completed HHEI forms are provided in Appendix F and Table 4-6 provides a summary of streams identified within the ESB that were assessed using the HHEI.

TABLE 4-6: HHEI Stream Summary

Buckeye Power-Nottingham 138 kV Transmission Line Rebuild Project

Flow Regime ¹	HHEI Class						Number of Streams	Length (feet) within ESB
	Modified Class I	Class I	Modified Class II	Class II	Modified Class III	Class III		
Ephemeral	13	1	3	0	0	0	17	1,853
Intermittent	6	0	3	1	0	0	10	2,536
Perennial	0	0	1	0	0	0	1	50
Total	19	1	7	1	0	0	28	4,439

¹Flow regime estimated based on analysis of drainage area, gradient, and observations at the time of survey

4.3 Ponds/Open Water

Eight ponds were identified, totaling 1.94 acres within the ESB. Summary information for each delineated pond is provided in Table 4-7. Representative photographs and detailed information on pond conditions can be found in Appendix G. The reported pond acreage only corresponds to areas delineated within the ESB, as many ponds extended beyond the surveyed area.

TABLE 4-7: Delineated Ponds

Buckeye Power-Nottingham 138 kV Transmission Line Rebuild Project

Pond ID	Location		Acres within ESB
	Latitude	Longitude	
Pond BN-01	40.32214	-81.06428	0.22
Pond BN-02	40.30903	-81.06593	0.12
Pond BN-03	40.28901	-81.06833	0.46
Pond BN-04	40.25962	-81.07021	0.13
Pond BN-05	40.25210	-81.07062	0.11
Pond BN-06	40.21253	-81.05690	0.41
Pond BN-07	40.19774	-81.04134	0.00
Pond BN-08	40.19657	-81.04139	0.50

5 Conclusion

Jacobs conducted an environmental survey of the Buckeye Power-Nottingham 138 kV Transmission Line Rebuild Project in October 2023. A total of 33 wetlands, 33 streams, and eight ponds were delineated within the environmental survey boundary. The 33 wetlands totaled 10.17 acres within the ESB and consisted of 32 PEM wetlands and one PEM/PSS wetland complex. Of the 33 wetlands, 21 were identified as Category 1 wetlands and 12 were identified as Category 2 wetlands. No Category 3 wetlands were identified within the ESB.

The 33 streams identified totaled 5,873 linear feet within the ESB and included 17 ephemeral streams, 10 intermittent streams, and six perennial streams. Three streams had an OEPA designated use, two streams were assessed using QHEI methodology (drainage area greater than one square mile), and 28 streams were assessed using HHEI methodology (drainage area less than one square mile). Additionally, eight ponds were identified, totaling 1.94 acres within the ESB.

The jurisdiction of all assessed features will be determined by the USACE and state-established water quality standards based on hydrologic connectivity. Further coordination with the USACE and state regulating agency is recommended prior to the submittal of any permit or construction activities.

The results of the wetland and waterbody field survey described in this Report conducted by Jacobs are limited to what was identified within the ESB. The information contained in this Report is for a study area that may be much larger than the actual Project limits-of-disturbance for construction; therefore, lengths and acreages listed in this Report may likely not constitute the actual impacts of the Project at the time of construction. If permits are determined to be necessary, actual impacted lengths and/or acreages will be submitted in subsequent permit applications.

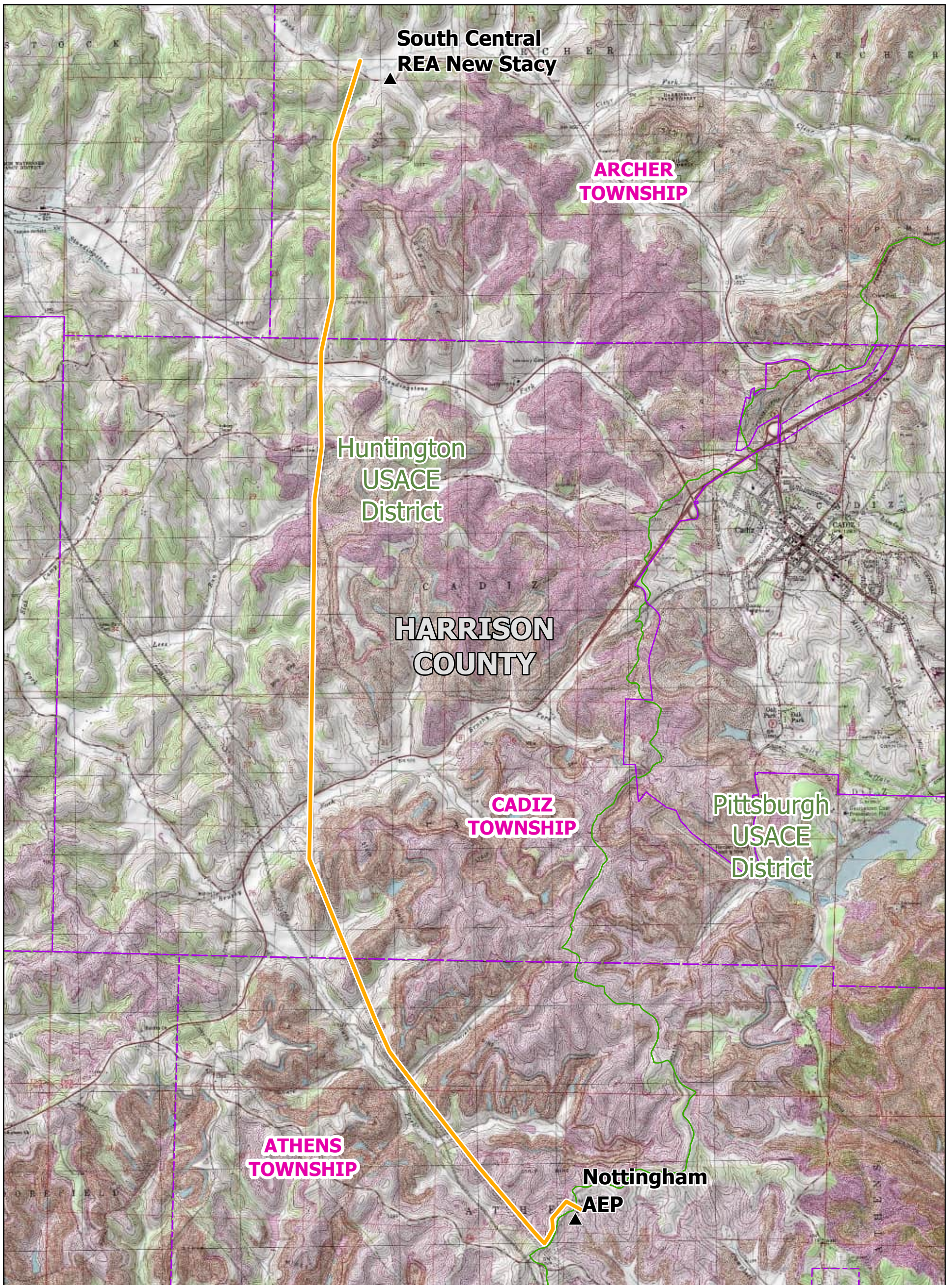
The wetland and waterbodies field survey results presented within this Report apply to the site conditions at the time of our assessment. Changes within the environmental survey boundary that may occur with time due to natural processes or human impacts at the project site or on adjacent properties, could invalidate the findings of this Report, especially if Jacobs is unaware and has not had the opportunity to revisit the Project. Additionally, changes in applicable standards and regulations may also occur as a result of legislation or the expansion of scientific research over time. Therefore, the findings of this Report may be invalidated, wholly or in part, by changes that are beyond the control of Jacobs.

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Appendix A Figures



Legend

- ▲ Substation
- Buckeye Power-Nottingham - Phase 4
- Township
- County
- USACE District Boundary

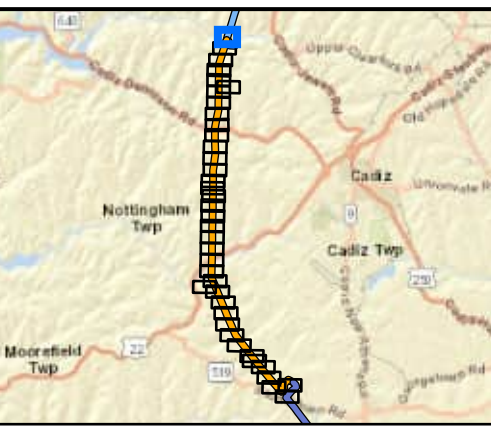


BASE MAP SOURCE:
USGS Topographic Map

0 2,000 4,000 8,000
Feet

<p style="font-size: 8px; margin-top: 5px;">American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</p>	<p style="font-size: 8px; margin: 0;">Buckeye Power-Nottingham 138kV Transmission Line Rebuild Project</p>	
	<p>FIGURE 1 OVERVIEW MAP</p>	
PN: D3449600	DATE: 10/23/2023	
CREATED BY: RD		
REVIEWED BY: BO		

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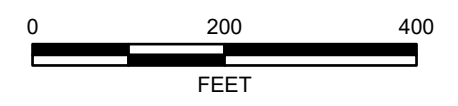


LEGEND:

- Proposed Structure - Direct Embed
- Polo Road-Buckeye Power - Phase 3
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- ▨ 100 Year Floodplain
- ▭ Soil Map Unit
- ▭ Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery

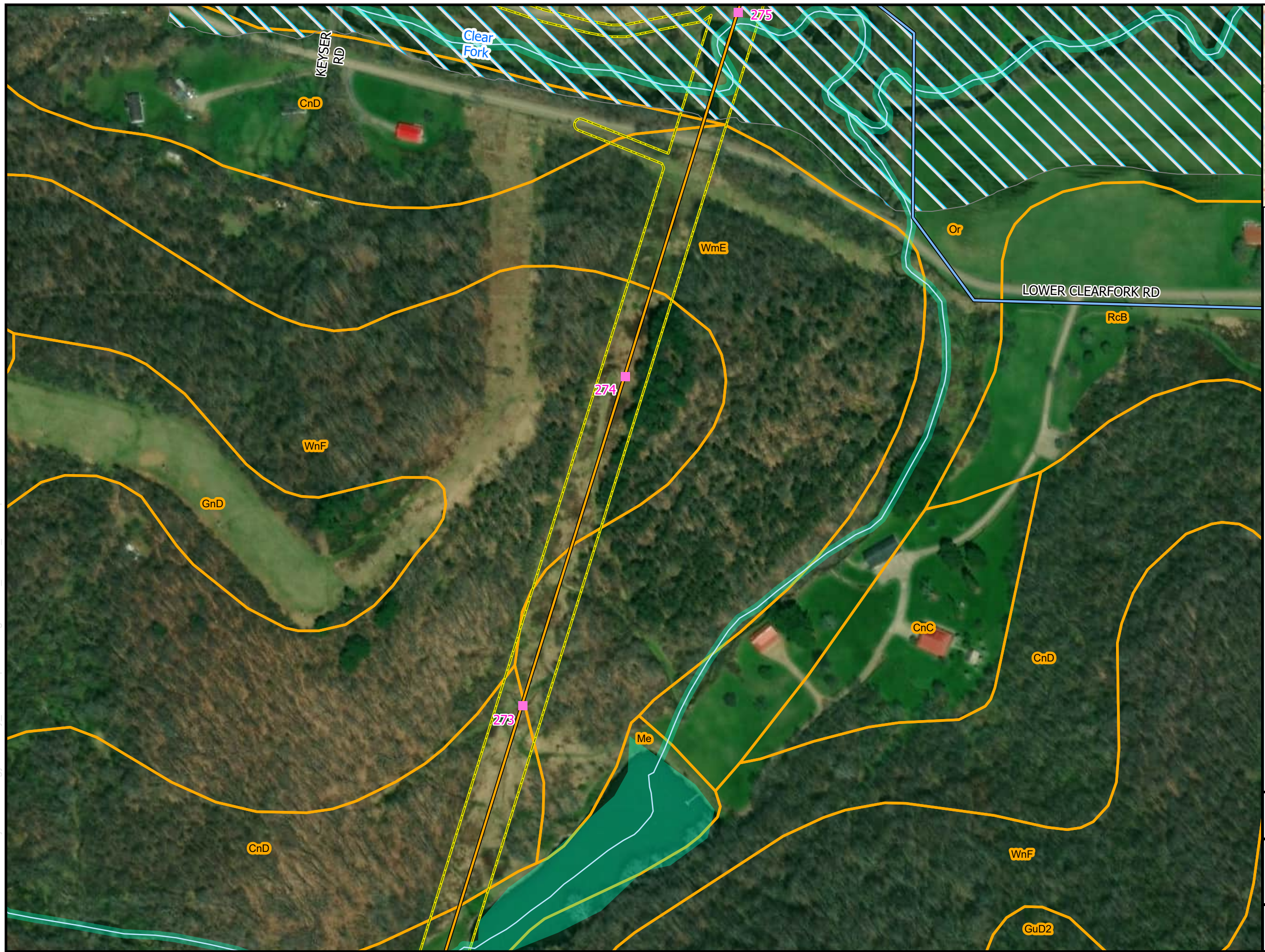


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138kV Transmission Line
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FIGURE 2-1
SOILS, NHD, NWI, FEMA MAP

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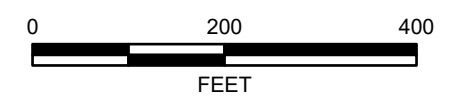


LEGEND:

- Proposed Structure - Direct Embed
- Polo Road-Buckeye Power - Phase 3
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



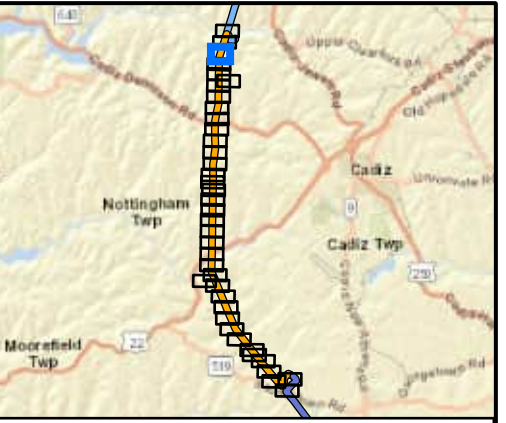
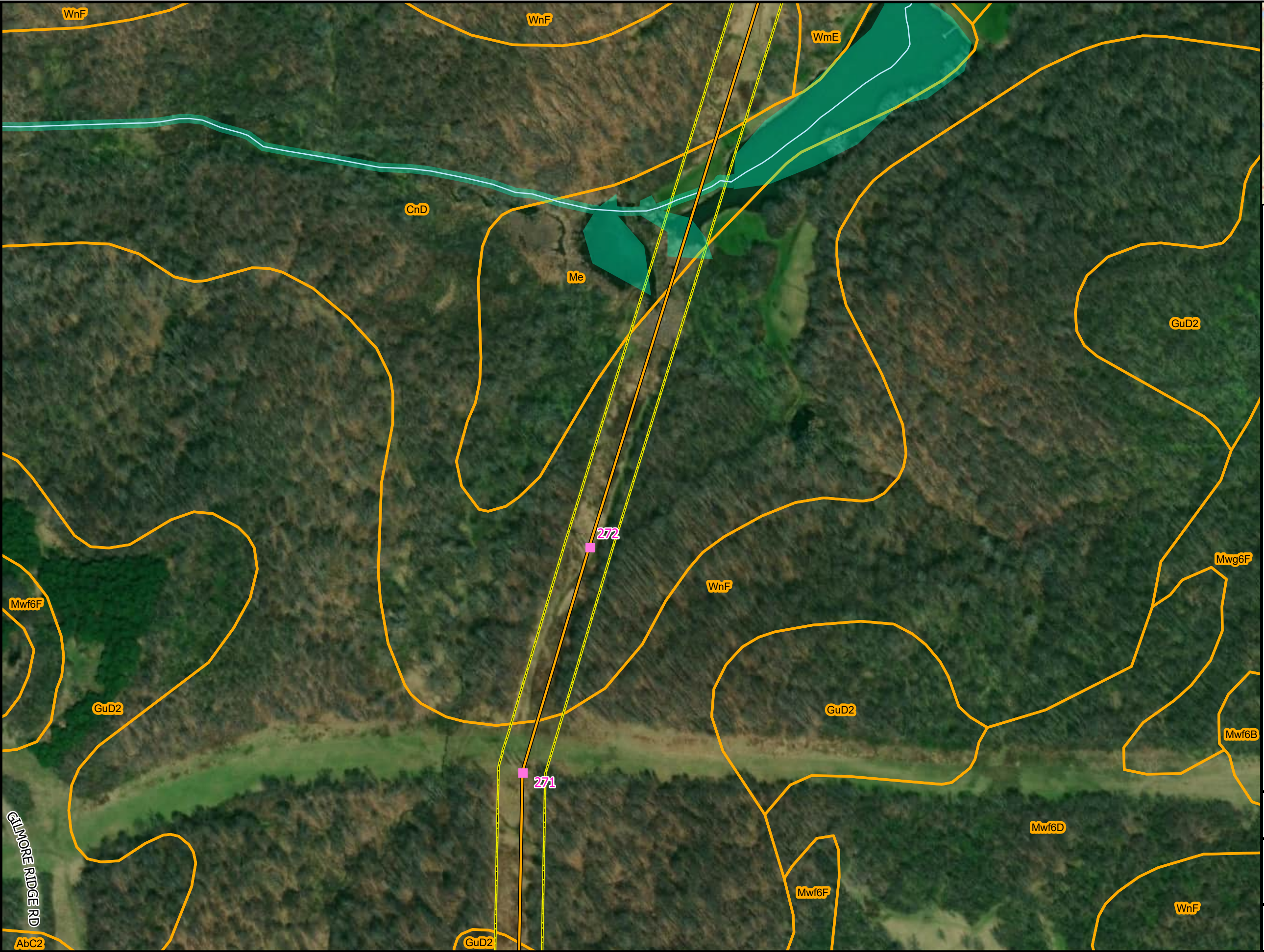
BASE MAP SOURCE:
Esri World Imagery



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--	--

FIGURE 2-2
SOILS, NHD, NWI, FEMA MAP

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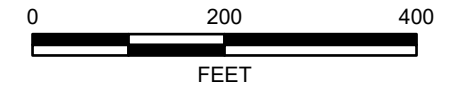


LEGEND:

- Proposed Structure - Direct Embed
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
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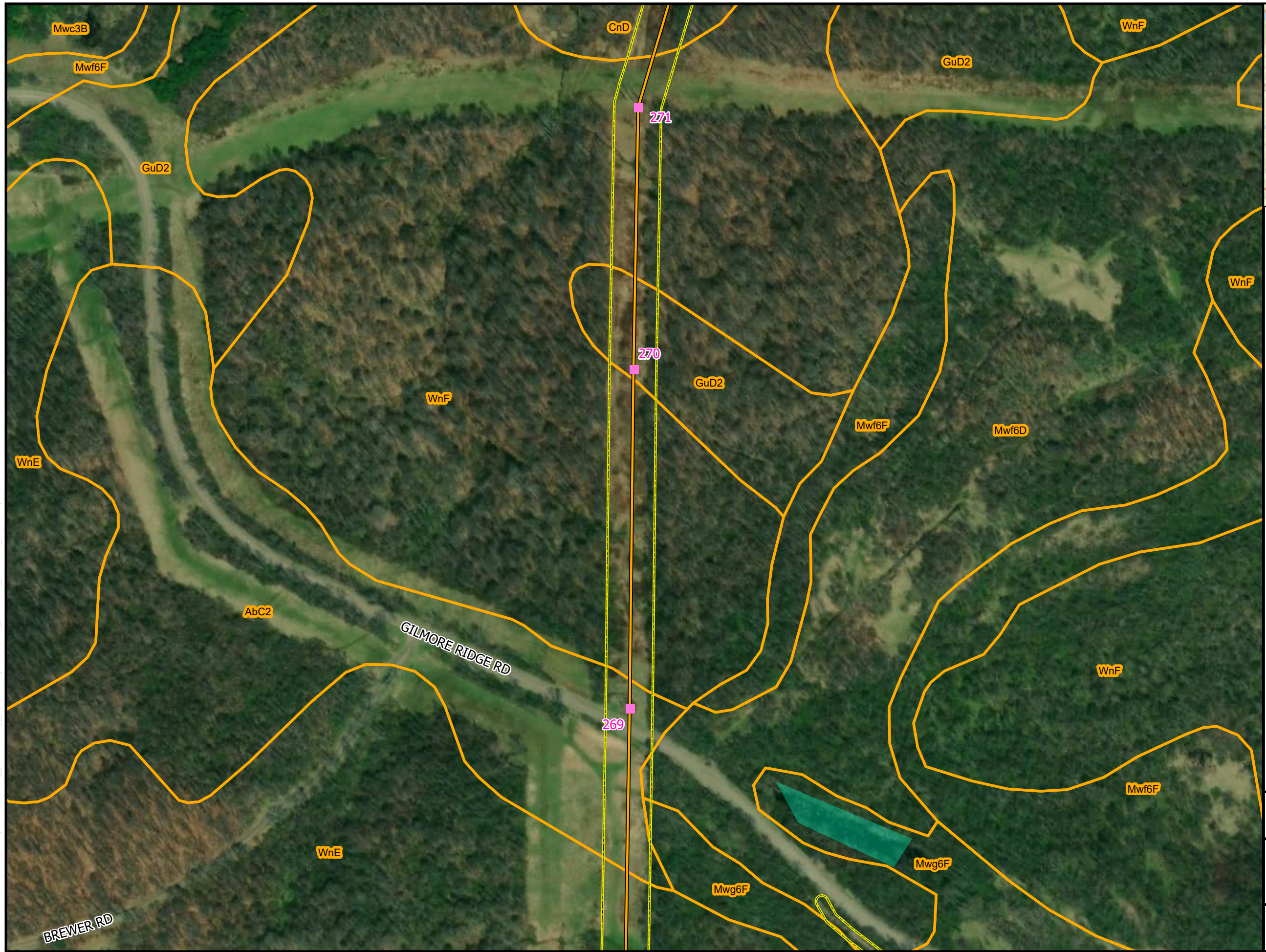
Buckeye Power-Nottingham
138kV Transmission Line
Rebuild Project

FIGURE 2-3
SOILS, NHD, NWI, FEMA MAP

DATE: 10/23/2023

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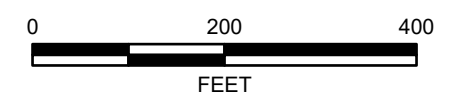


LEGEND:

- Proposed Structure - Direct Embed
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
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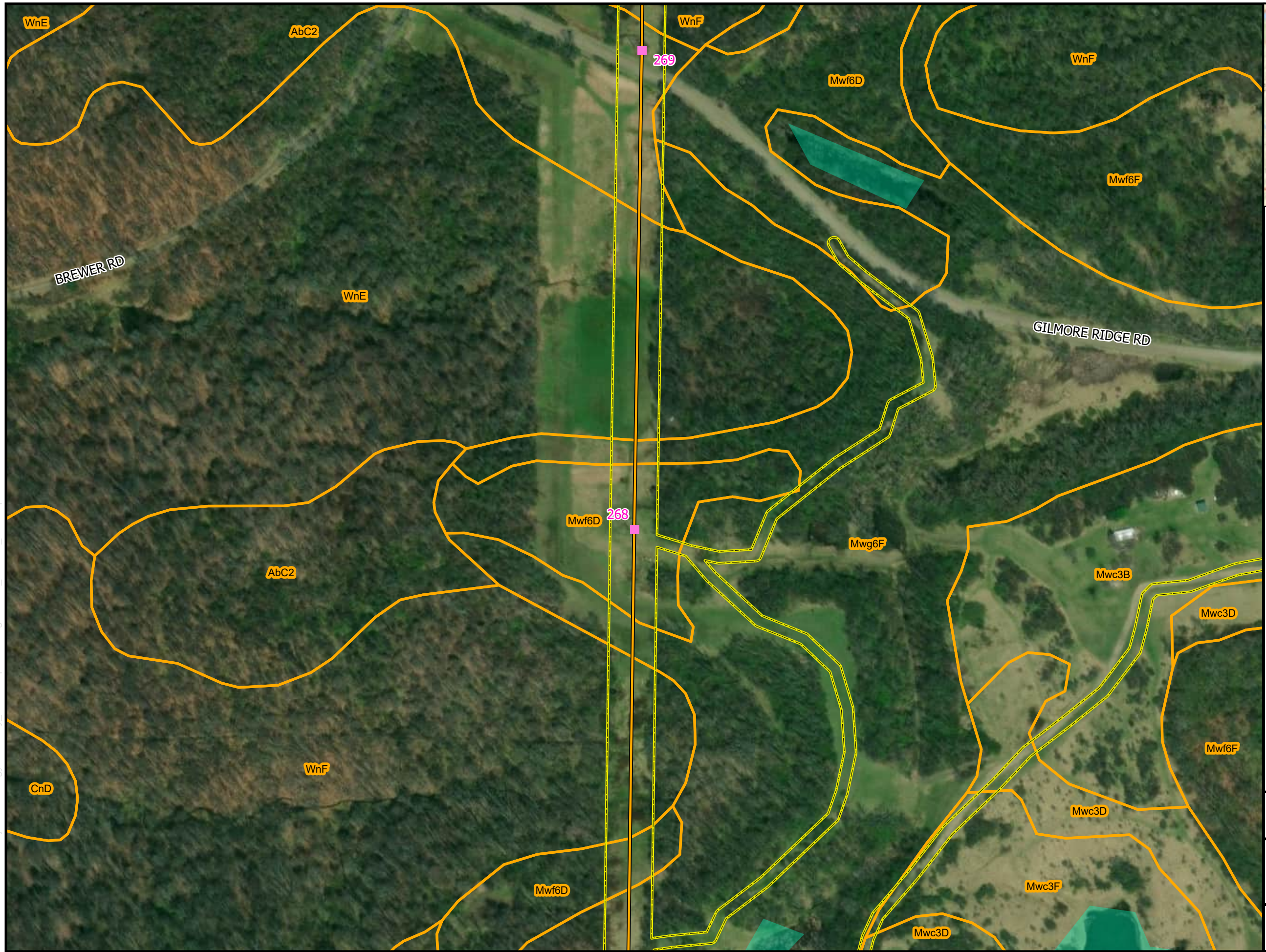
Buckeye Power-Nottingham
138kV Transmission Line
Rebuild Project

FIGURE 2-4
SOILS, NHD, NWI, FEMA MAP

DATE: 10/23/2023



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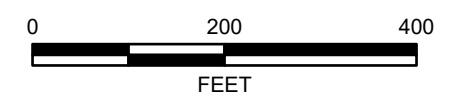


LEGEND:

- Proposed Structure - Direct Embed
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



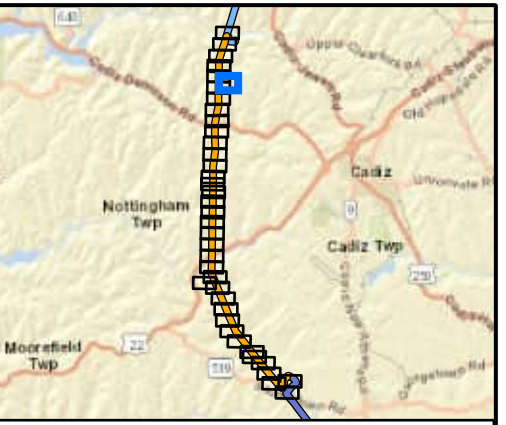
BASE MAP SOURCE:
Esri World Imagery



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FIGURE 2-5
SOILS, NHD, NWI, FEMA MAP

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LEGEND:

- Proposed Structure - Direct Embed
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary

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BASE MAP SOURCE:
Esri World Imagery

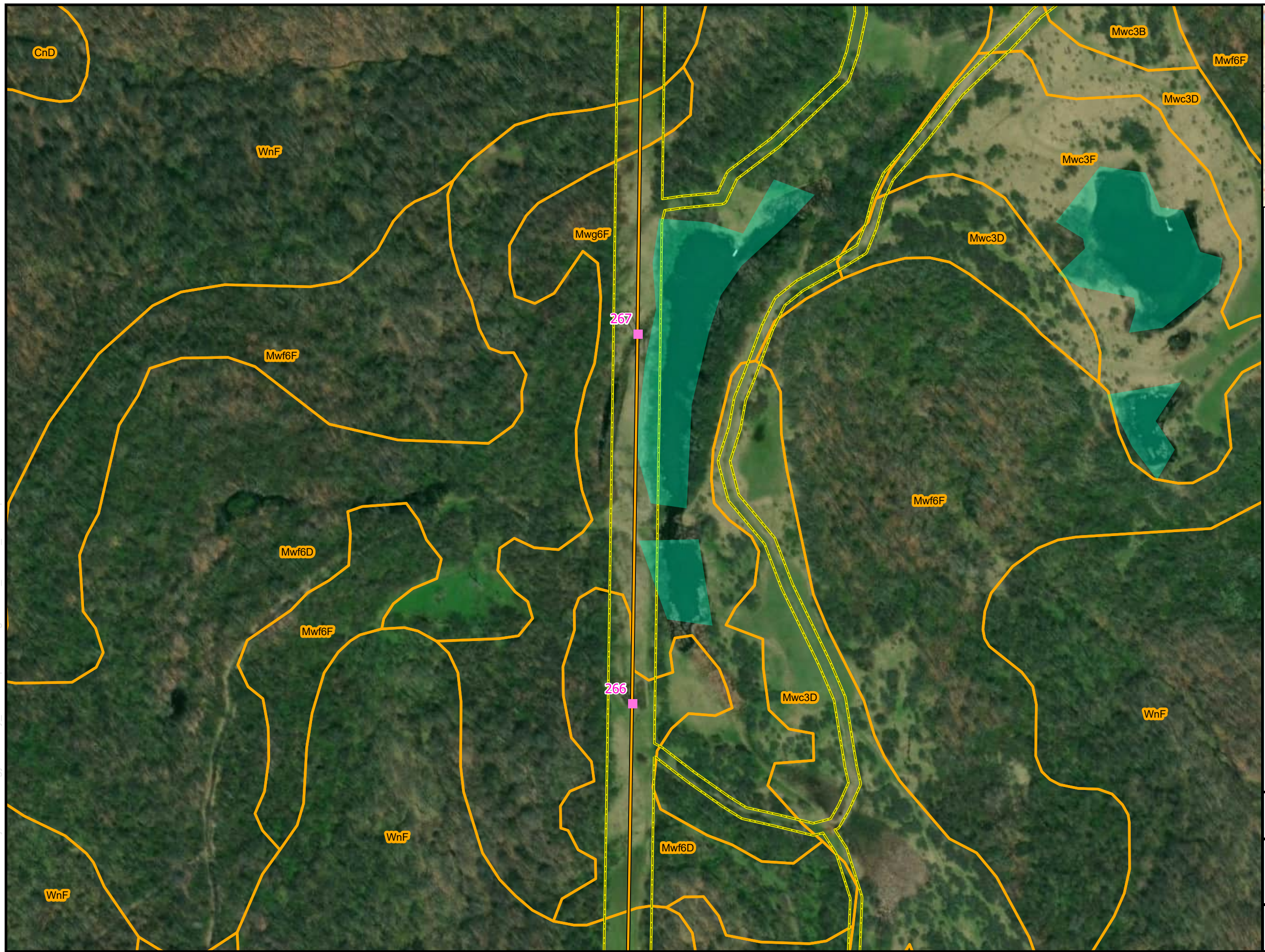
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FEET

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FIGURE 2-6
SOILS, NHD, NWI, FEMA MAP

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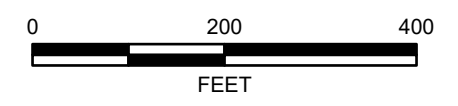


LEGEND:

- Proposed Structure - Direct Embed
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
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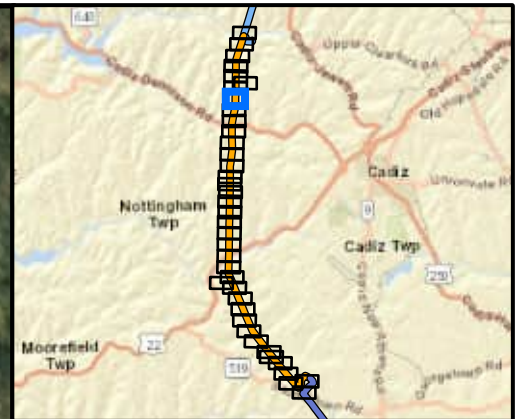
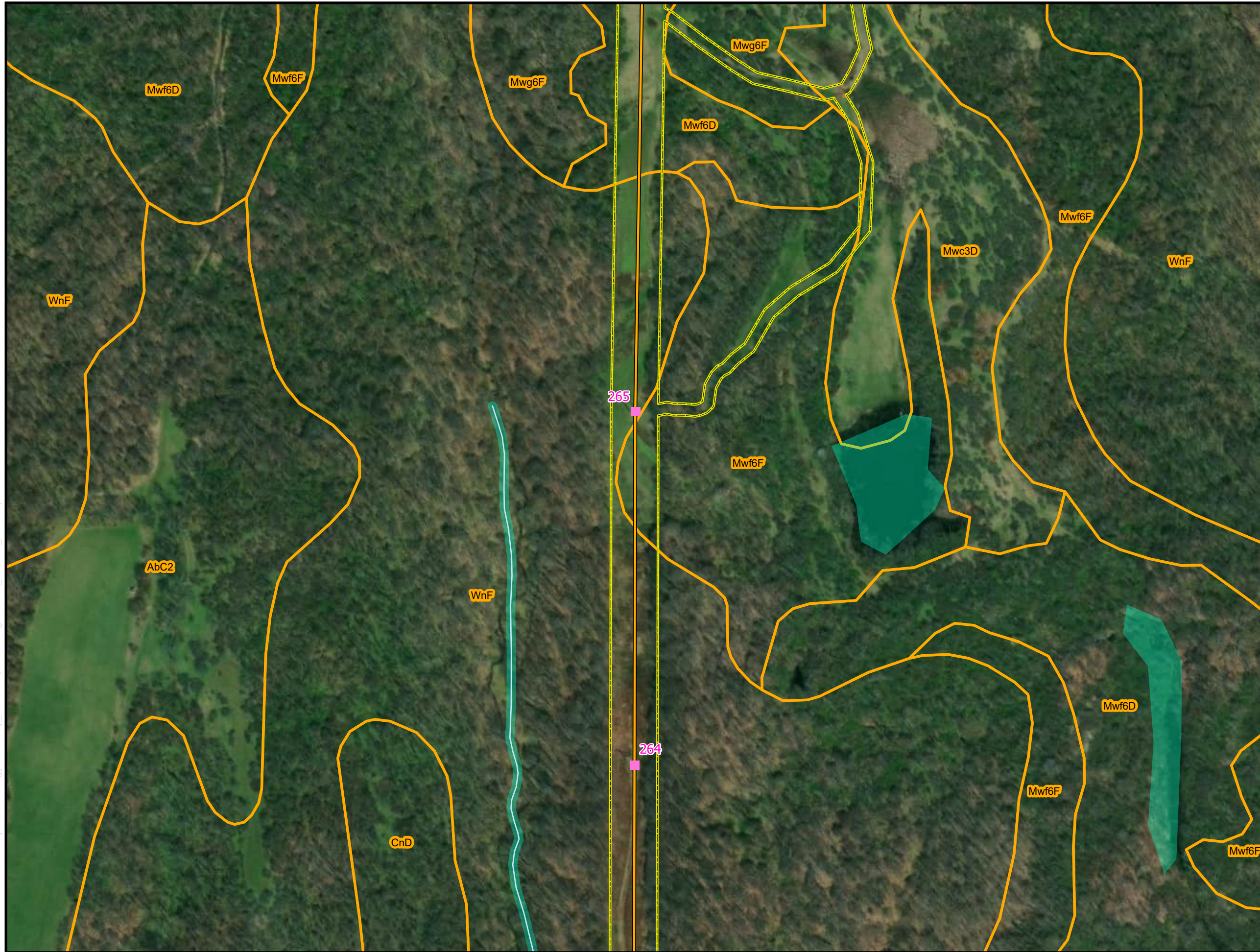
Buckeye Power-Nottingham
138kV Transmission Line
Rebuild Project

FIGURE 2-7
SOILS, NHD, NWI, FEMA MAP

DATE: 10/23/2023

Jacobs

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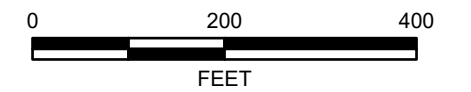


LEGEND:

- Proposed Structure - Direct Embed
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
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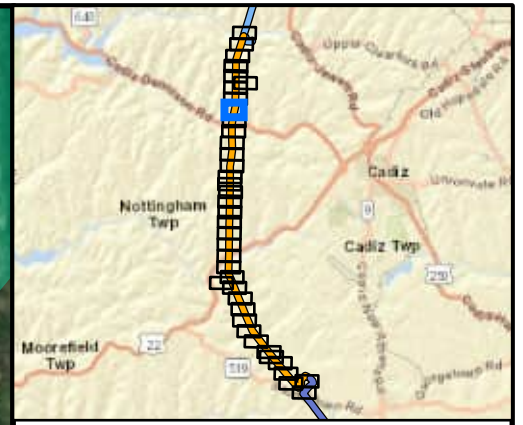
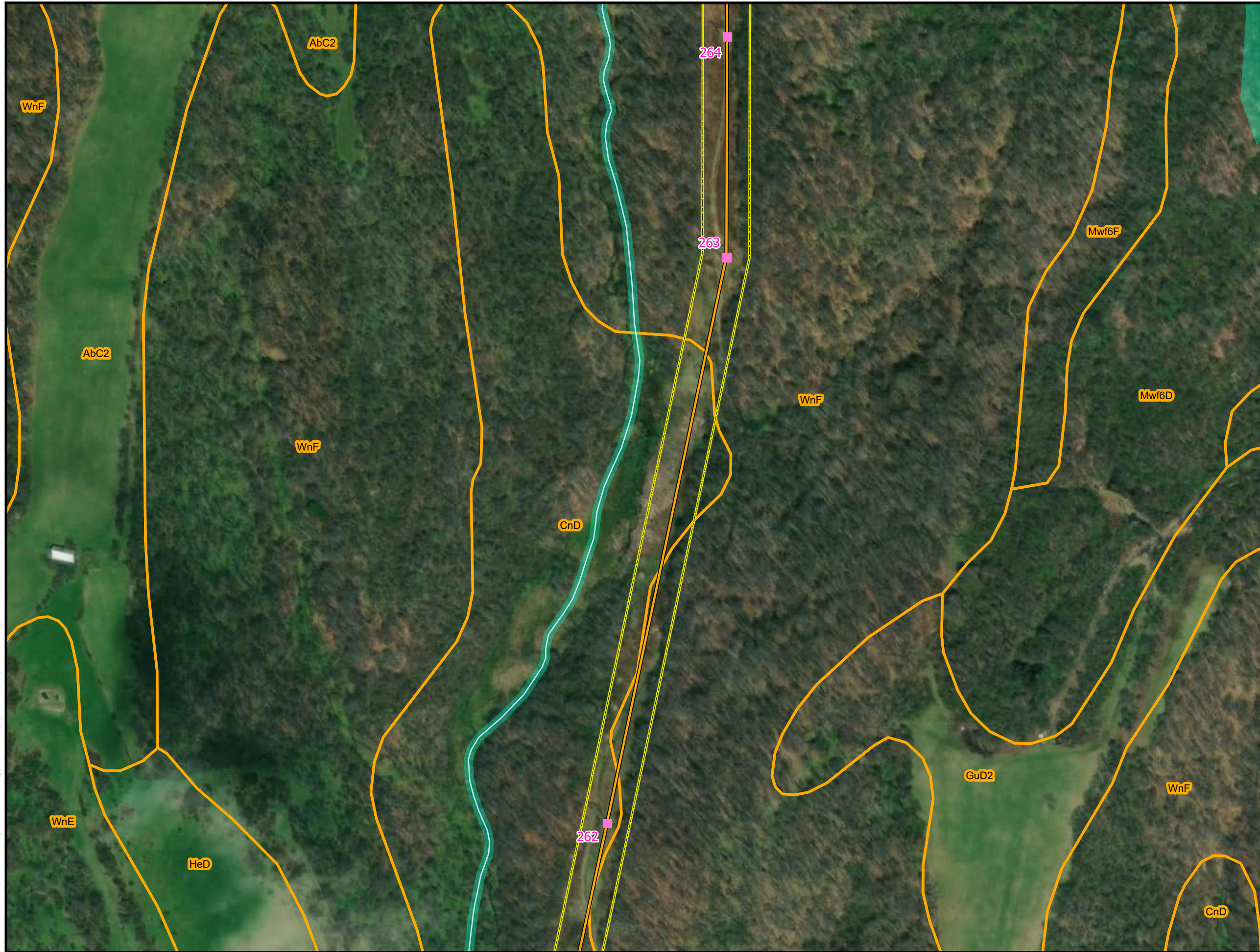
Buckeye Power-Nottingham
138kV Transmission Line
Rebuild Project

FIGURE 2-8
SOILS, NHD, NWI, FEMA MAP

DATE: 10/23/2023

Jacobs

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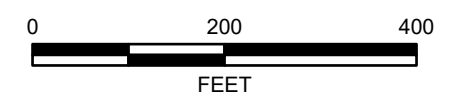


LEGEND:

- Proposed Structure - Direct Embed
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



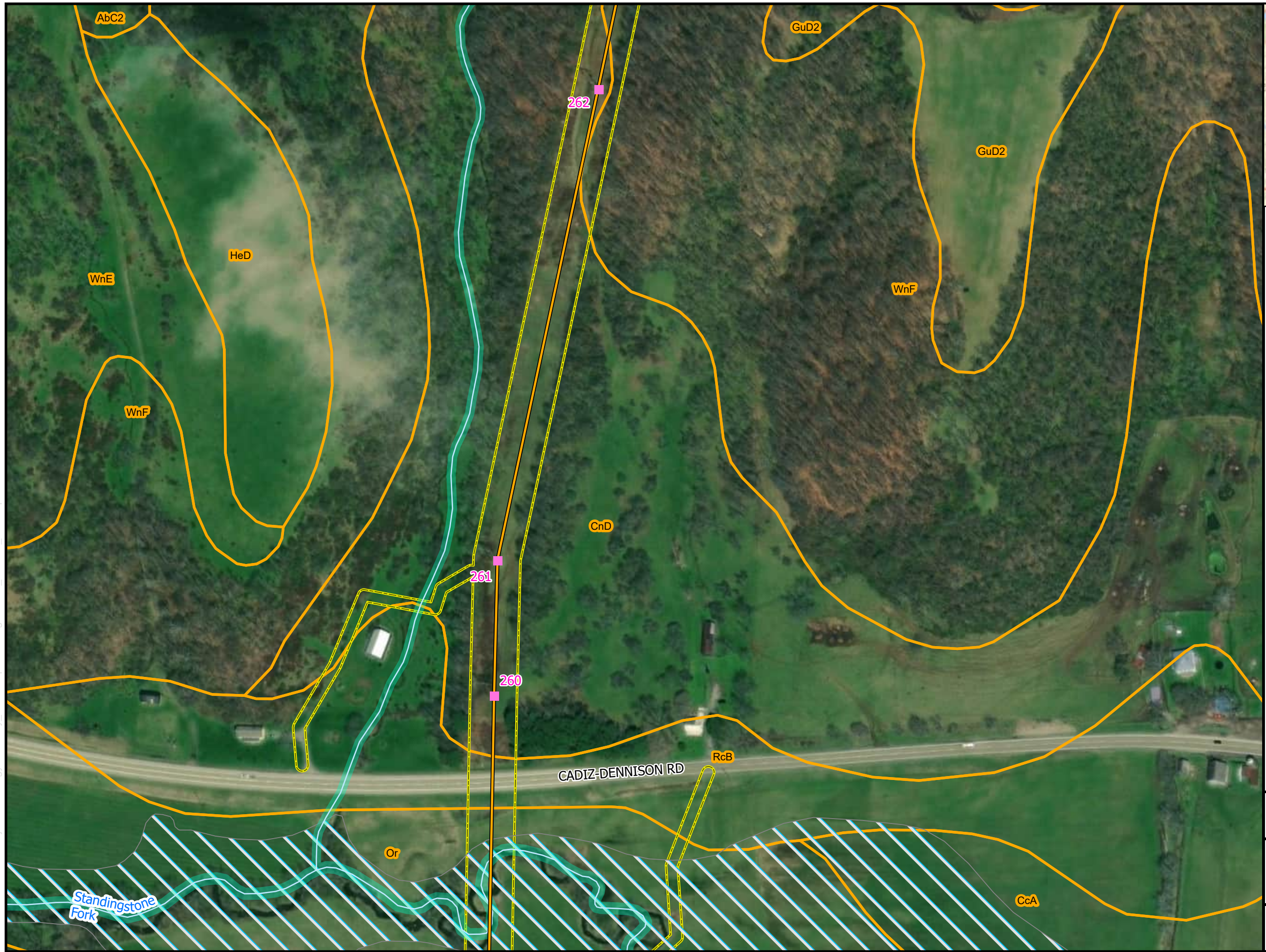
BASE MAP SOURCE:
Esri World Imagery



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FIGURE 2-9
SOILS, NHD, NWI, FEMA MAP

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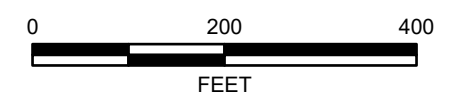


LEGEND:

- Proposed Structure - Direct Embed
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



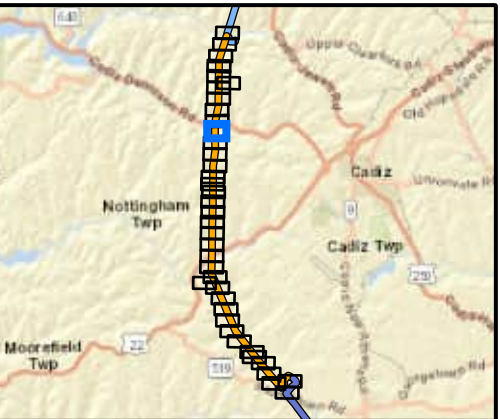
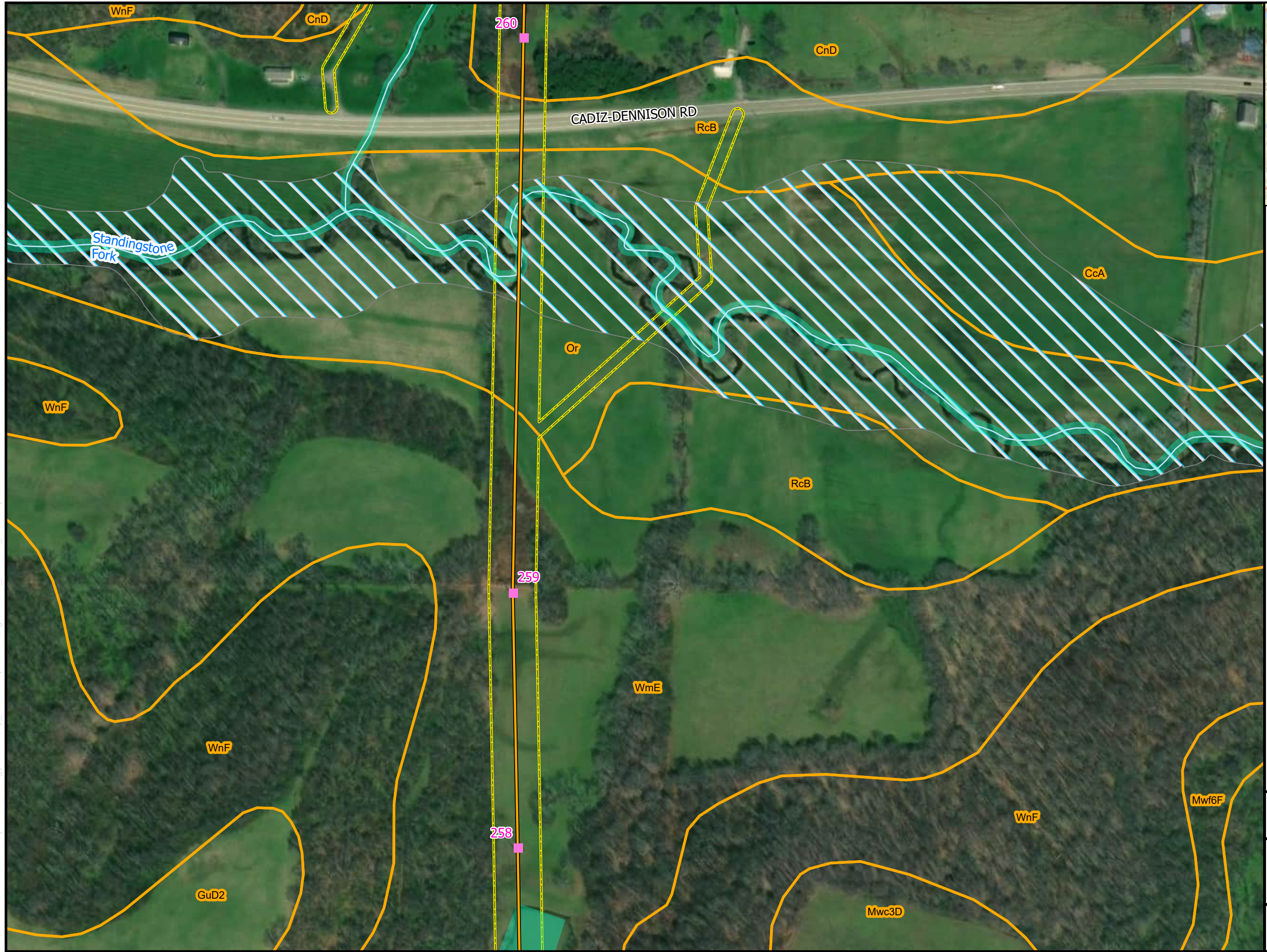
BASE MAP SOURCE:
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FIGURE 2-10
SOILS, NHD, NWI, FEMA MAP

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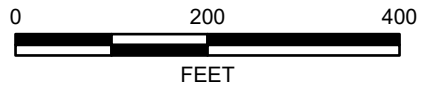


LEGEND:

- Proposed Structure - Direct Embed
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- ▨ 100 Year Floodplain
- ▭ Soil Map Unit
- - - Environmental Survey Boundary



BASE MAP SOURCE:
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Buckeye Power-Nottingham
138kV Transmission Line
Rebuild Project

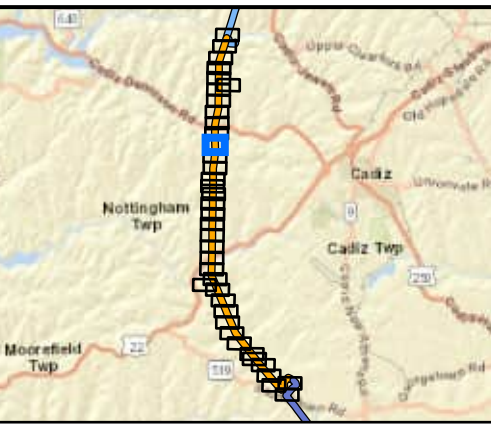
FIGURE 2-11
SOILS, NHD, NWI, FEMA MAP

DATE: 10/23/2023



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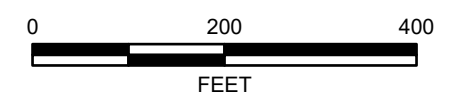


LEGEND:

- Proposed Structure - Direct Embed
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
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FIGURE 2-12
SOILS, NHD, NWI, FEMA MAP

DATE: 10/23/2023

Jacobs

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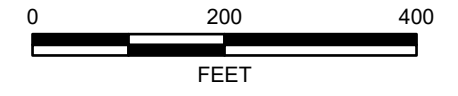


LEGEND:

- Proposed Structure - Direct Embed
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
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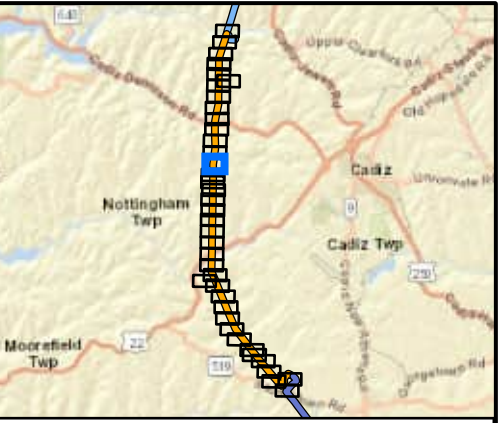
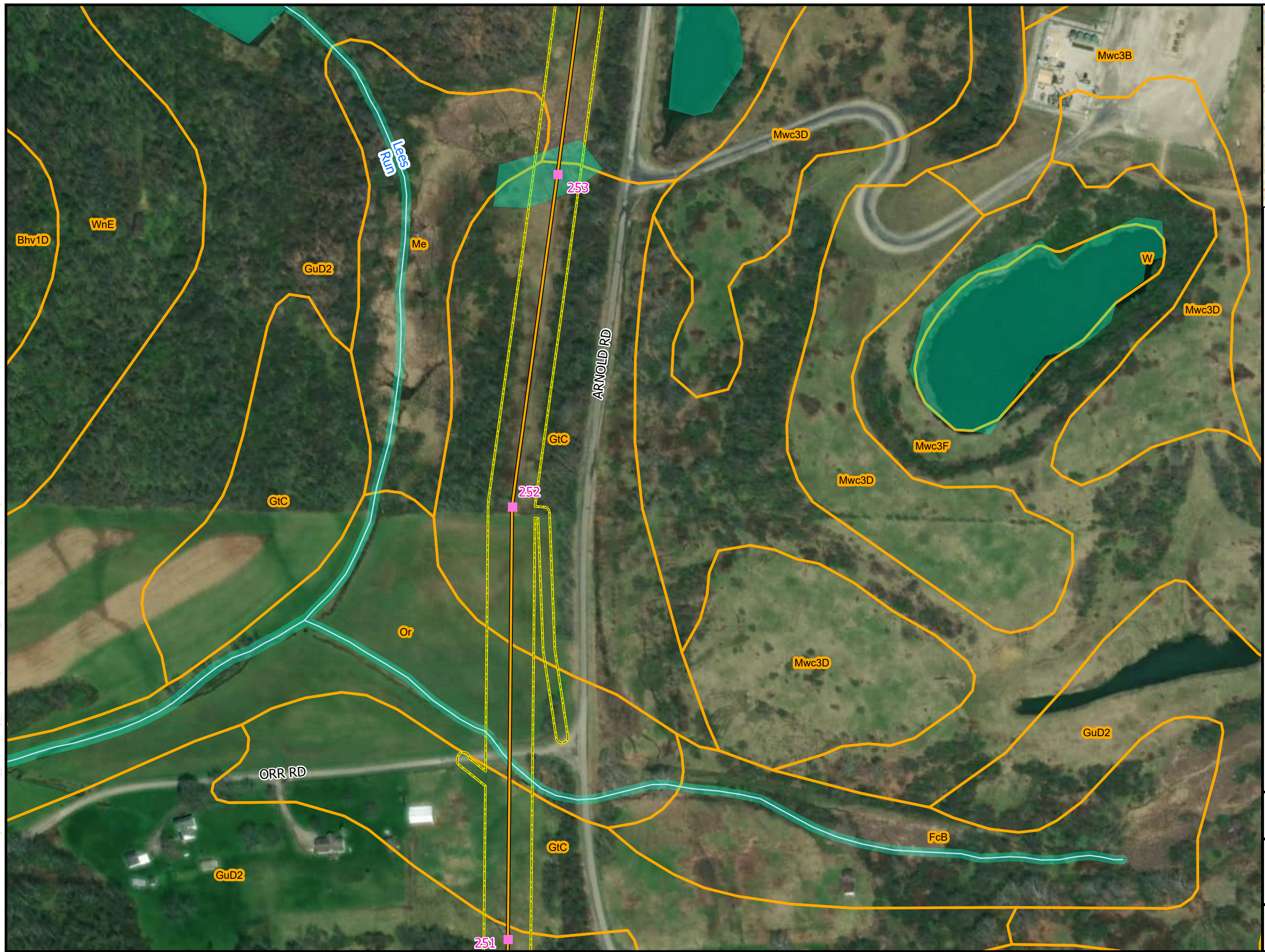
Buckeye Power-Nottingham
138kV Transmission Line
Rebuild Project

FIGURE 2-13
SOILS, NHD, NWI, FEMA MAP

DATE: 10/23/2023



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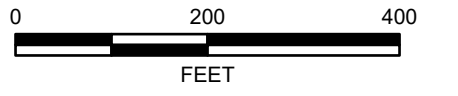


LEGEND:

- Proposed Structure - Direct Embed
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
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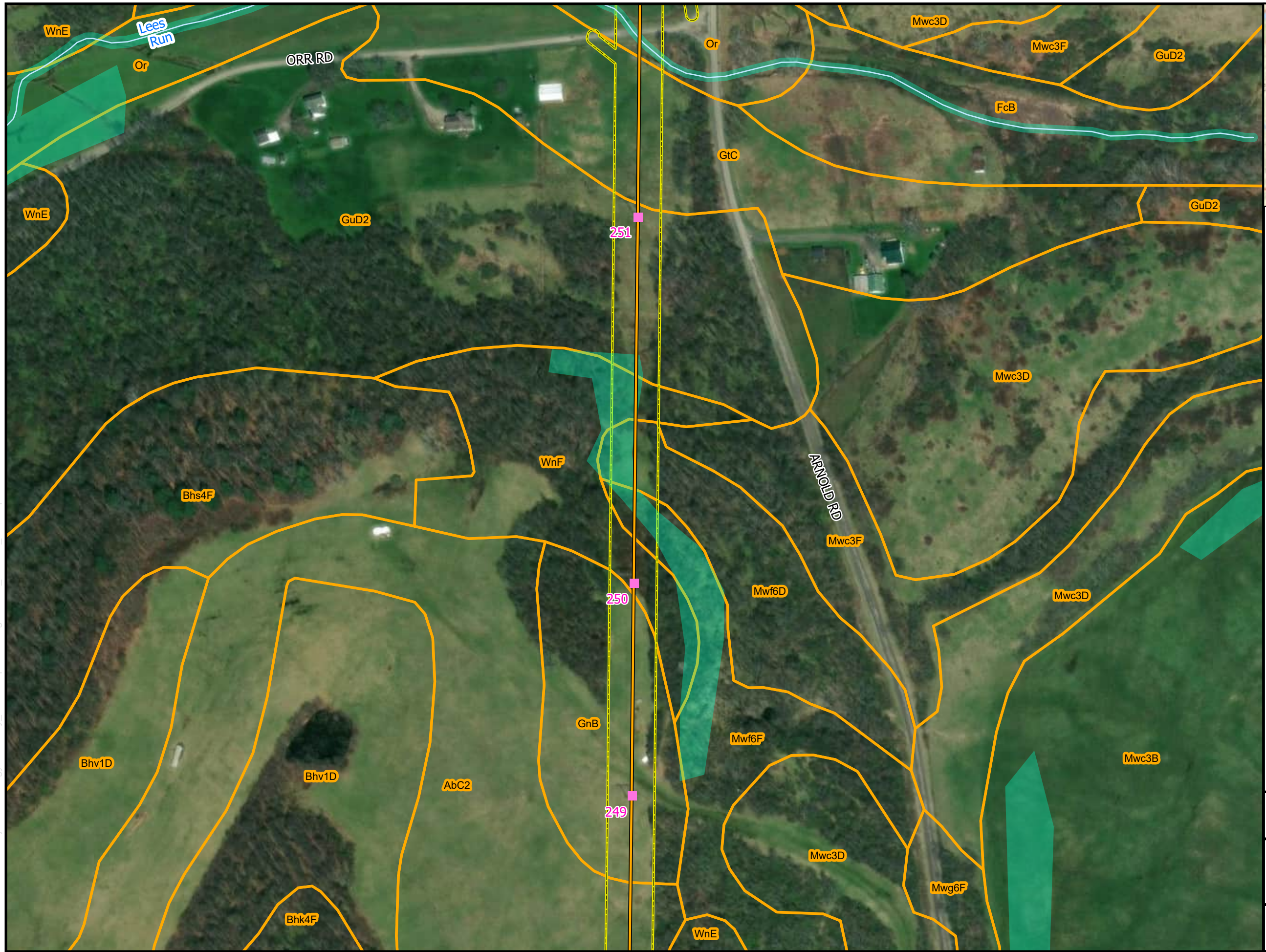
Buckeye Power-Nottingham
138kV Transmission Line
Rebuild Project

FIGURE 2-14
SOILS, NHD, NWI, FEMA MAP

DATE: 10/23/2023

Jacobs

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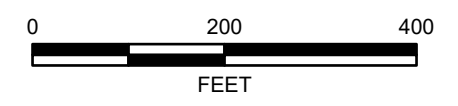


LEGEND:

- Proposed Structure - Direct Embed
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



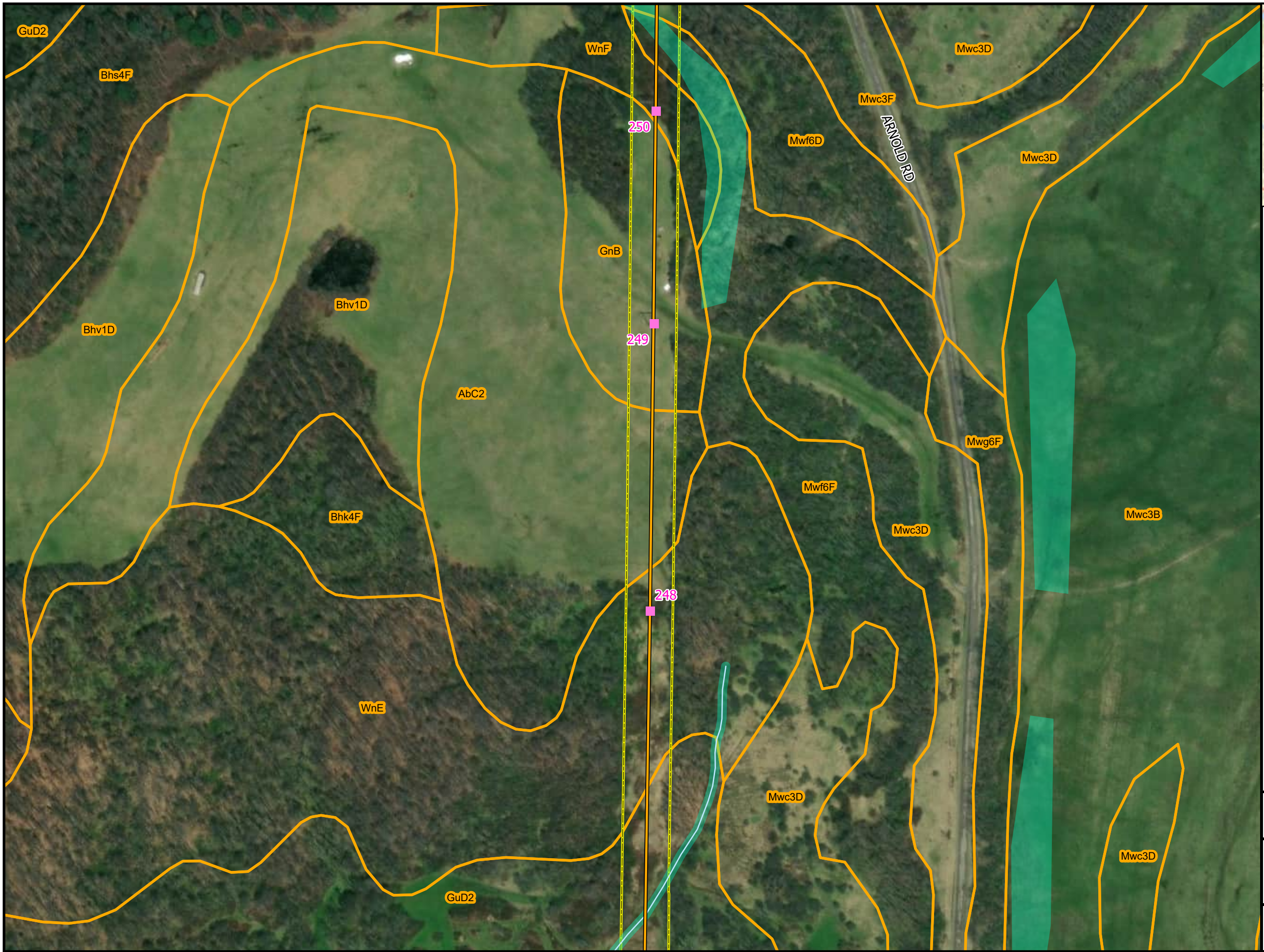
BASE MAP SOURCE:
Esri World Imagery



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FIGURE 2-15
SOILS, NHD, NWI, FEMA MAP

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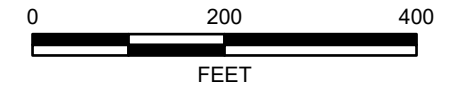


LEGEND:

- Proposed Structure - Direct Embed
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
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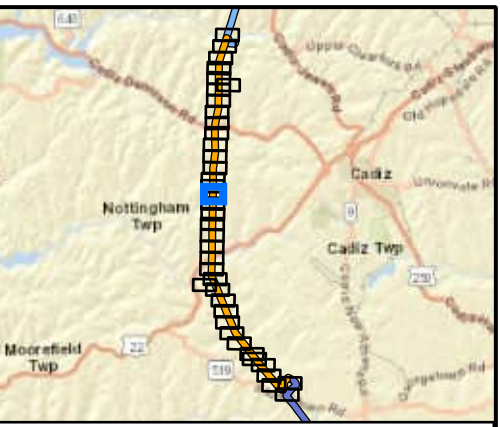
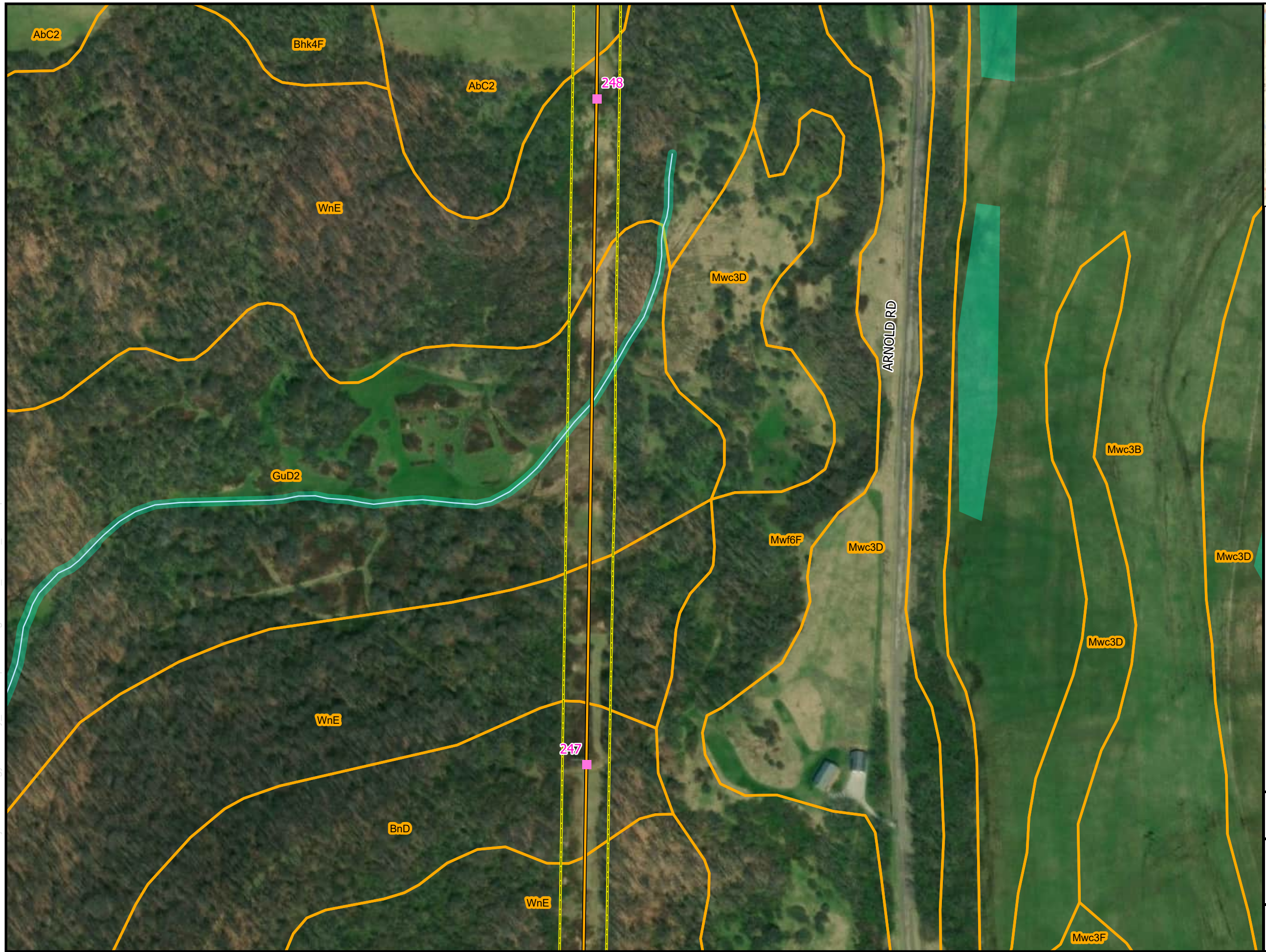
Buckeye Power-Nottingham
138kV Transmission Line
Rebuild Project

FIGURE 2-16
SOILS, NHD, NWI, FEMA MAP

DATE: 10/23/2023

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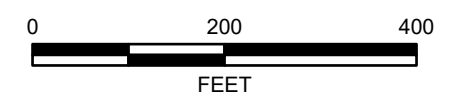


LEGEND:

- Proposed Structure - Direct Embed
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
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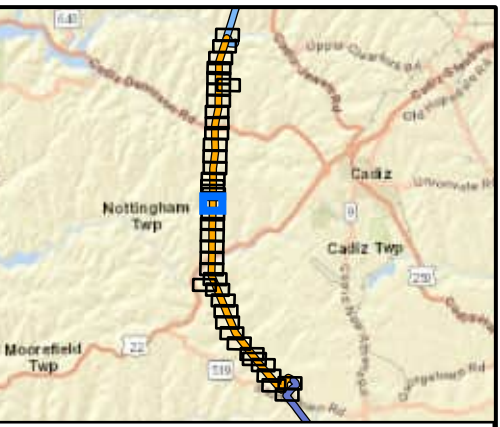
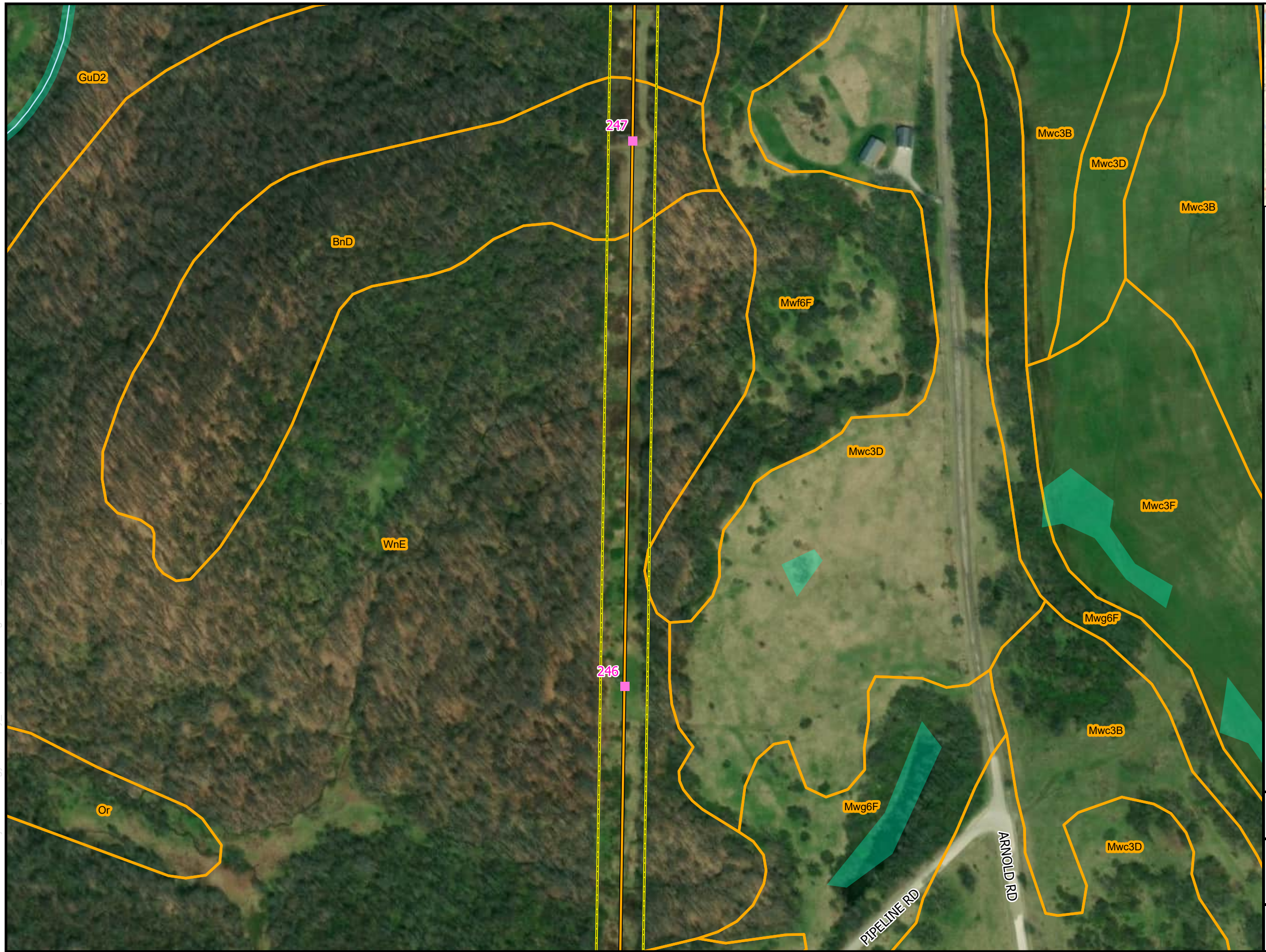


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FIGURE 2-17
SOILS, NHD, NWI, FEMA MAP

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LEGEND:

- Proposed Structure - Direct Embed
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
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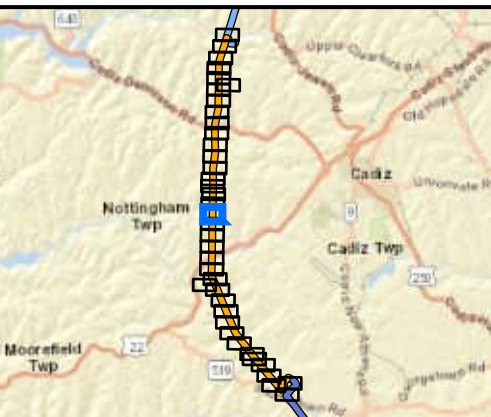
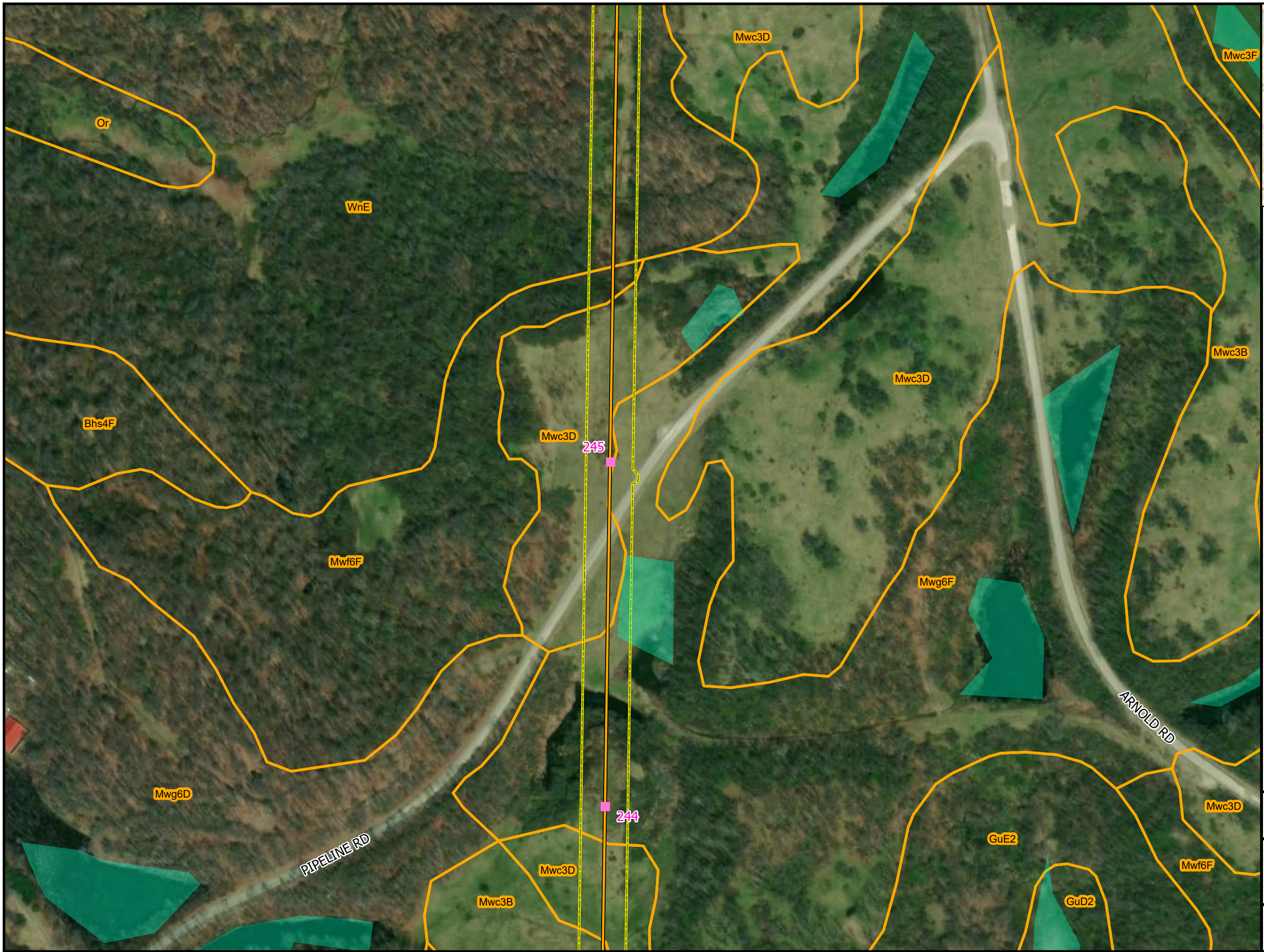
Buckeye Power-Nottingham
138kV Transmission Line
Rebuild Project

FIGURE 2-18
SOILS, NHD, NWI, FEMA MAP

DATE: 10/23/2023



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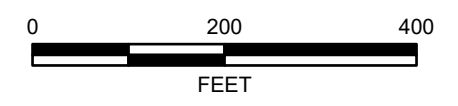


LEGEND:

- Proposed Structure - Direct Embed
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



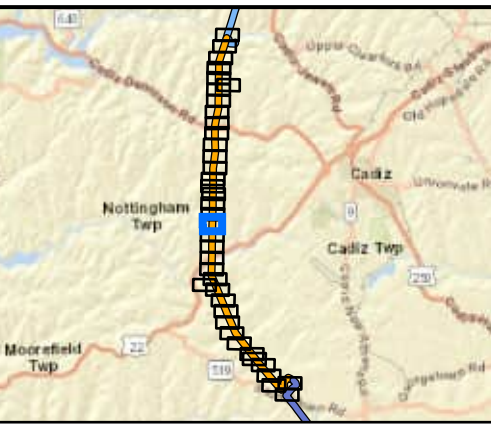
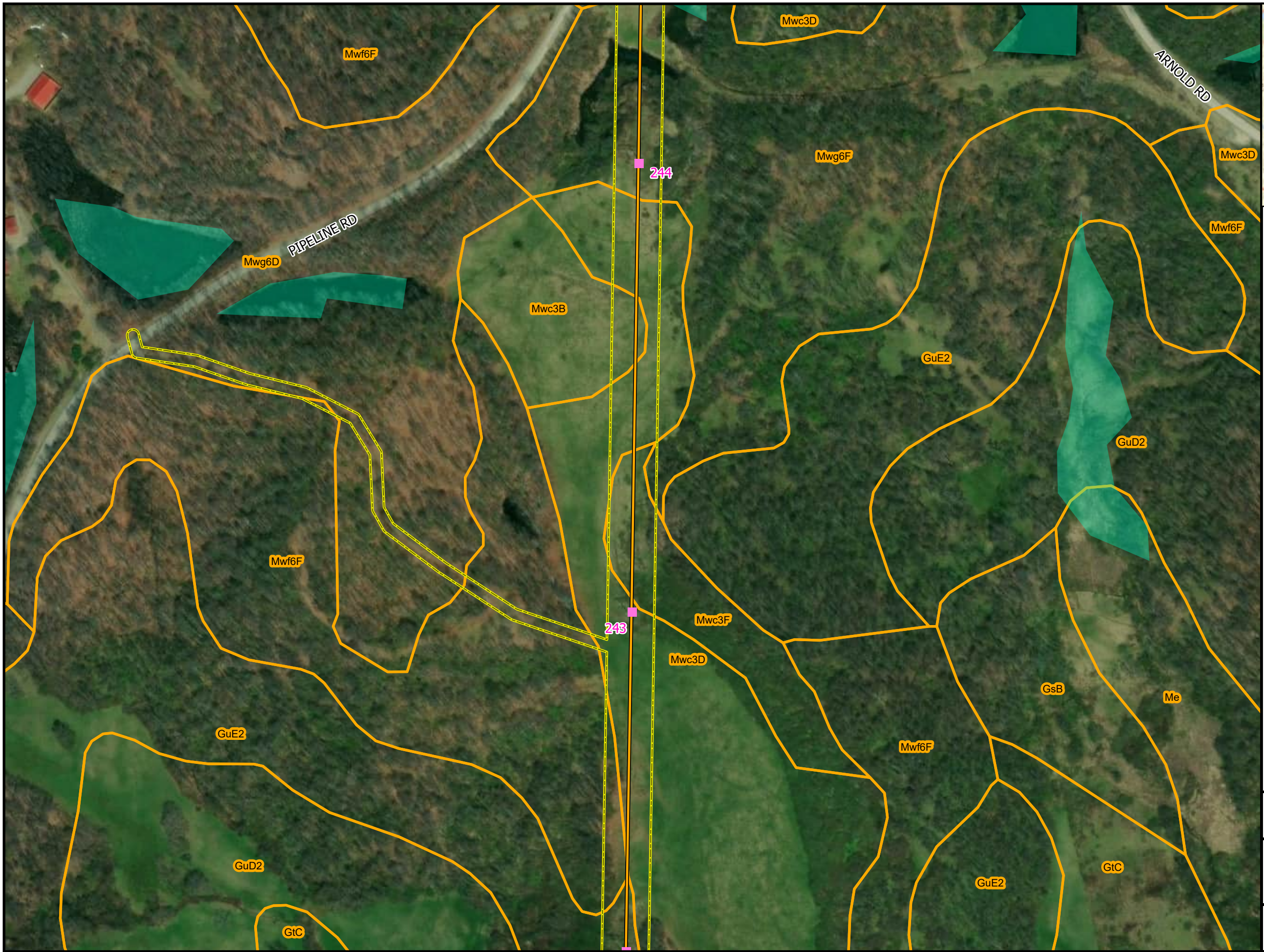
BASE MAP SOURCE:
Esri World Imagery



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--	---

FIGURE 2-19
SOILS, NHD, NWI, FEMA MAP

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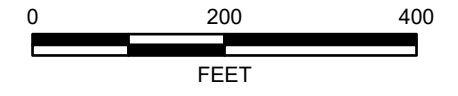


LEGEND:

- Proposed Structure - Direct Embed
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
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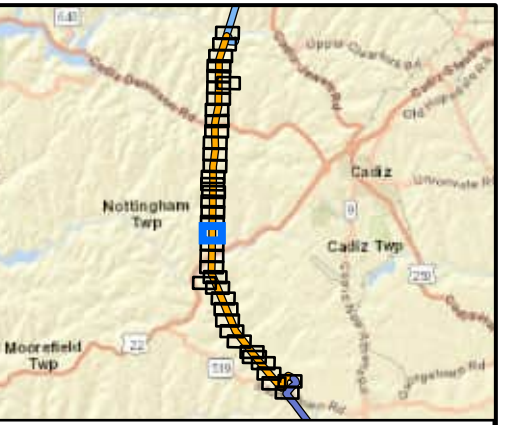
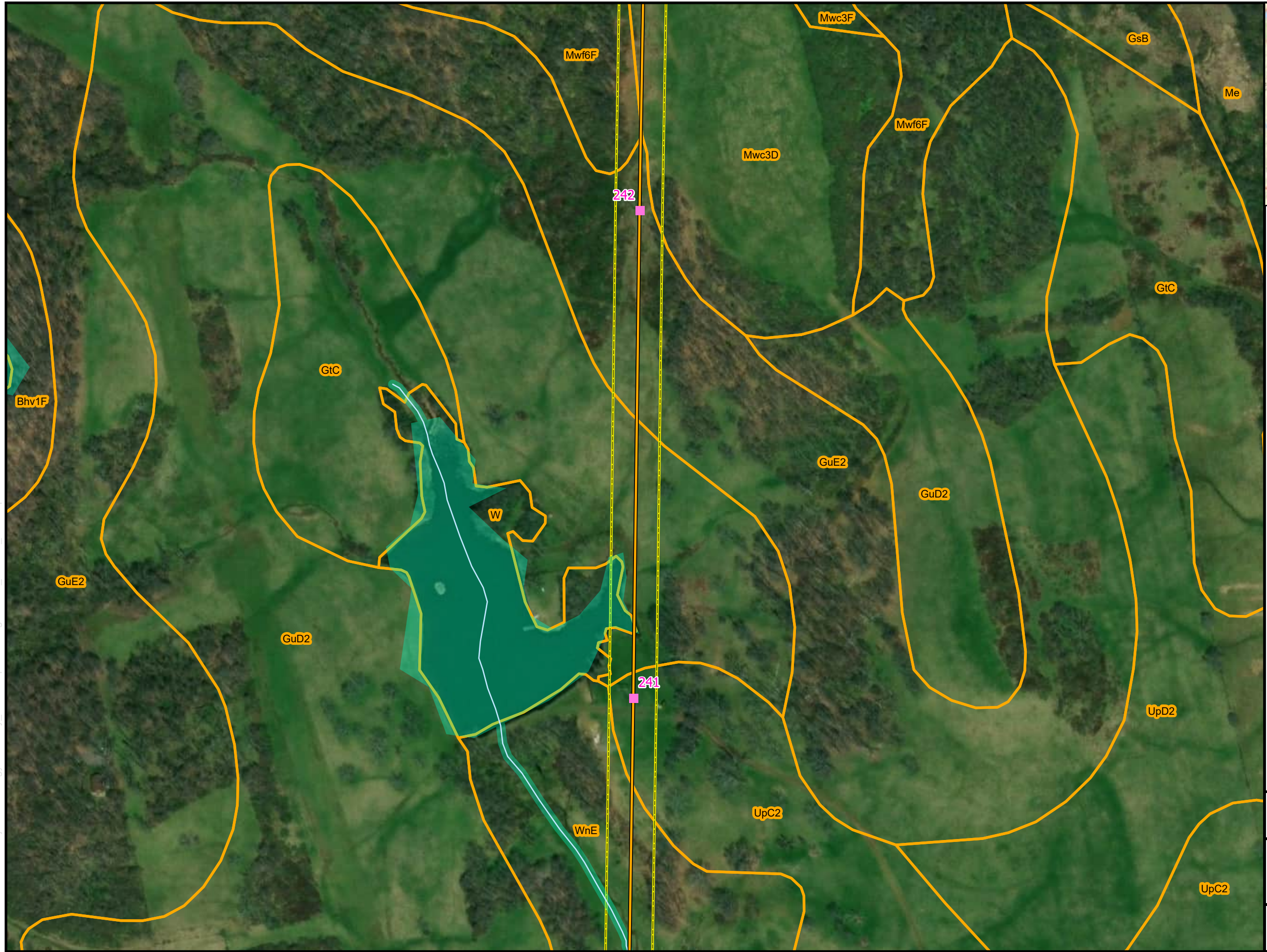
Buckeye Power-Nottingham
138kV Transmission Line
Rebuild Project

FIGURE 2-20
SOILS, NHD, NWI, FEMA MAP

DATE: 10/23/2023



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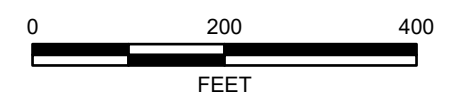


LEGEND:

- Proposed Structure - Direct Embed
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



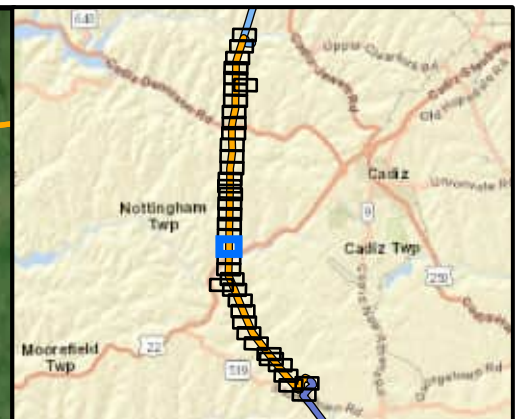
BASE MAP SOURCE:
Esri World Imagery



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FIGURE 2-21
SOILS, NHD, NWI, FEMA MAP

\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Pro\HK_Phase4_WDR.aprx

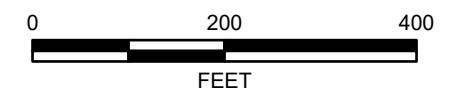


LEGEND:

- Proposed Structure - Direct Embed
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
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American Transmission Systems, Inc.
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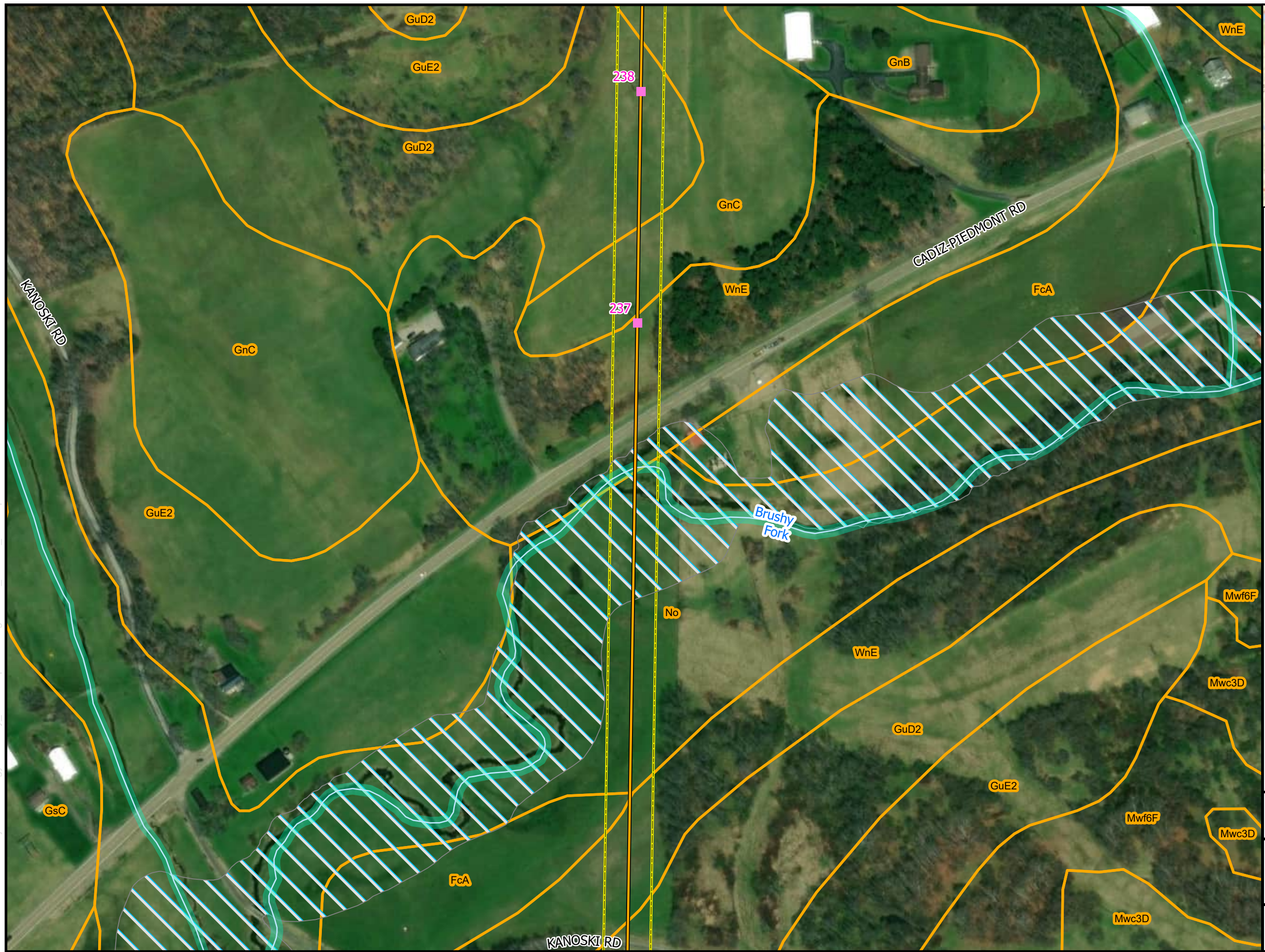
Buckeye Power-Nottingham
138kV Transmission Line
Rebuild Project

FIGURE 2-22
SOILS, NHD, NWI, FEMA MAP

DATE: 10/23/2023

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\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Proj\HK_Phase4_WDR.aprx

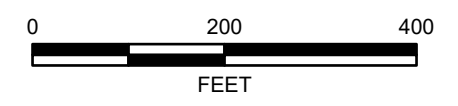


LEGEND:

- Proposed Structure - Direct Embed
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery



ATSI
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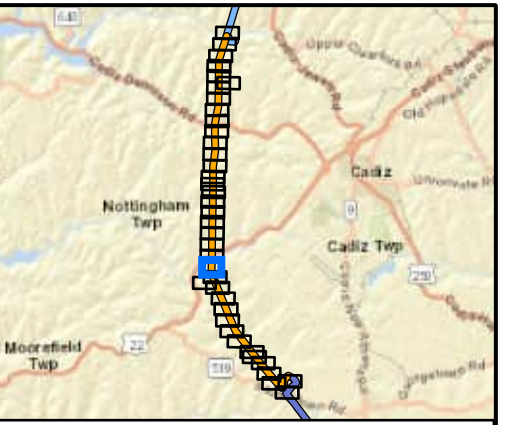
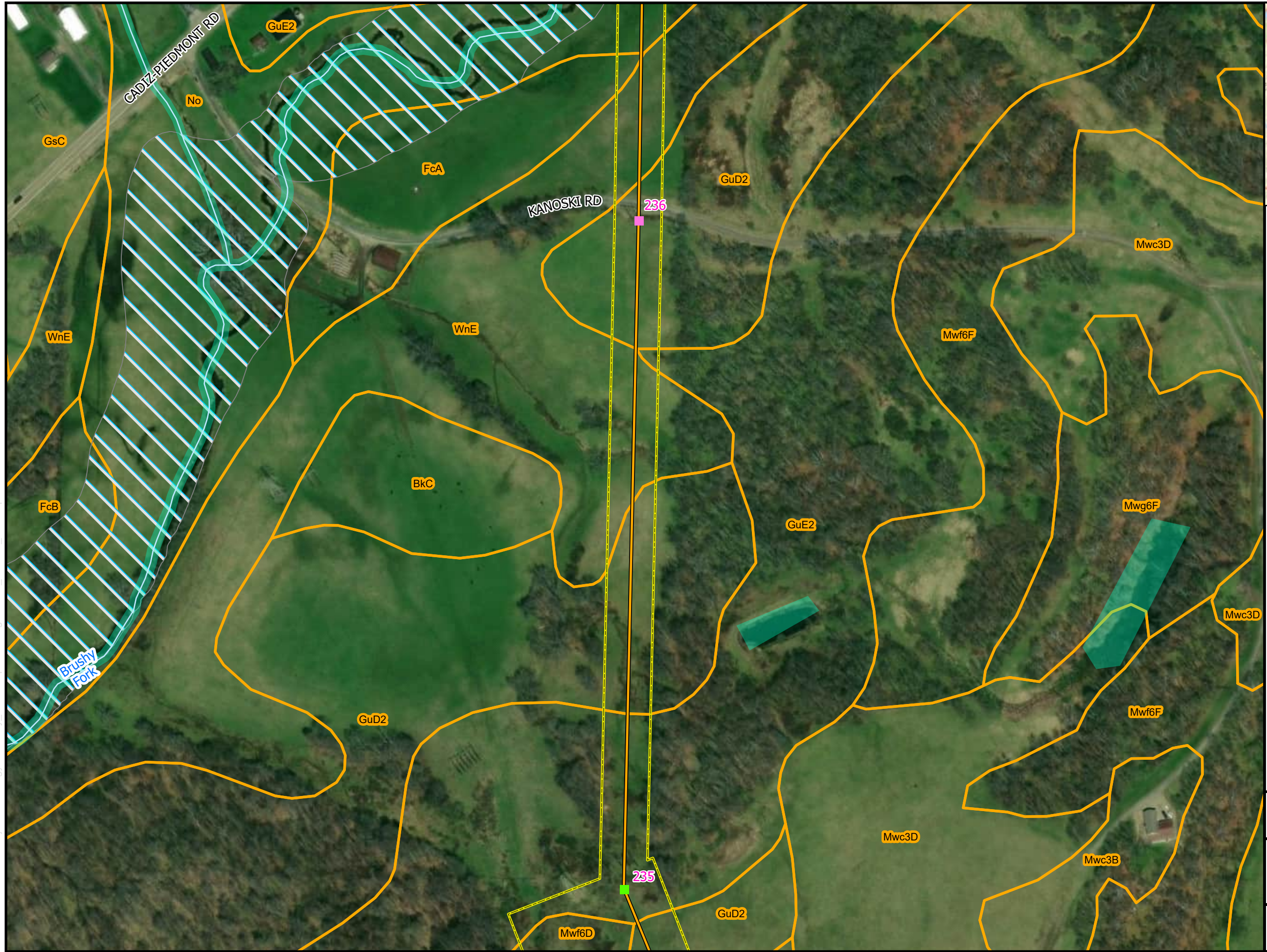
Buckeye Power-Nottingham
138kV Transmission Line
Rebuild Project

FIGURE 2-23
SOILS, NHD, NWI, FEMA MAP

DATE: 10/23/2023

Jacobs

\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Map\Working\Proj\HK_Phase4_WDR.aprx



LEGEND:

- Proposed Structure - Direct Embed
- Proposed Structure - Drilled Shaft
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary

N

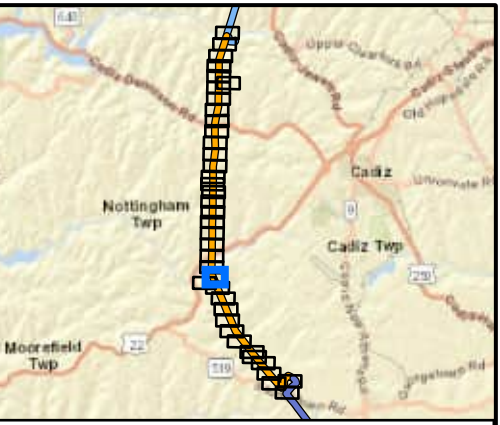
BASE MAP SOURCE:
Esri World Imagery

0 200 400
FEET

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FIGURE 2-24
SOILS, NHD, NWI, FEMA MAP

\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Proj\HK_Phase4_WDR.aprx

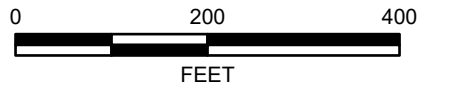


LEGEND:

- Proposed Structure - Drilled Shaft
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery



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American Transmission Systems, Inc.
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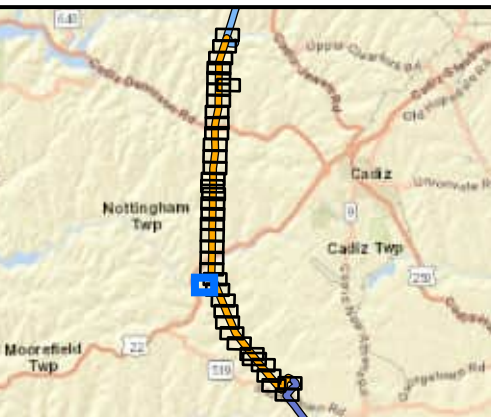
Buckeye Power-Nottingham
138kV Transmission Line
Rebuild Project

FIGURE 2-25
SOILS, NHD, NWI, FEMA MAP







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\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Proj\HK_Phase4_WDR.aprx

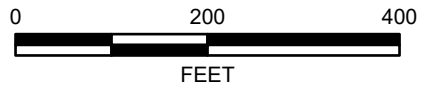


LEGEND:

-  Buckeye Power-Nottingham - Phase 4
-  NHD Stream
-  NWI Wetland
-  100 Year Floodplain
-  Soil Map Unit
-  Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery



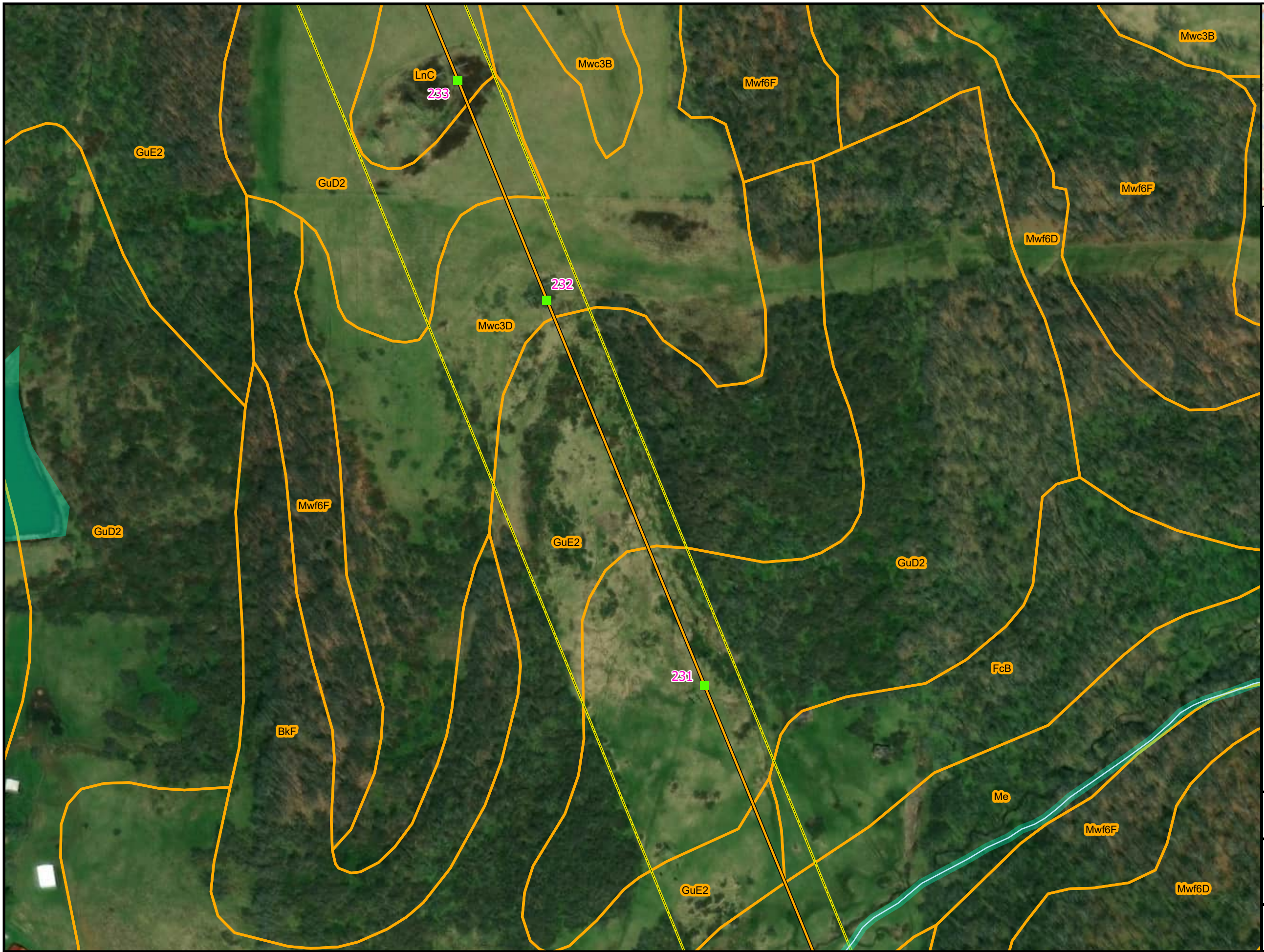
Buckeye Power-Nottingham
138kV Transmission Line
Rebuild Project

FIGURE 2-26
SOILS, NHD, NWI, FEMA MAP

DATE: 10/23/2023



\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Pro\HK_Phase4_WDR.aprx

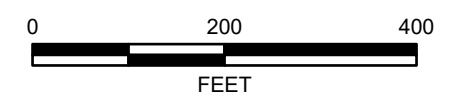


LEGEND:

- Proposed Structure - Drilled Shaft
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



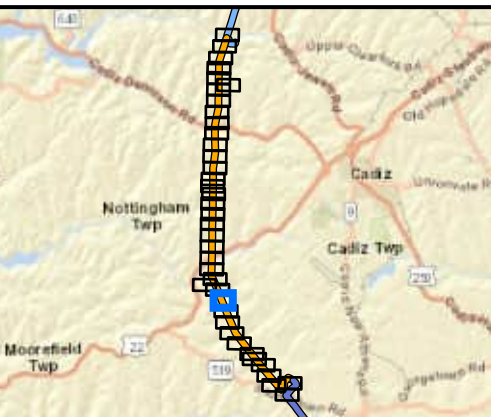
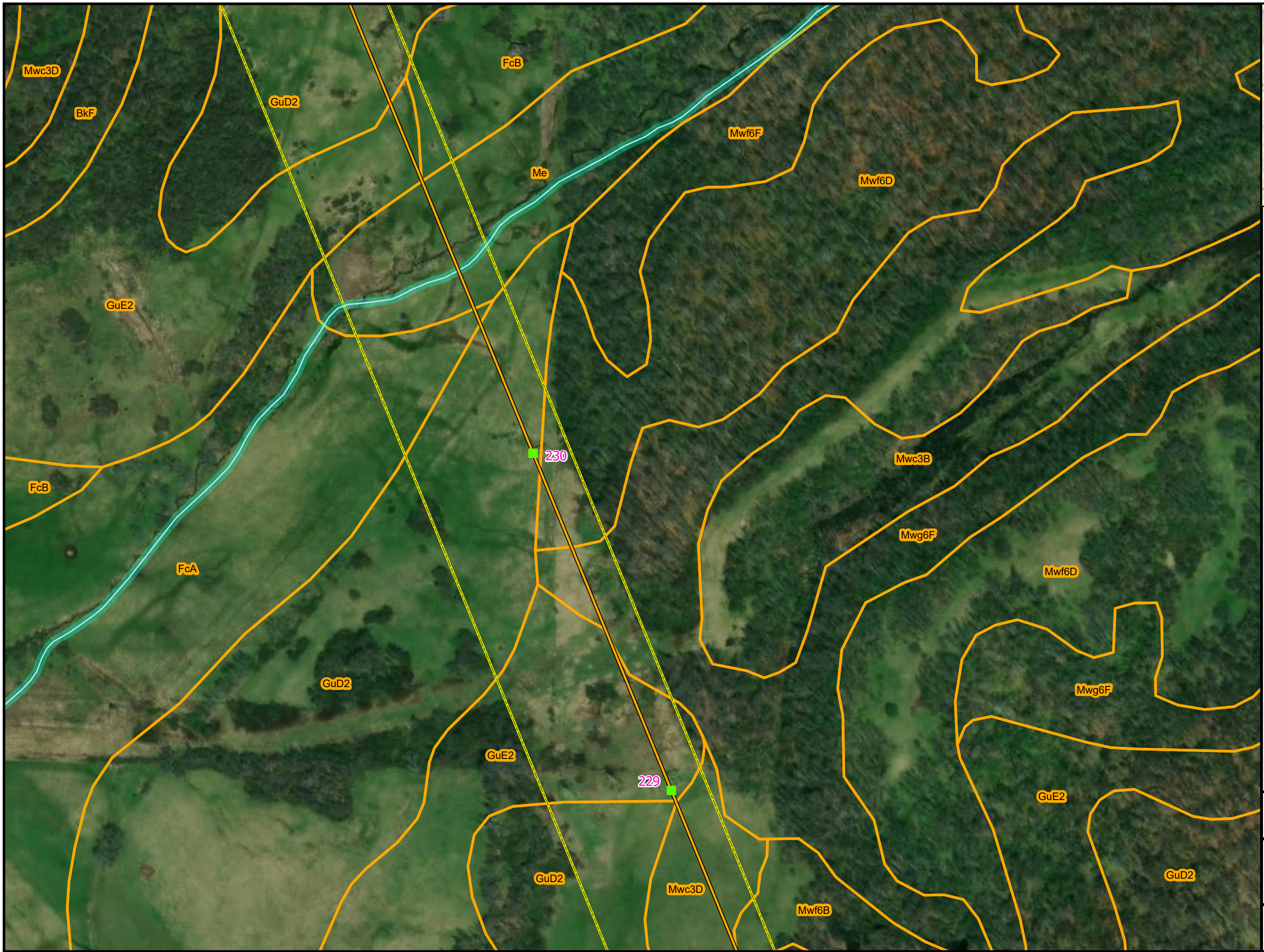
BASE MAP SOURCE:
Esri World Imagery



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FIGURE 2-27
SOILS, NHD, NWI, FEMA MAP

\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Proj\HK_Phase4_WDR.aprx

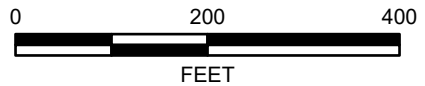


LEGEND:

-  Proposed Structure - Drilled Shaft
-  Buckeye Power-Nottingham - Phase 4
-  NHD Stream
-  NWI Wetland
-  100 Year Floodplain
-  Soil Map Unit
-  Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery



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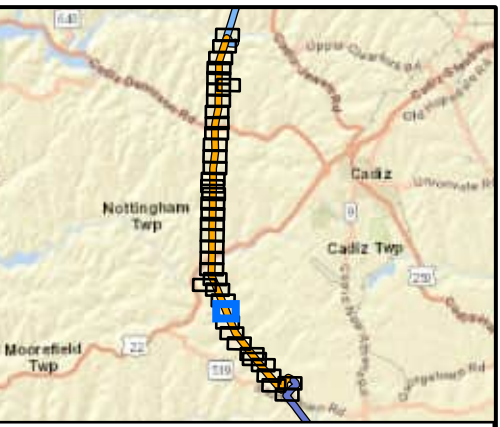
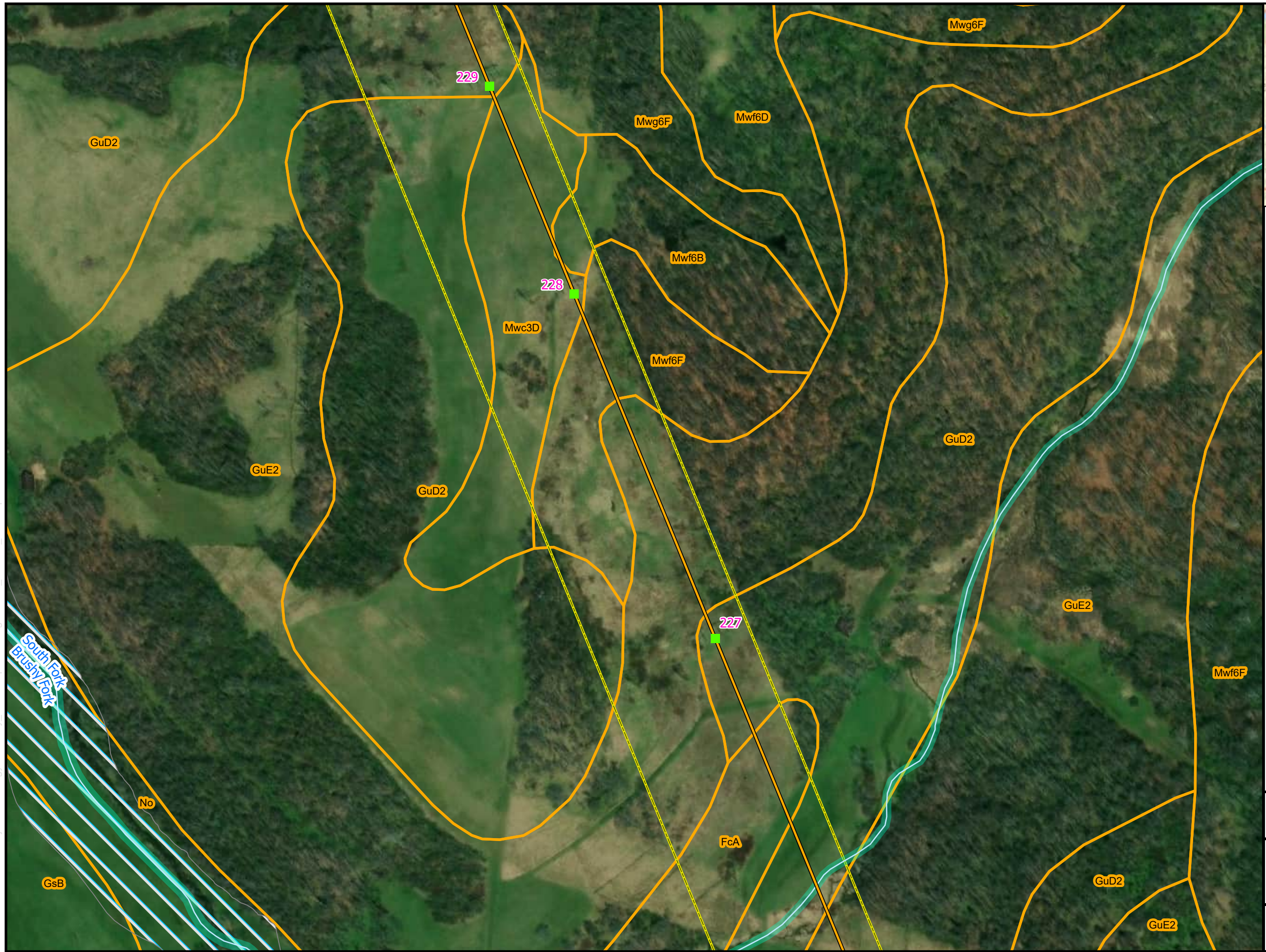
Buckeye Power-Nottingham
138kV Transmission Line
Rebuild Project

FIGURE 2-28
SOILS, NHD, NWI, FEMA MAP

DATE: 10/23/2023

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\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Pro\HK_Phase4_WDR.aprx

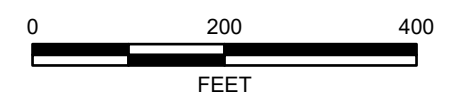


LEGEND:

- Proposed Structure - Drilled Shaft
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



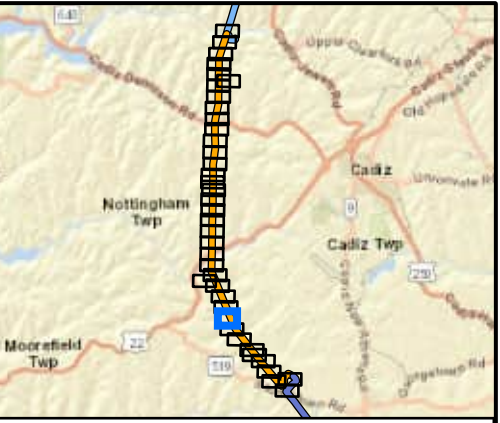
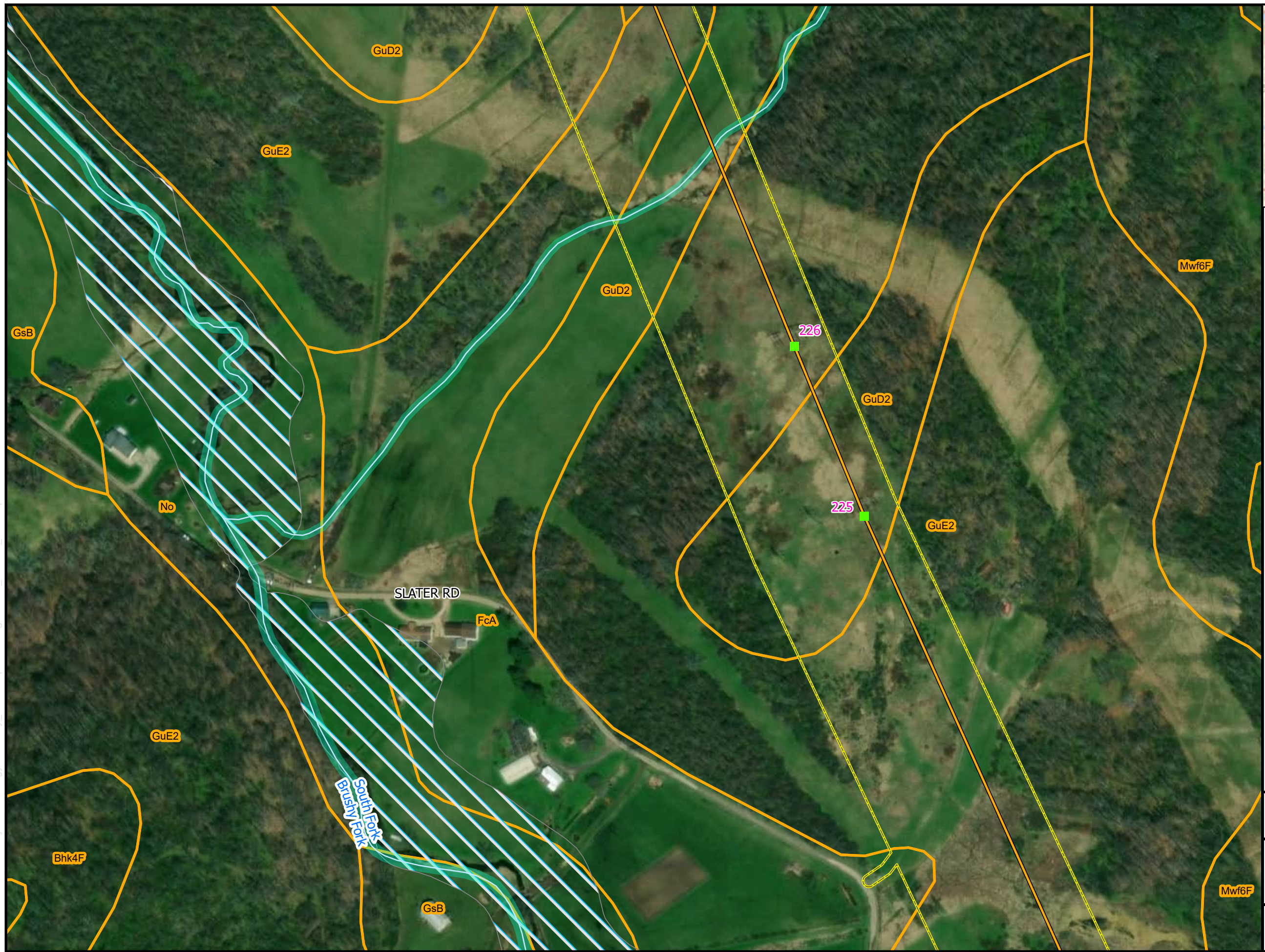
BASE MAP SOURCE:
Esri World Imagery



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FIGURE 2-29
SOILS, NHD, NWI, FEMA MAP

\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Proj\HK_Phase4_WDR.aprx

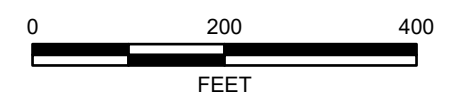


LEGEND:

- Proposed Structure - Drilled Shaft
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



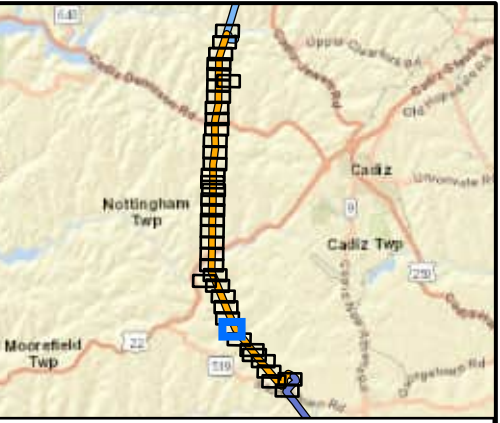
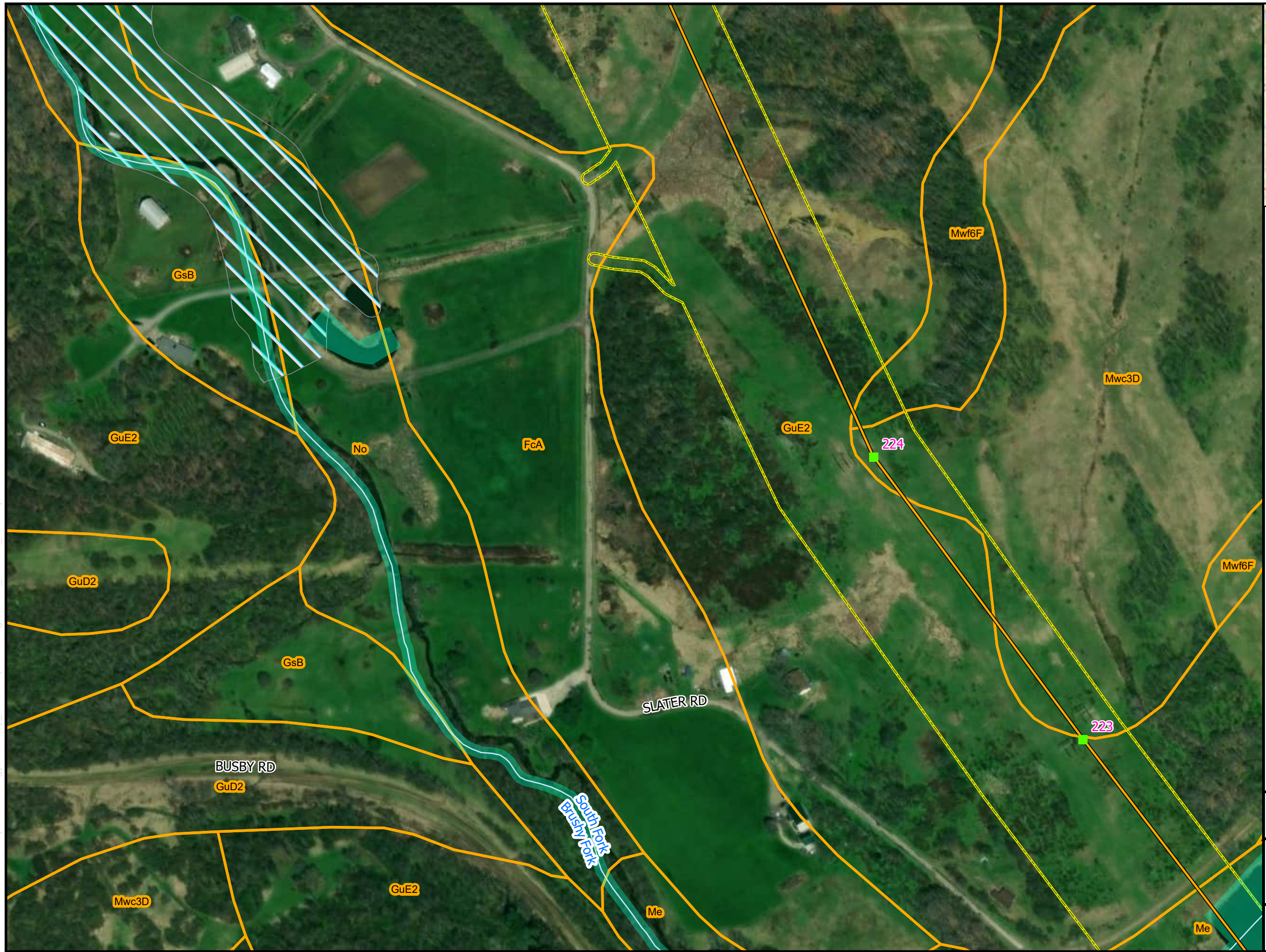
BASE MAP SOURCE:
Esri World Imagery



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FIGURE 2-30
SOILS, NHD, NWI, FEMA MAP

\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Proj\HK_Phase4_WDR.aprx

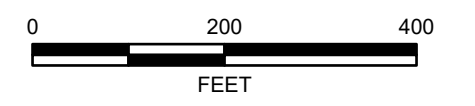


LEGEND:

- Proposed Structure - Drilled Shaft
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



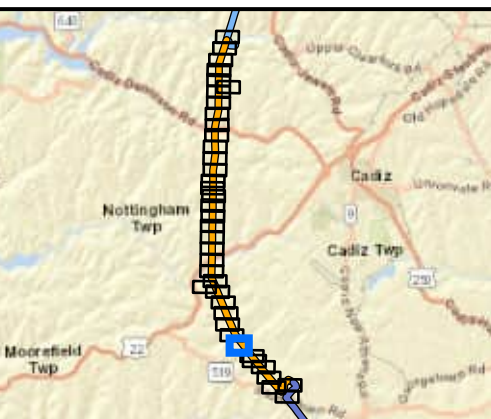
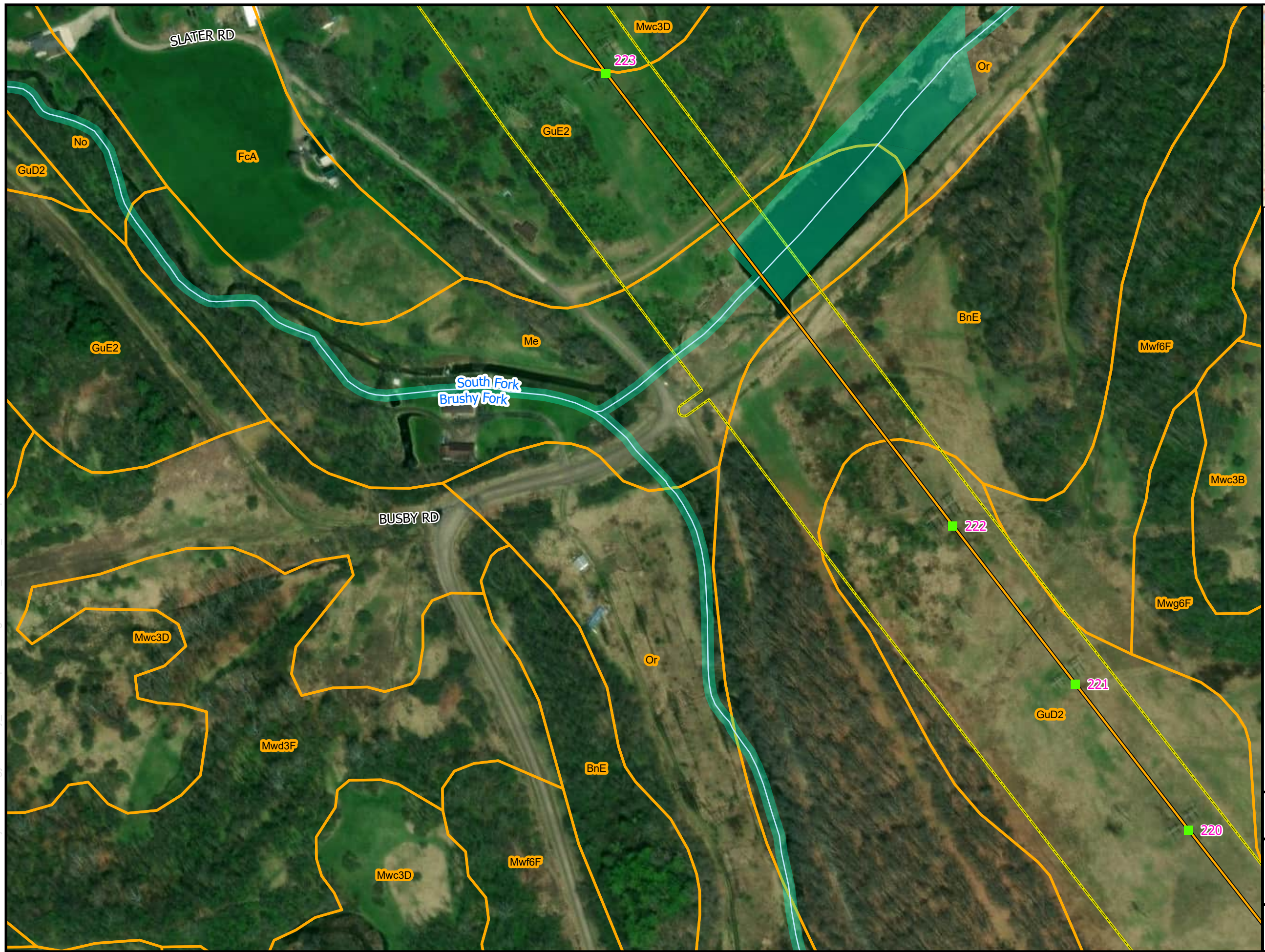
BASE MAP SOURCE:
Esri World Imagery



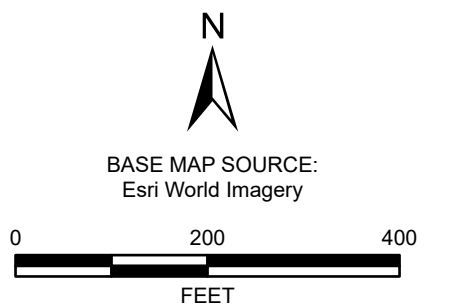
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FIGURE 2-31
SOILS, NHD, NWI, FEMA MAP

\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Proj\HK_Phase4_WDR.aprx



- LEGEND:**
- Proposed Structure - Drilled Shaft
 - Buckeye Power-Nottingham - Phase 4
 - NHD Stream
 - NWI Wetland
 - 100 Year Floodplain
 - Soil Map Unit
 - Environmental Survey Boundary

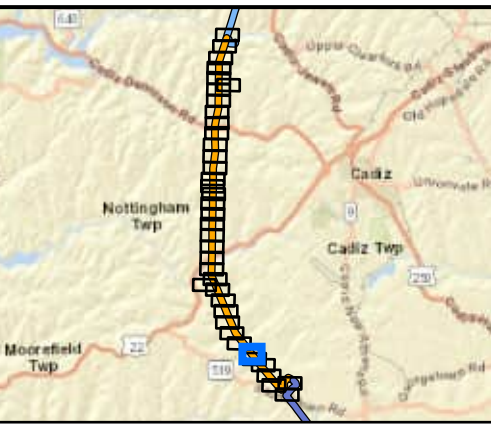
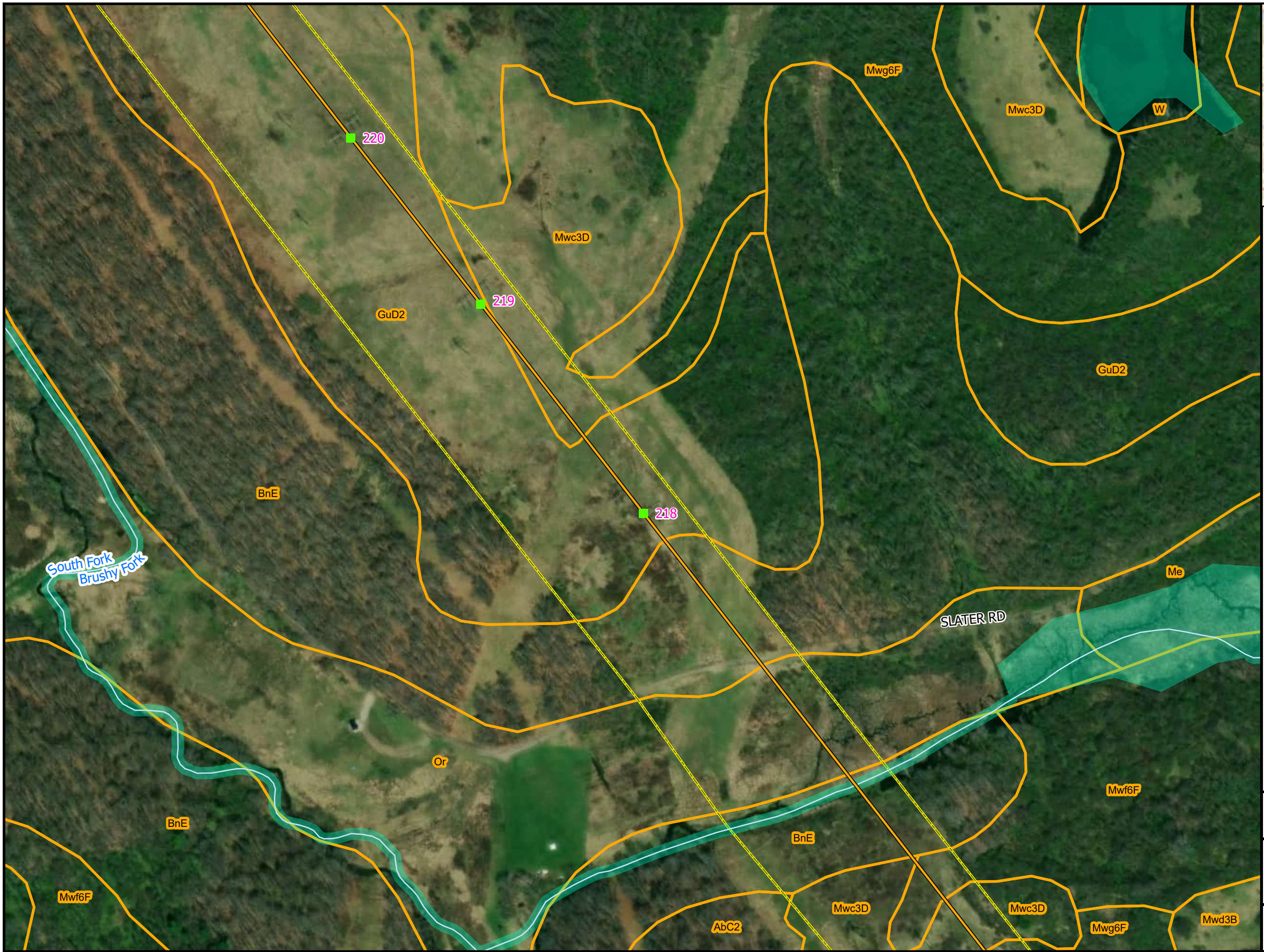


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FIGURE 2-32
SOILS, NHD, NWI, FEMA MAP

DATE: 10/23/2023	Jacobs
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\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Proj\HK_Phase4_WDR.aprx

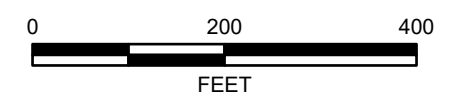


LEGEND:

- Proposed Structure - Drilled Shaft
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery



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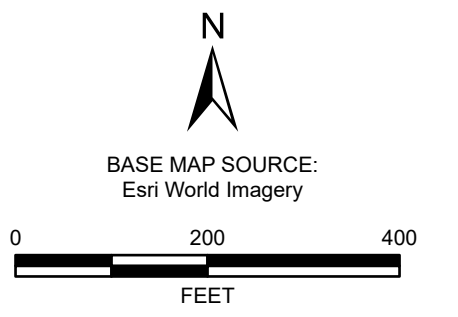
FIGURE 2-33
SOILS, NHD, NWI, FEMA MAP

DATE: 10/23/2023	Jacobs
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\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Proj\HK_Phase4_WDR.aprx



- LEGEND:**
- Proposed Structure - Drilled Shaft
 - Buckeye Power-Nottingham - Phase 4
 - NHD Stream
 - NWI Wetland
 - 100 Year Floodplain
 - Soil Map Unit
 - Environmental Survey Boundary



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FIGURE 2-34
SOILS, NHD, NWI, FEMA MAP

DATE: 10/23/2023	Jacobs
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\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Proj\HK_Phase4_WDR.aprx

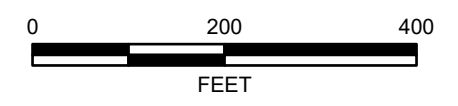


LEGEND:

- Proposed Structure - Drilled Shaft
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery

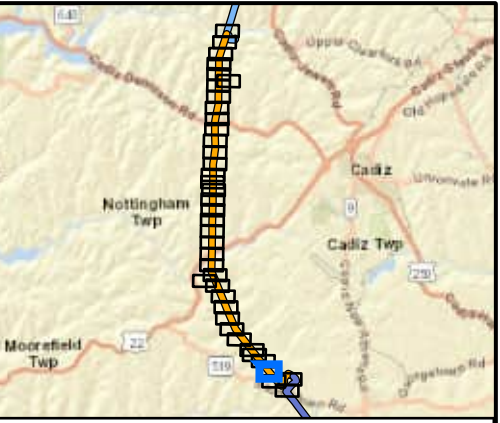


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FIGURE 2-35
SOILS, NHD, NWI, FEMA MAP

DATE: 10/23/2023	Jacobs
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\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Pro\HK_Phase4_WDR.aprx

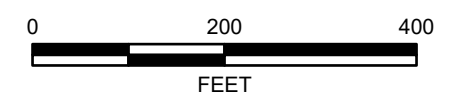


LEGEND:

- Proposed Structure - Drilled Shaft
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



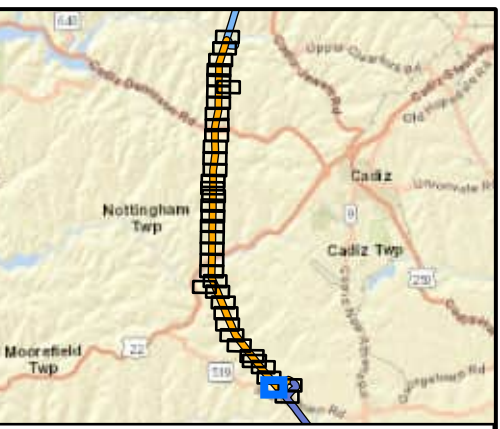
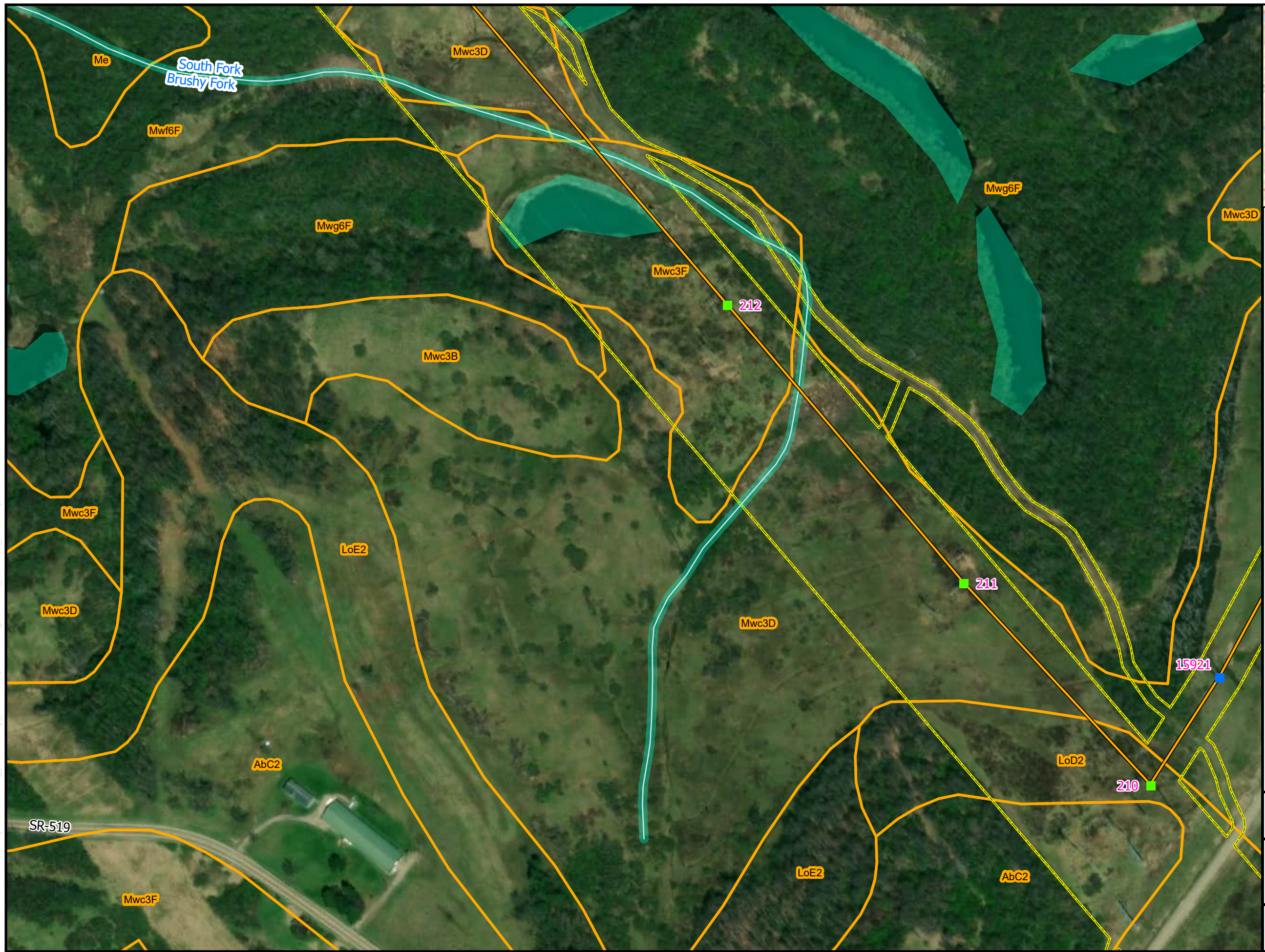
BASE MAP SOURCE:
Esri World Imagery



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FIGURE 2-36
SOILS, NHD, NWI, FEMA MAP

\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Proj\HK_Phase4_WDR.aprx

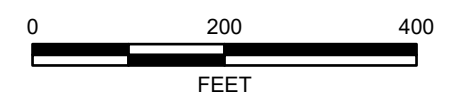


LEGEND:

- Proposed Structure - Drilled Shaft
- Proposed Structure - Other
- Buckeye Power-Nottingham - Phase 4
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



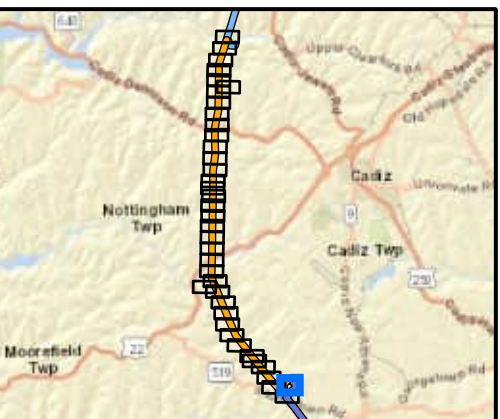
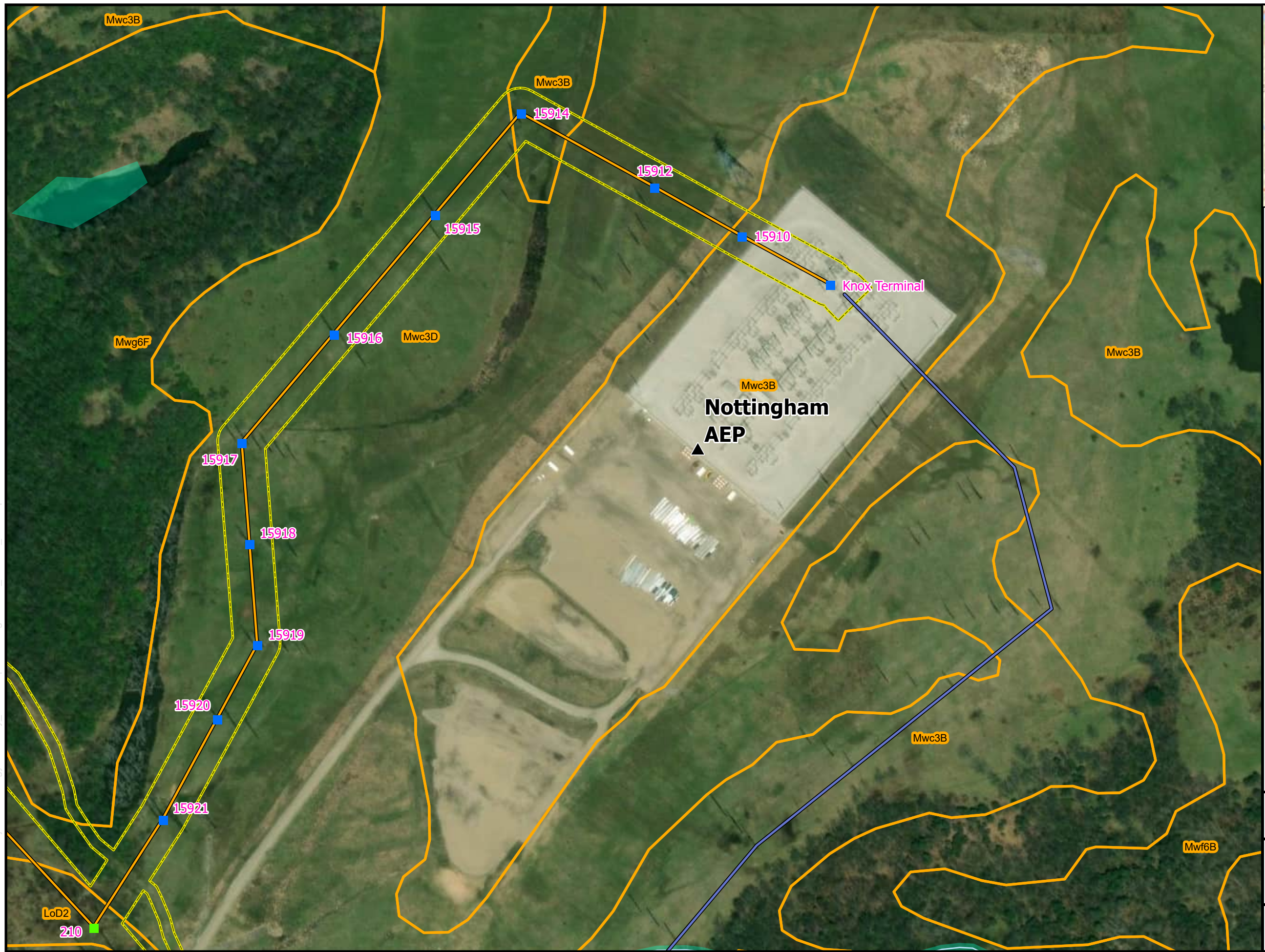
BASE MAP SOURCE:
Esri World Imagery



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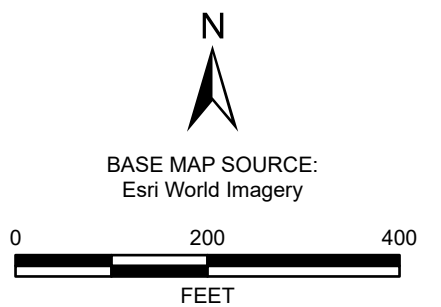
FIGURE 2-37
SOILS, NHD, NWI, FEMA MAP

\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Proj\HK_Phase4_WDR.aprx



LEGEND:

- ▲ Substation
- Proposed Structure - Drilled Shaft
- Proposed Structure - Other
- Buckeye Power-Nottingham - Phase 4
- Nottingham-Holloway - Phase 5
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary

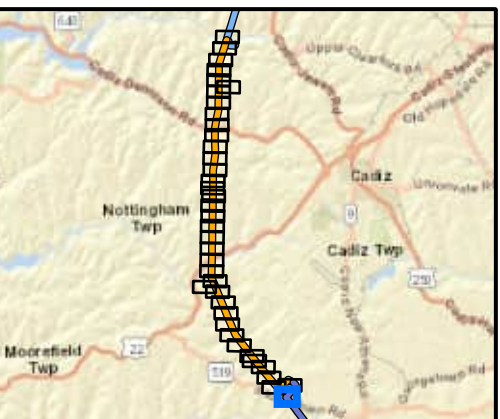
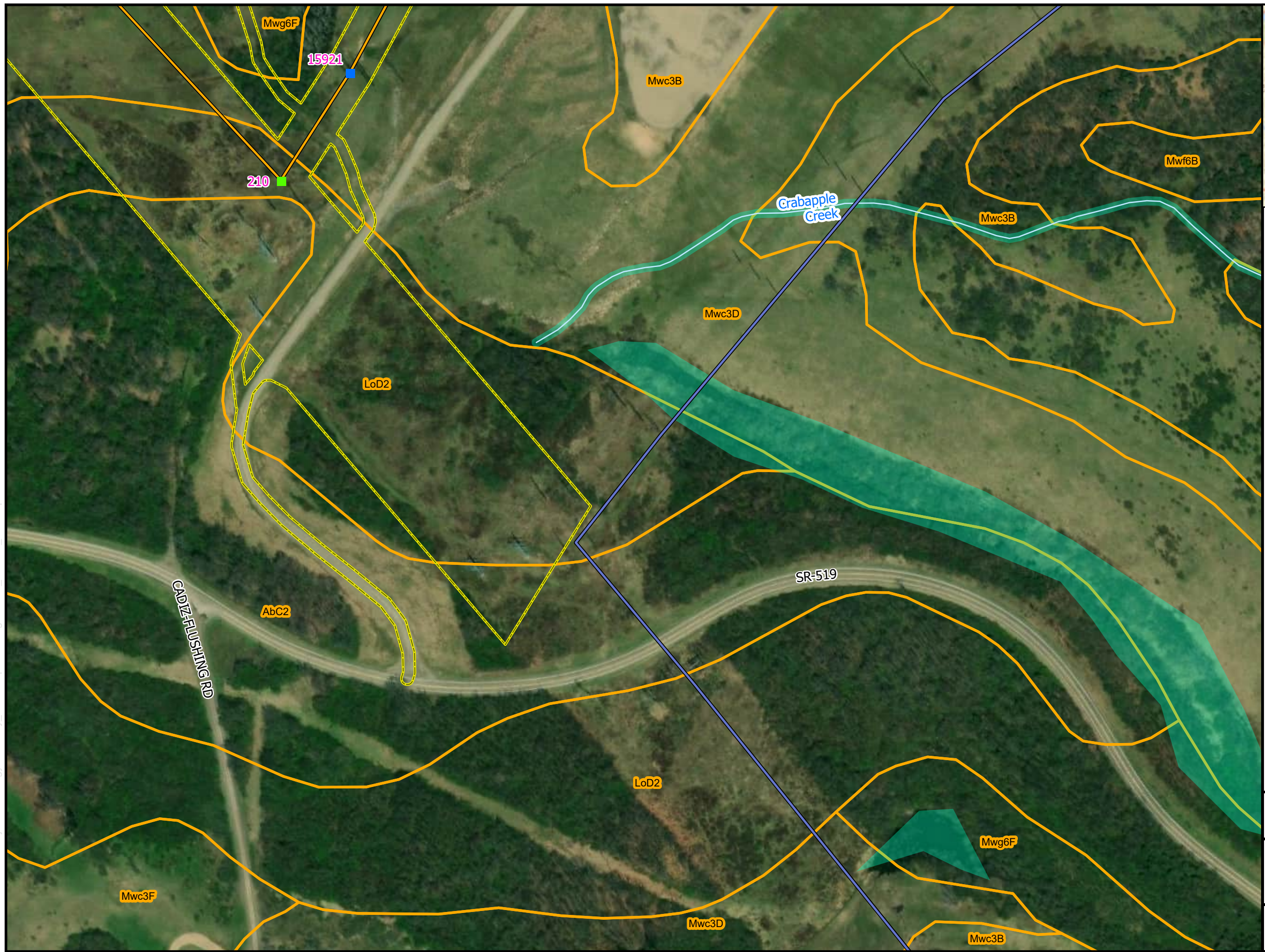


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FIGURE 2-38
SOILS, NHD, NWI, FEMA MAP

DATE: 10/23/2023	
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\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Pro\HK_Phase4_WDR.aprx



LEGEND:

- Proposed Structure - Drilled Shaft
- Proposed Structure - Other
- Buckeye Power-Nottingham - Phase 4
- Nottingham-Holloway - Phase 5
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

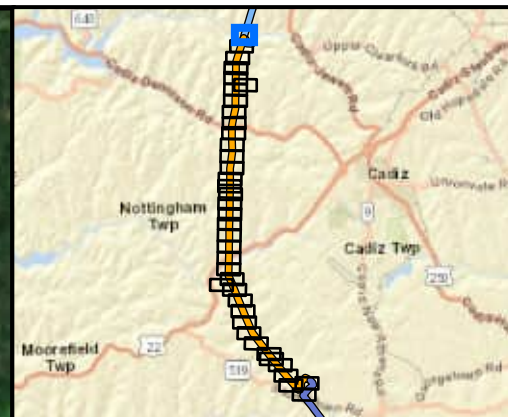
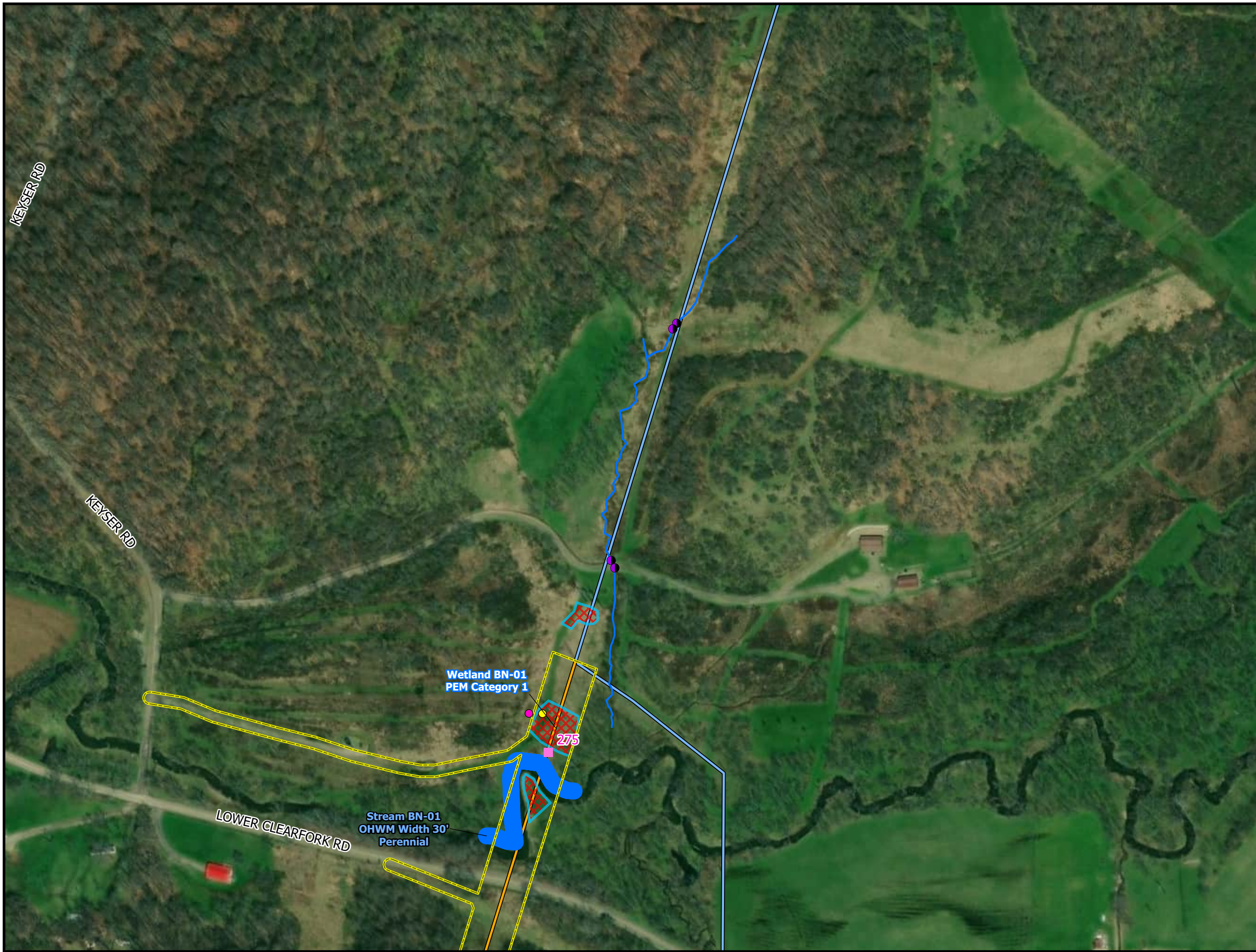
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FEET

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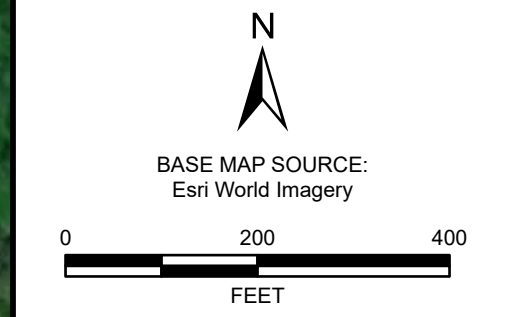
FIGURE 2-39
SOILS, NHD, NWI, FEMA MAP

DATE: 10/23/2023	Jacobs
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\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Proj\HK_Phase4_WDR.aprx



- LEGEND:**
- Proposed Structure - Direct Embed
 - Upland Data Point
 - Wetland Data Point
 - Culvert
 - Polo Road-Buckeye Power - Phase 3
 - Buckeye Power-Nottingham - Phase 4
 - Delineated Stream
 - Delineated Pond
 - ▣ Delineated PEM Wetland
 - ▣ Delineated PSS Wetland
 - ▣ Environmental Survey Boundary

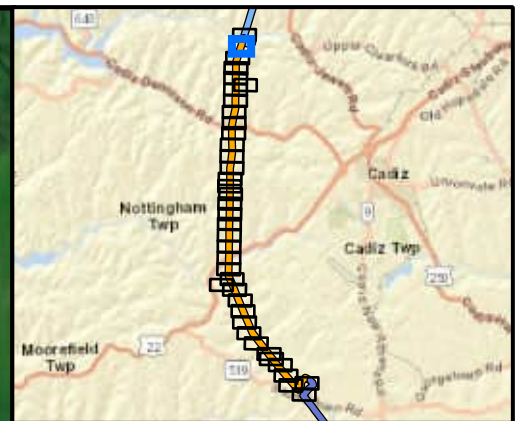
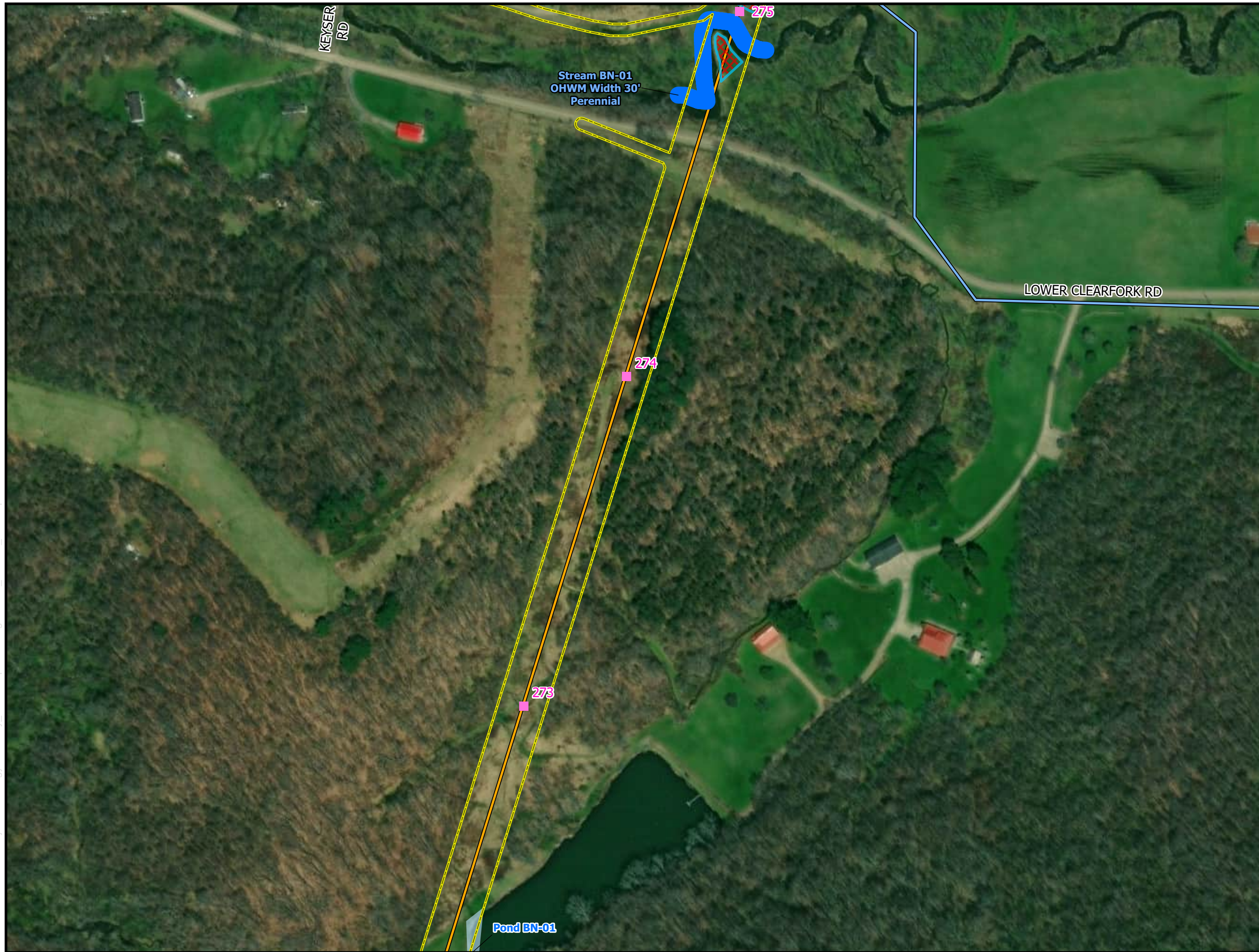


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**FIGURE 3-1
DELINEATED FEATURES MAP**

DATE: 10/23/2023	Jacobs
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\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Proj\HK_Phase4_WDR.aprx

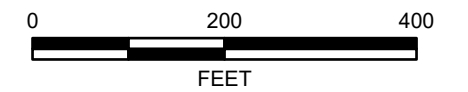


LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Polo Road-Buckeye Power - Phase 3
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery



ATSI
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Buckeye Power-Nottingham
138kV Transmission Line
Rebuild Project

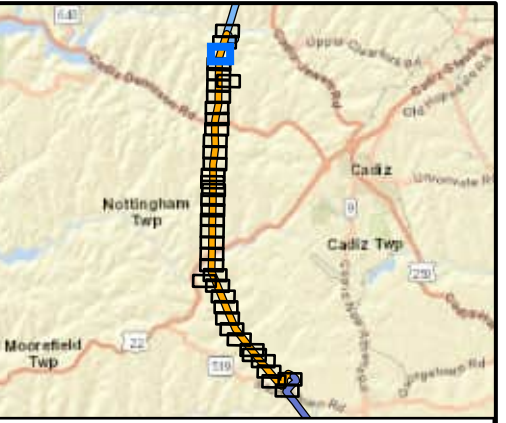
**FIGURE 3-2
DELINEATED FEATURES MAP**

DATE: 10/23/2023

Jacobs

\\dc:1vs01\GIS\Proj\GIS\Energy\Holloway_Knox\Maps\Working\Pro\HK_Phase4_WDR.aprx

GILMORE RIDGE RD



LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

0 200 400
FEET

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--	--

**FIGURE 3-3
DELINEATED FEATURES MAP**

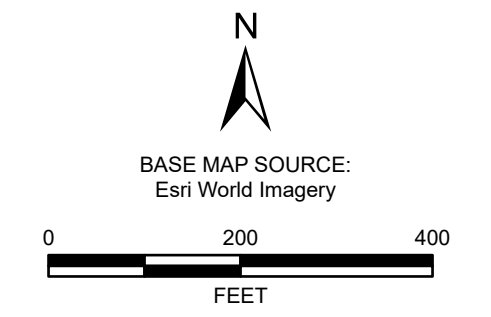
DATE: 10/23/2023	Jacobs
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LEGEND:

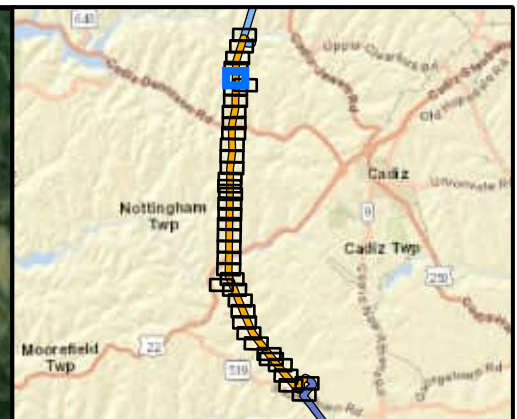
- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary



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**FIGURE 3-4
DELINEATED FEATURES MAP**

\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Proj\HK_Phase4_WDR.aprx

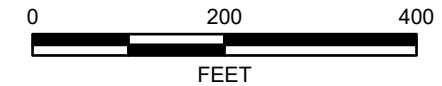


LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary



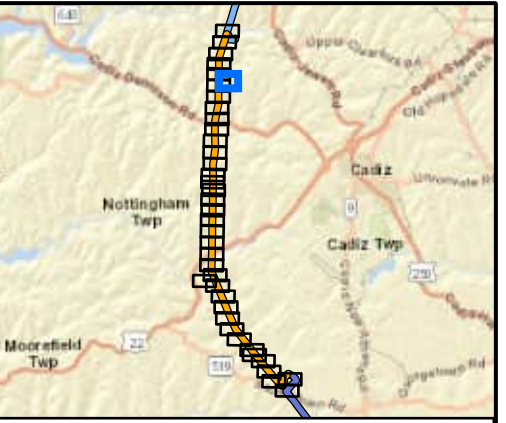
BASE MAP SOURCE:
Esri World Imagery



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--	---

**FIGURE 3-5
DELINEATED FEATURES MAP**

\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Pro\HK_Phase4_WDR.aprx



LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

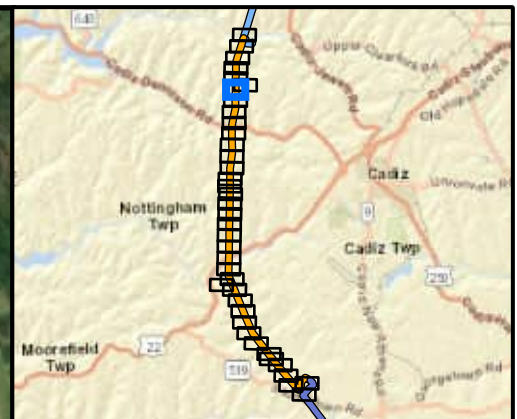
0 200 400
FEET

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**FIGURE 3-6
DELINEATED FEATURES MAP**

DATE: 10/23/2023	Jacobs
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\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Proj\HK_Phase4_WDR.aprx

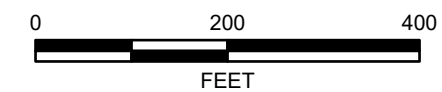


LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary



BASE MAP SOURCE:
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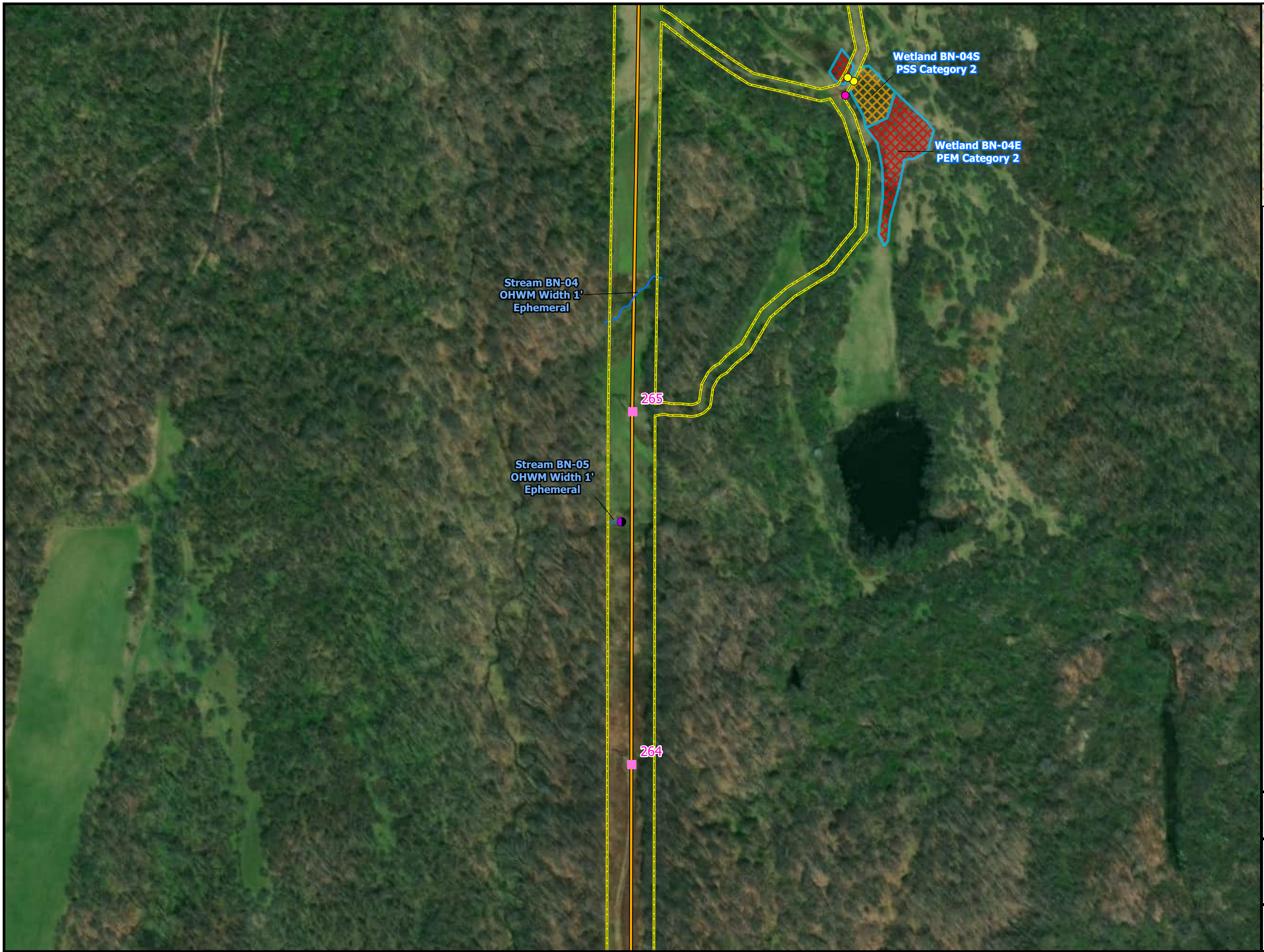
Buckeye Power-Nottingham
138kV Transmission Line
Rebuild Project

FIGURE 3-7
DELINEATED FEATURES MAP

DATE: 10/23/2023

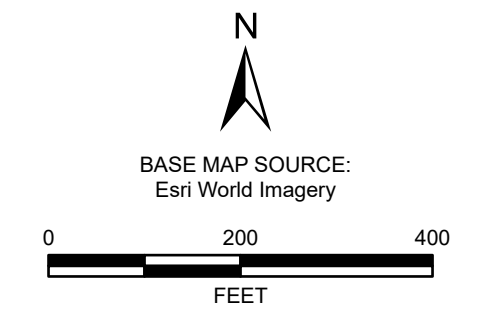
Jacobs

\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Pro\HK_Phase4_WDR.aprx



LEGEND:

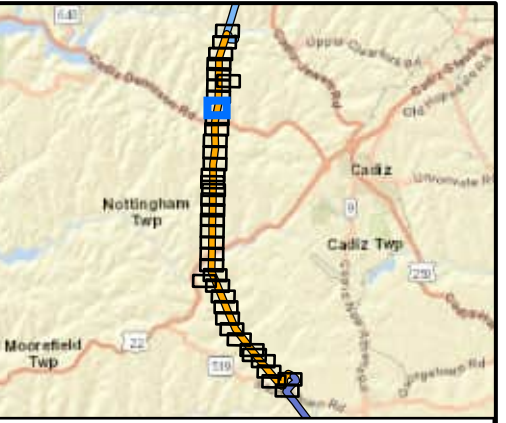
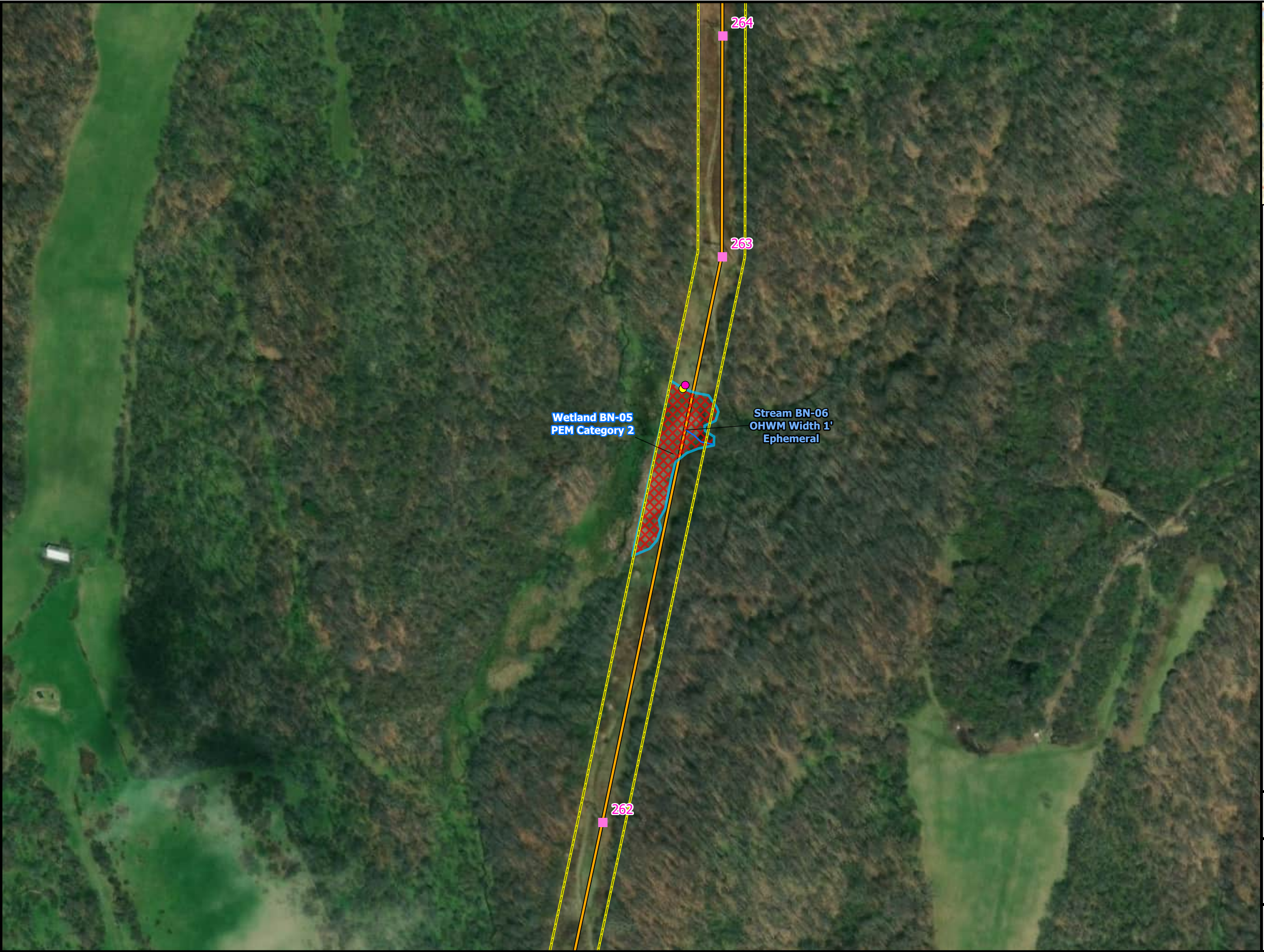
- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary



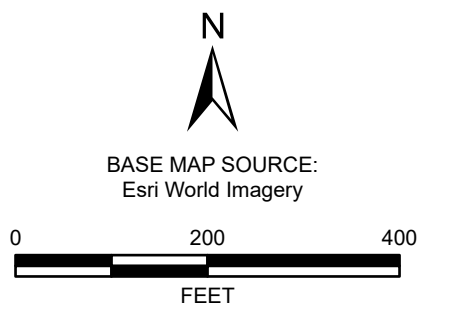
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**FIGURE 3-8
 DELINEATED FEATURES MAP**

\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Pro\HK_Phase4_WDR.aprx



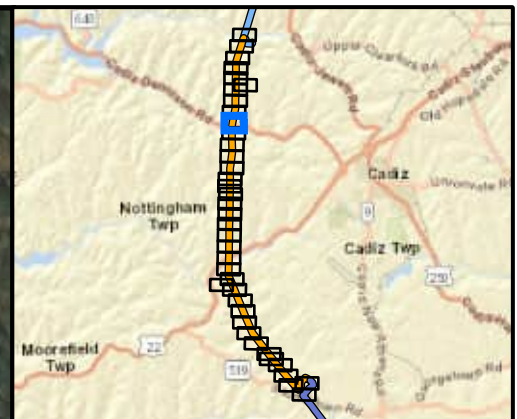
- LEGEND:**
- Proposed Structure - Direct Embed
 - Upland Data Point
 - Wetland Data Point
 - Culvert
 - Buckeye Power-Nottingham - Phase 4
 - Delineated Stream
 - Delineated Pond
 - Delineated PEM Wetland
 - Delineated PSS Wetland
 - Environmental Survey Boundary



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--	---

**FIGURE 3-9
DELINEATED FEATURES MAP**

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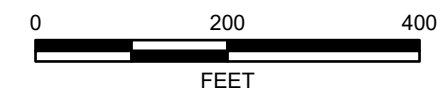


LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery



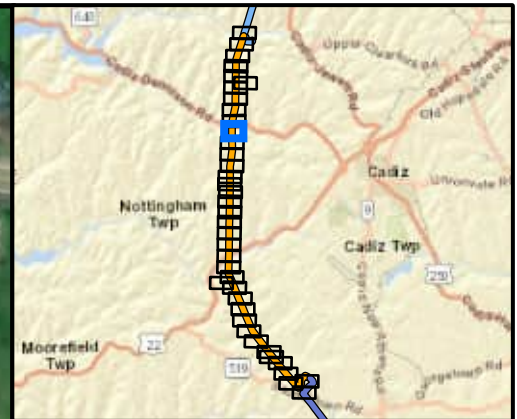
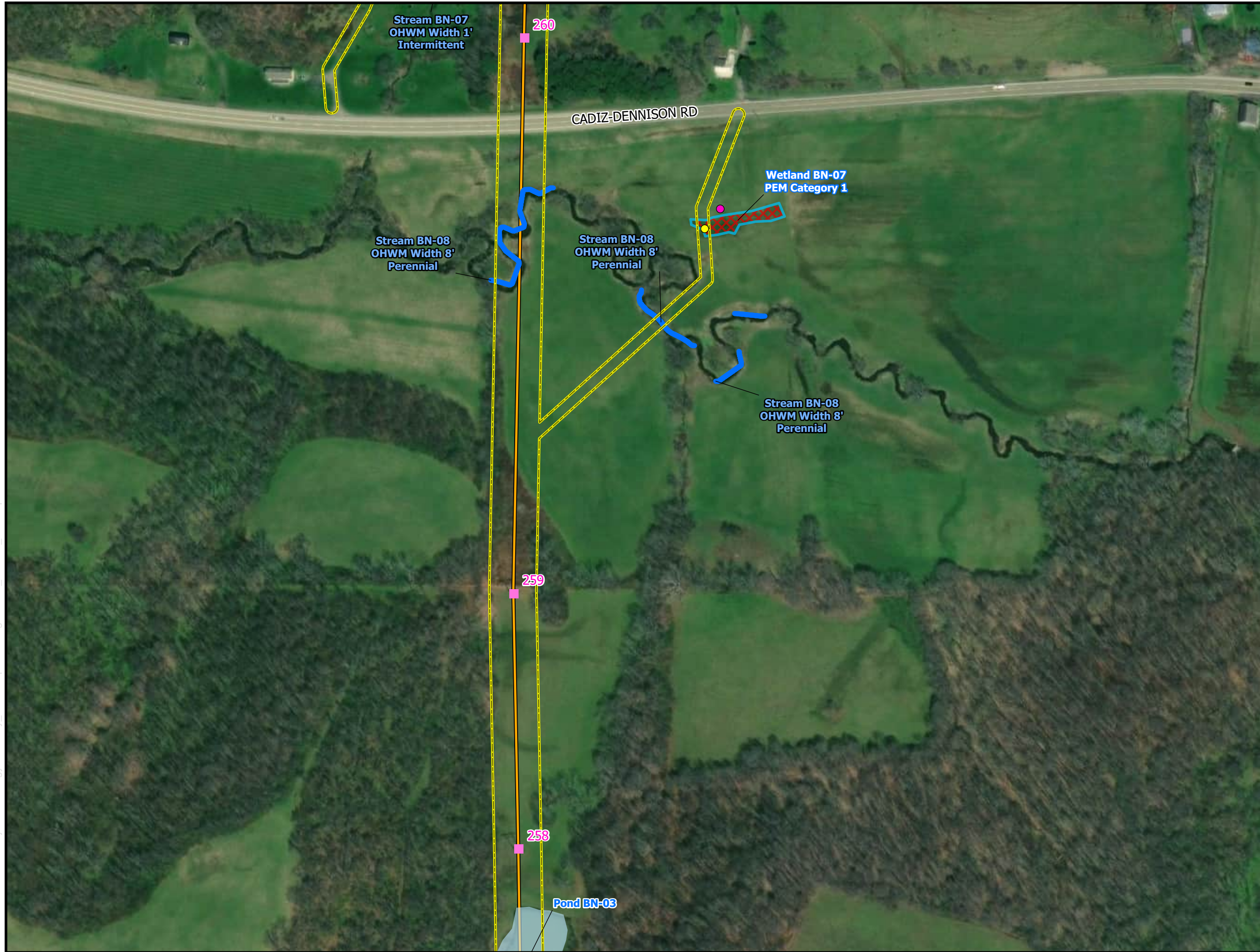
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138kV Transmission Line
Rebuild Project

FIGURE 3-10
DELINEATED FEATURES MAP

DATE: 10/23/2023

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LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

0 200 400
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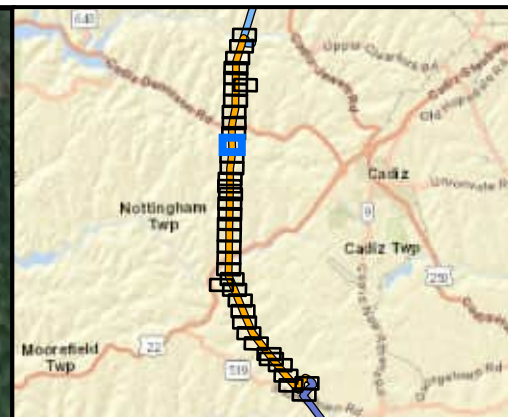
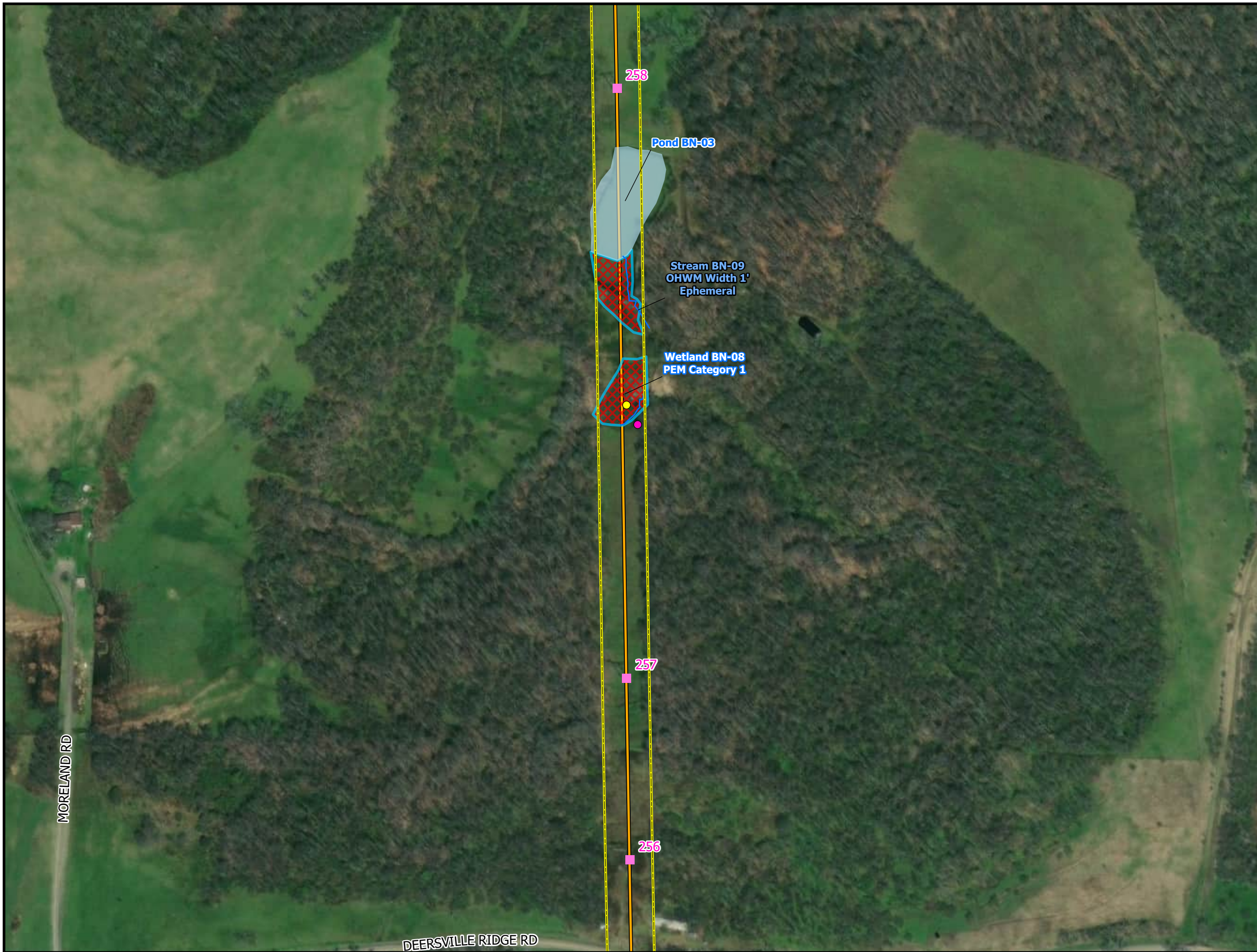
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**FIGURE 3-11
DELINEATED FEATURES MAP**

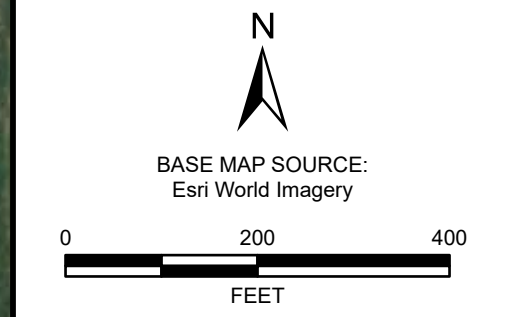
DATE: 10/23/2023	Jacobs
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- LEGEND:**
- Proposed Structure - Direct Embed
 - Upland Data Point
 - Wetland Data Point
 - Culvert
 - Buckeye Power-Nottingham - Phase 4
 - Delineated Stream
 - Delineated Pond
 - Delineated PEM Wetland
 - Delineated PSS Wetland
 - Environmental Survey Boundary

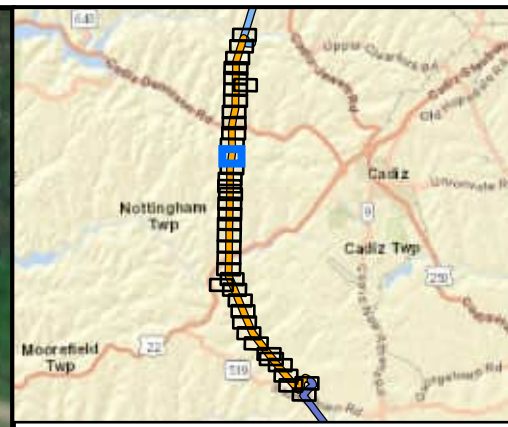
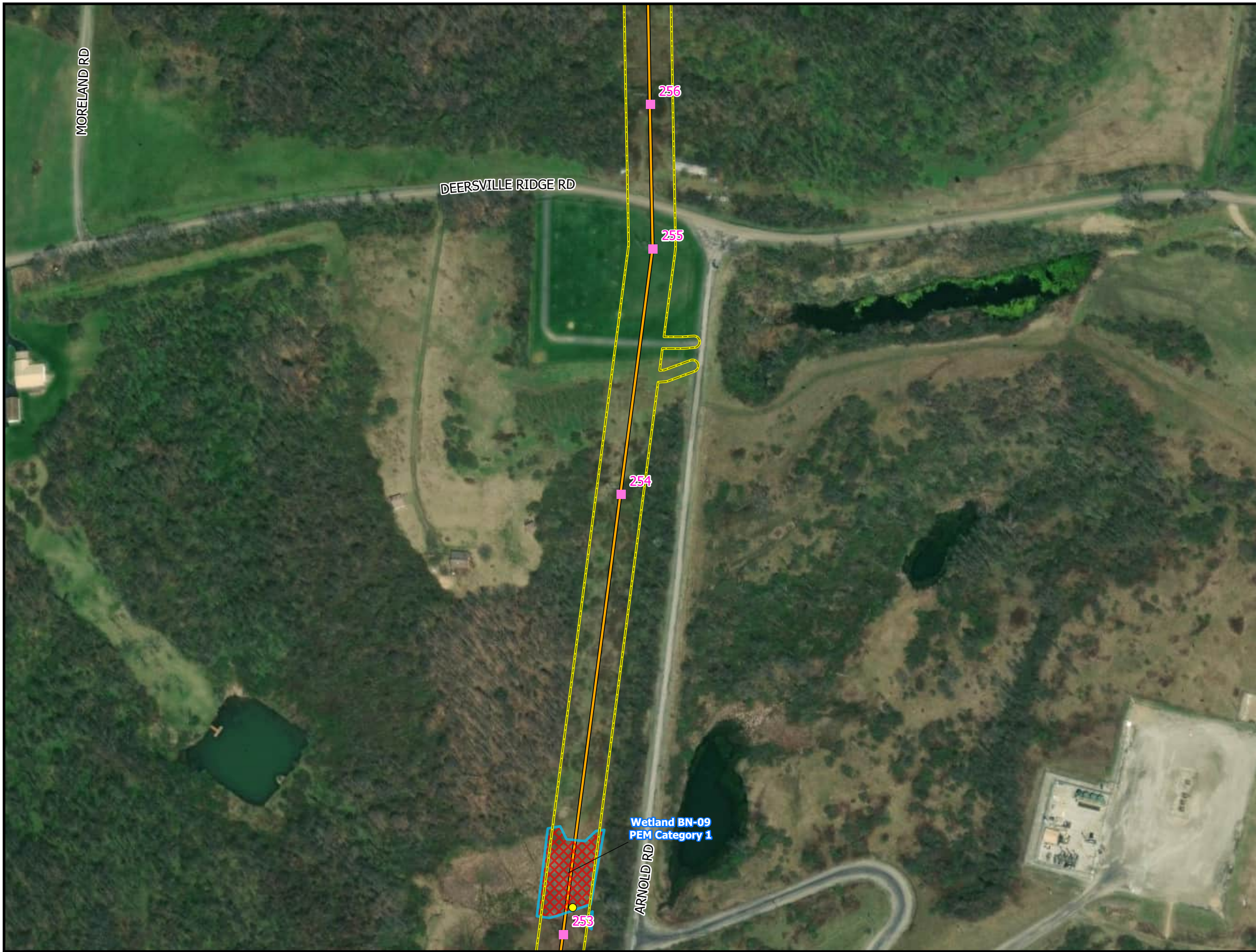


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**FIGURE 3-12
 DELINEATED FEATURES MAP**

DATE: 10/23/2023	Jacobs
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LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

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FEET

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**FIGURE 3-13
DELINEDATED FEATURES MAP**

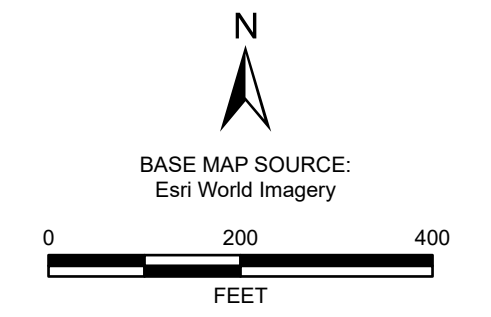
DATE: 10/23/2023	Jacobs
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LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary

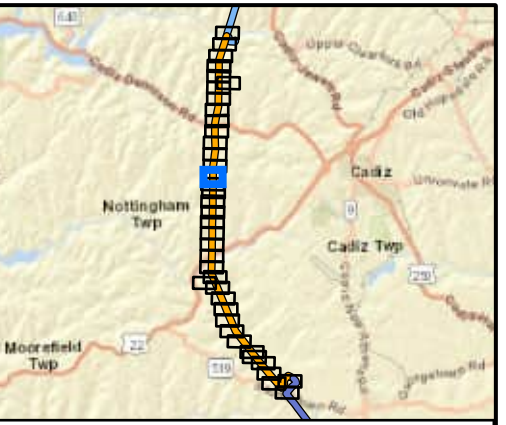
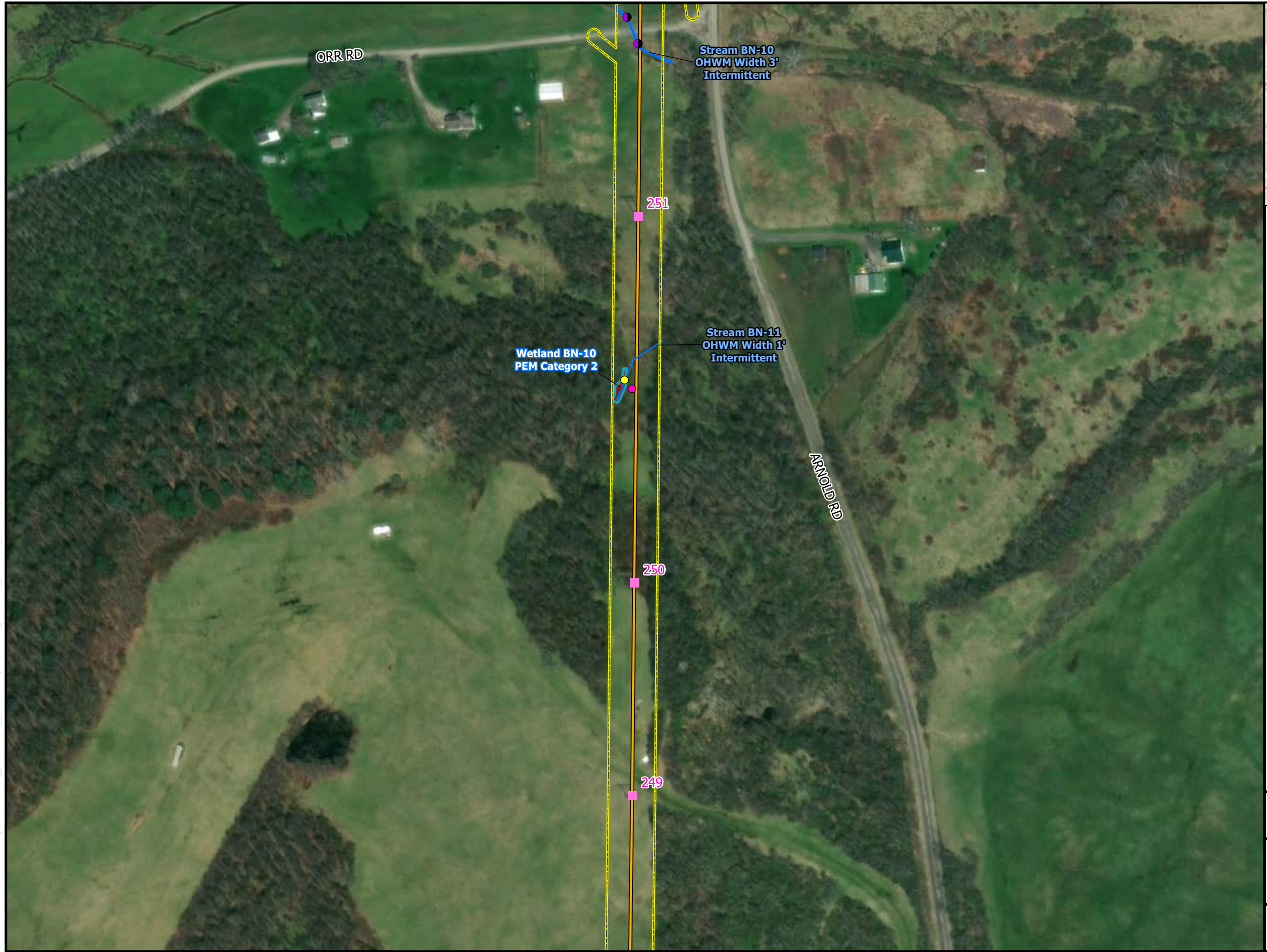


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**FIGURE 3-14
DELINEATED FEATURES MAP**

DATE: 10/23/2023	Jacobs
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\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Proj\HK_Phase4_WDR.aprx

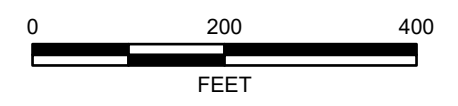


LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery

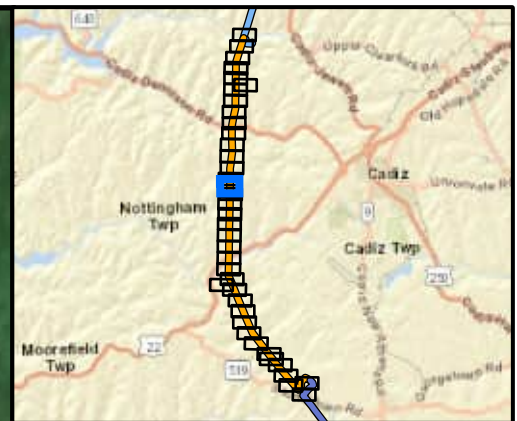


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**FIGURE 3-15
DELINEATED FEATURES MAP**

DATE: 10/23/2023	Jacobs
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\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Pro\HK_Phase4_WDR.aprx

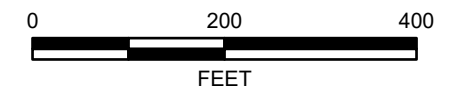


LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery



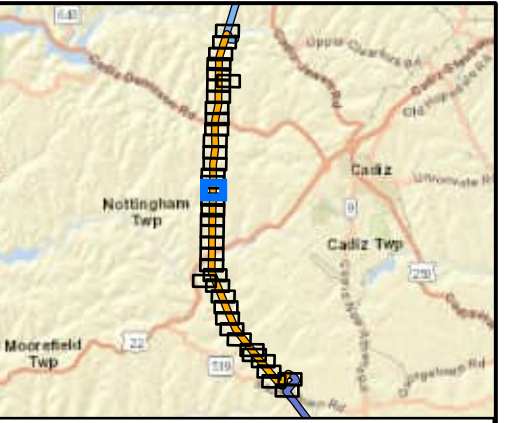
Buckeye Power-Nottingham
138kV Transmission Line
Rebuild Project

FIGURE 3-16
DELINEATED FEATURES MAP

DATE: 10/23/2023



\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Proj\HK_Phase4_WDR.aprx



LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

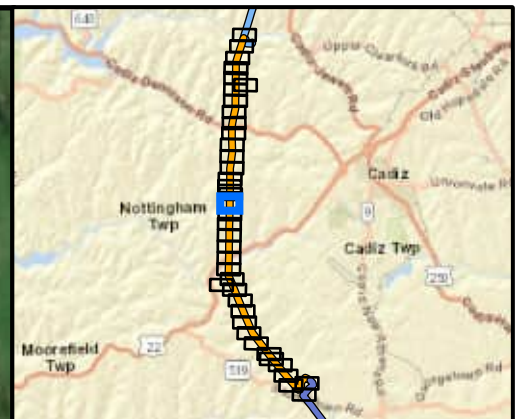
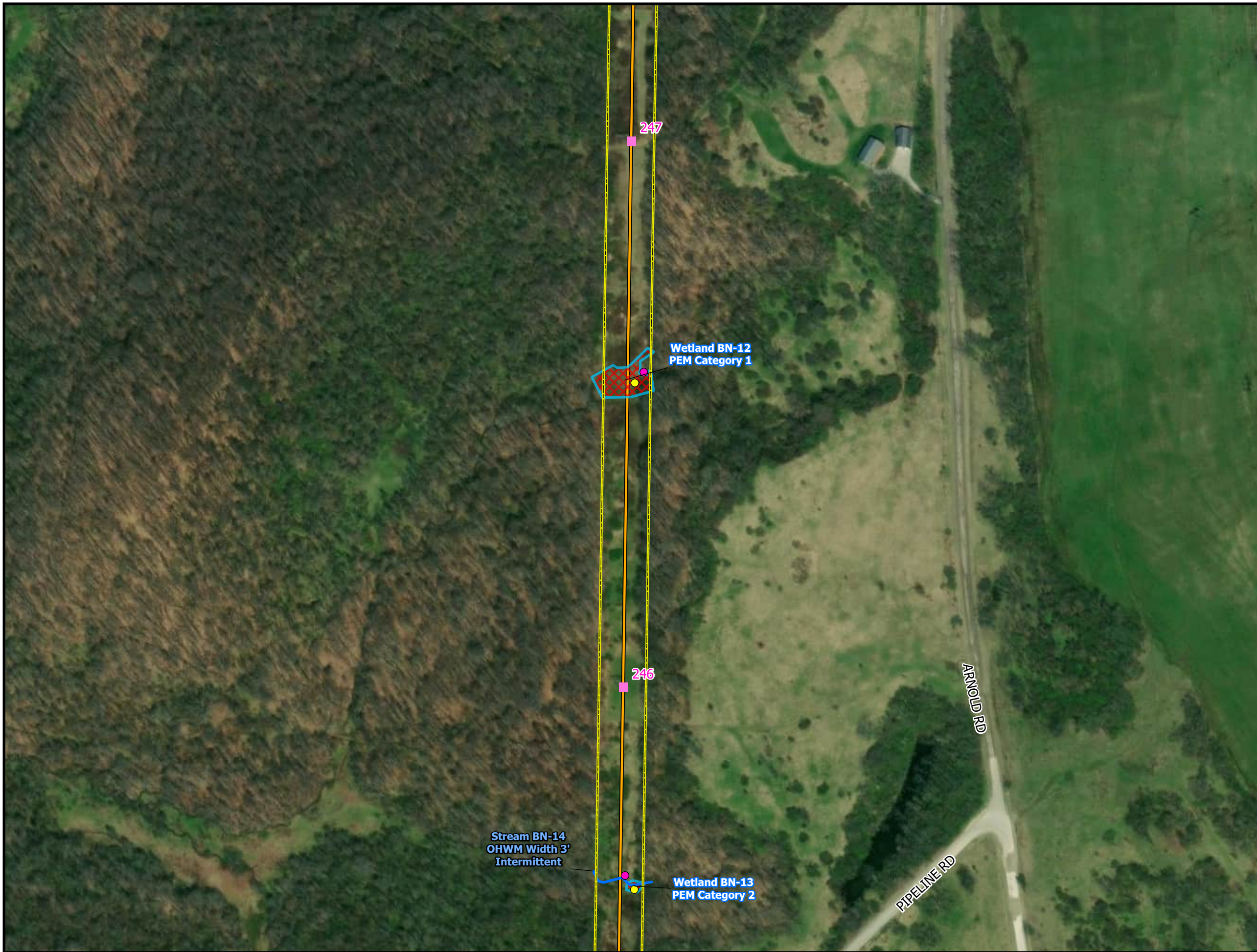
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FEET

<p>ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small></p>	<p>Buckeye Power-Nottingham 138kV Transmission Line Rebuild Project</p>
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**FIGURE 3-17
DELINEATED FEATURES MAP**

DATE: 10/23/2023	Jacobs
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\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Proj\HK_Phase4_WDR.aprx

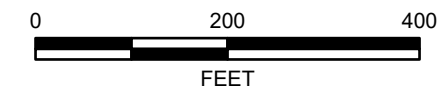


LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery



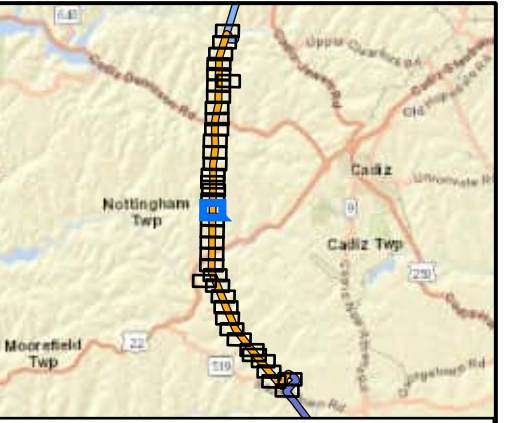
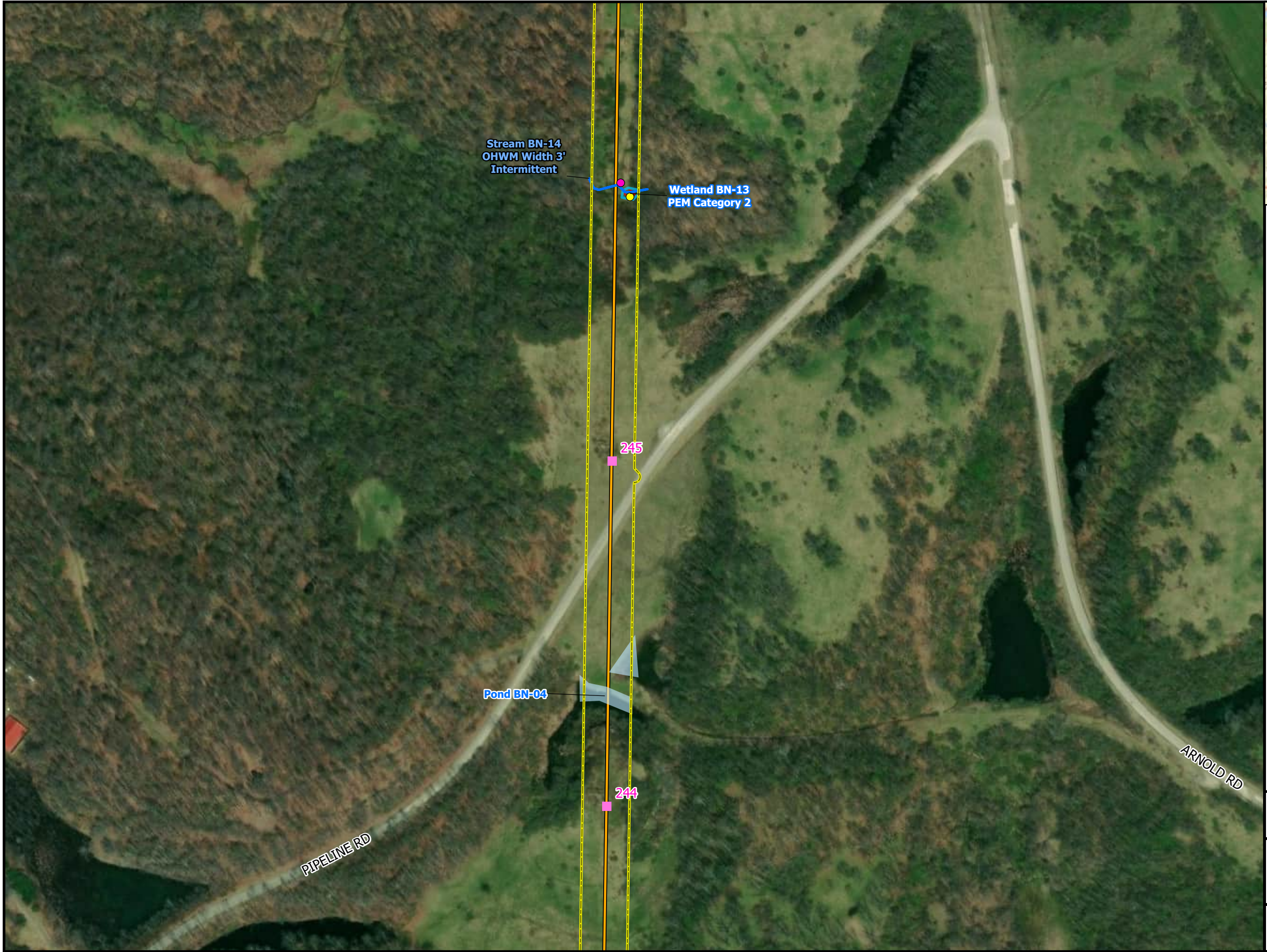
Buckeye Power-Nottingham
138kV Transmission Line
Rebuild Project

FIGURE 3-18
DELINEATED FEATURES MAP

DATE: 10/23/2023



\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Proj\HK_Phase4_WDR.aprx



LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary

N

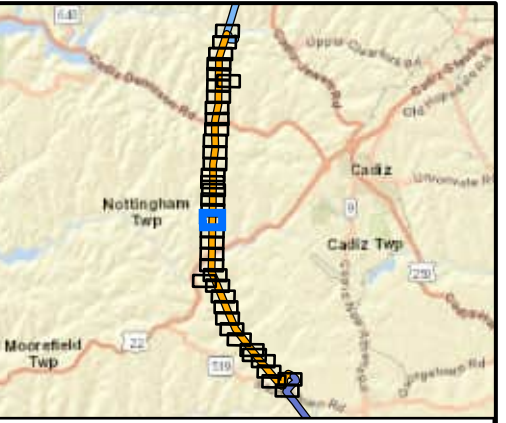
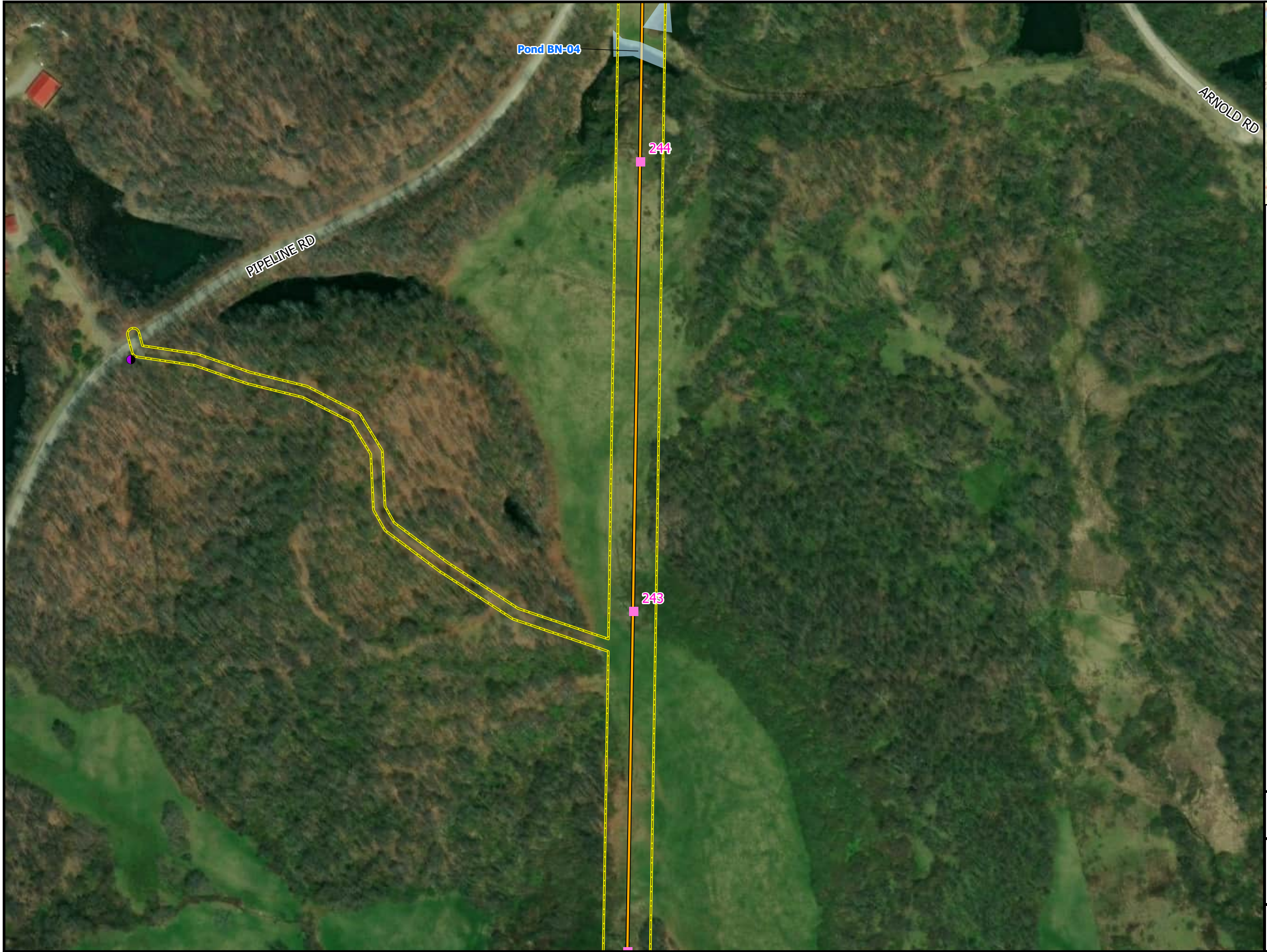
BASE MAP SOURCE:
Esri World Imagery

0 200 400
FEET

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**FIGURE 3-19
DELINEATED FEATURES MAP**

DATE: 10/23/2023	Jacobs
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LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

0 200 400
FEET

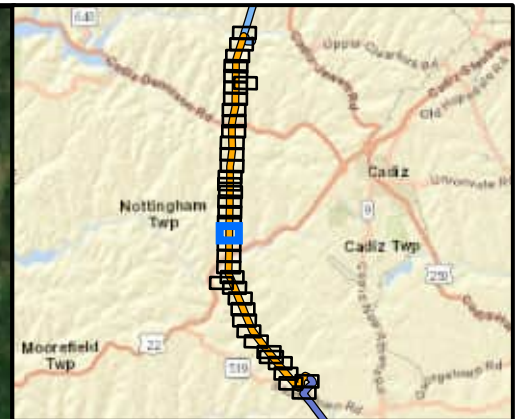
ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Buckeye Power-Nottingham 138kV Transmission Line Rebuild Project
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**FIGURE 3-20
DELINEATED FEATURES MAP**

DATE: 10/23/2023	Jacobs
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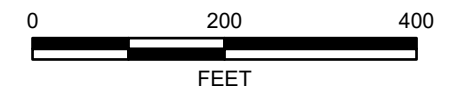


LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery

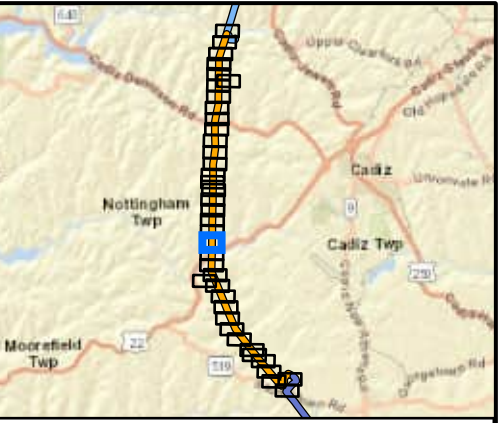


Buckeye Power-Nottingham
138kV Transmission Line
Rebuild Project

FIGURE 3-21
DELINEATED FEATURES MAP

DATE: 10/23/2023





LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

0 200 400
FEET

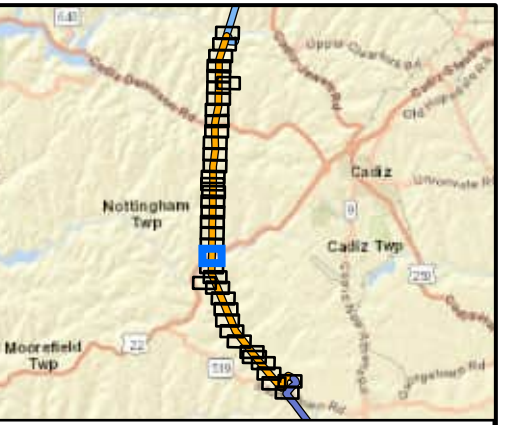
ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	<i>Buckeye Power-Nottingham 138kV Transmission Line Rebuild Project</i>
--	---

**FIGURE 3-22
DELINEATED FEATURES MAP**

DATE: 10/23/2023	Jacobs
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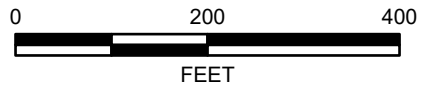


LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery



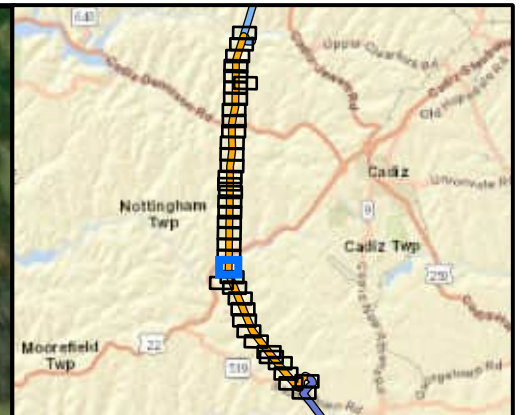
Buckeye Power-Nottingham
138kV Transmission Line
Rebuild Project

FIGURE 3-23
DELINEATED FEATURES MAP

DATE: 10/23/2023



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LEGEND:

- Proposed Structure - Direct Embed
- Proposed Structure - Drilled Shaft
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

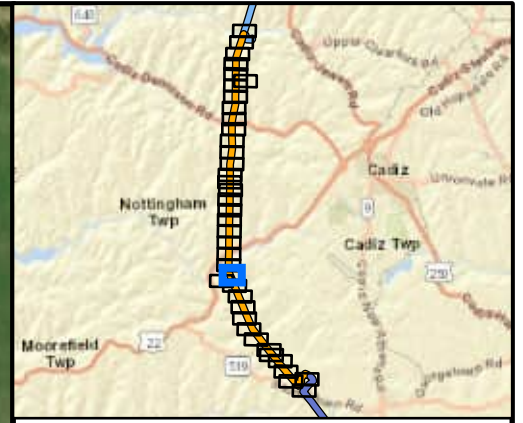
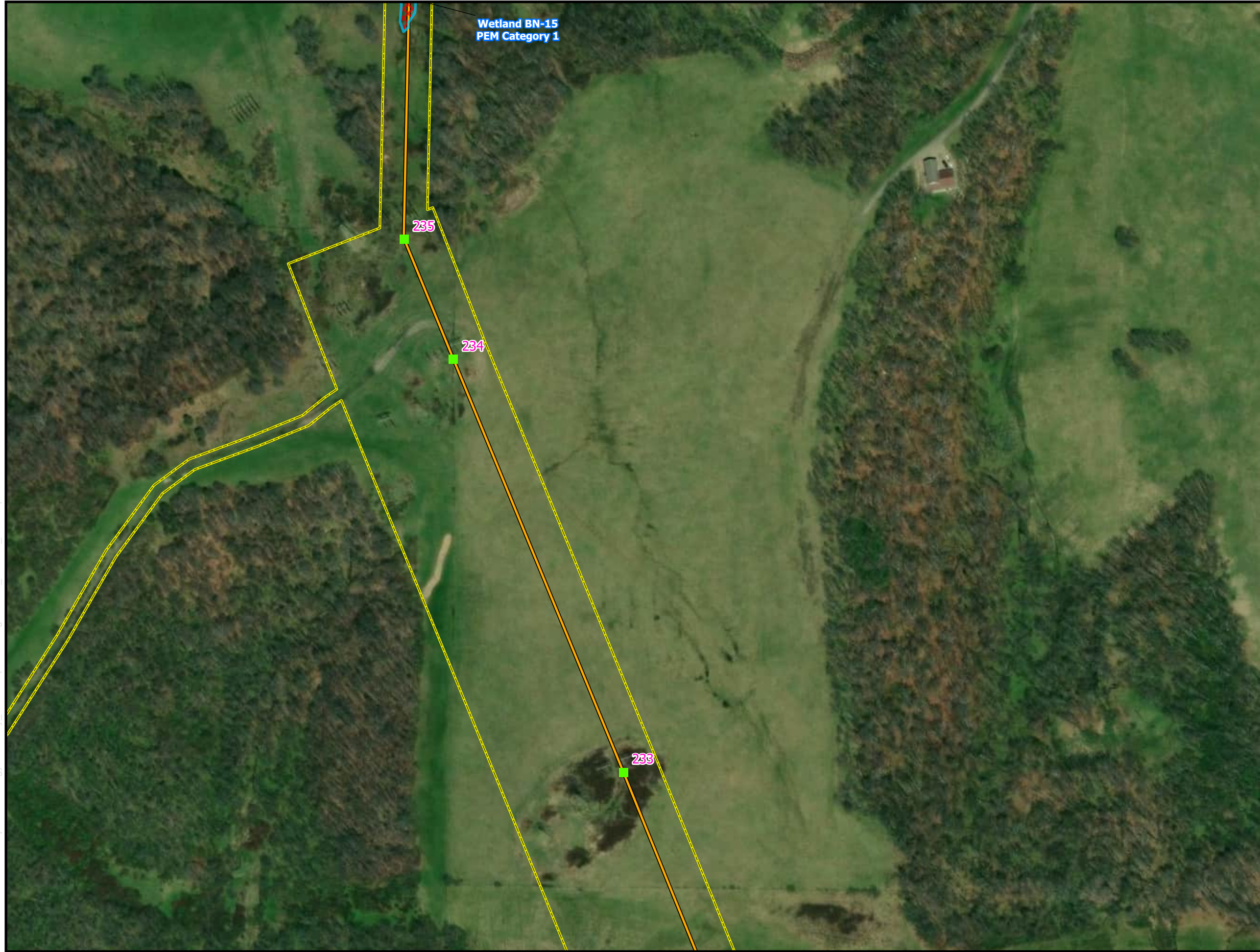
0 200 400
FEET

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**FIGURE 3-24
DELINEATED FEATURES MAP**

DATE: 10/23/2023	Jacobs
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LEGEND:

- Proposed Structure - Drilled Shaft
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

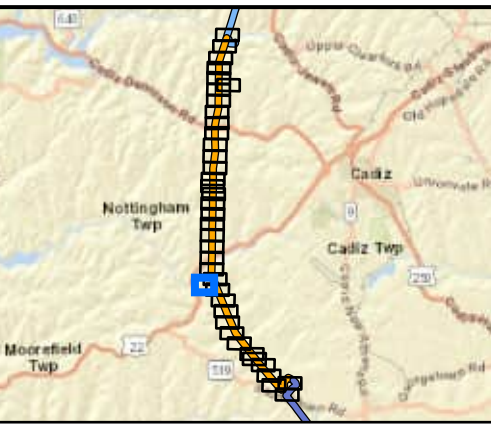
0 200 400
FEET

<p>ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small></p>	<p><i>Buckeye Power-Nottingham 138kV Transmission Line Rebuild Project</i></p>
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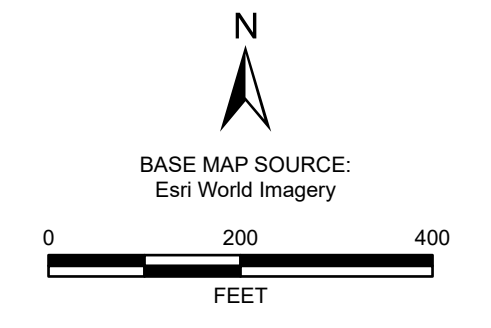
**FIGURE 3-25
DELINEATED FEATURES MAP**

DATE: 10/23/2023	Jacobs
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\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Pro\HK_Phase4_WDR.aprx



- LEGEND:**
- Upland Data Point
 - Wetland Data Point
 - Culvert
 - Buckeye Power-Nottingham - Phase 4
 - Delineated Stream
 - Delineated Pond
 - Delineated PEM Wetland
 - Delineated PSS Wetland
 - Environmental Survey Boundary

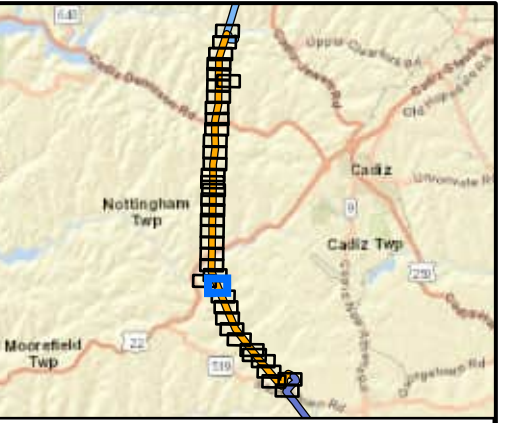
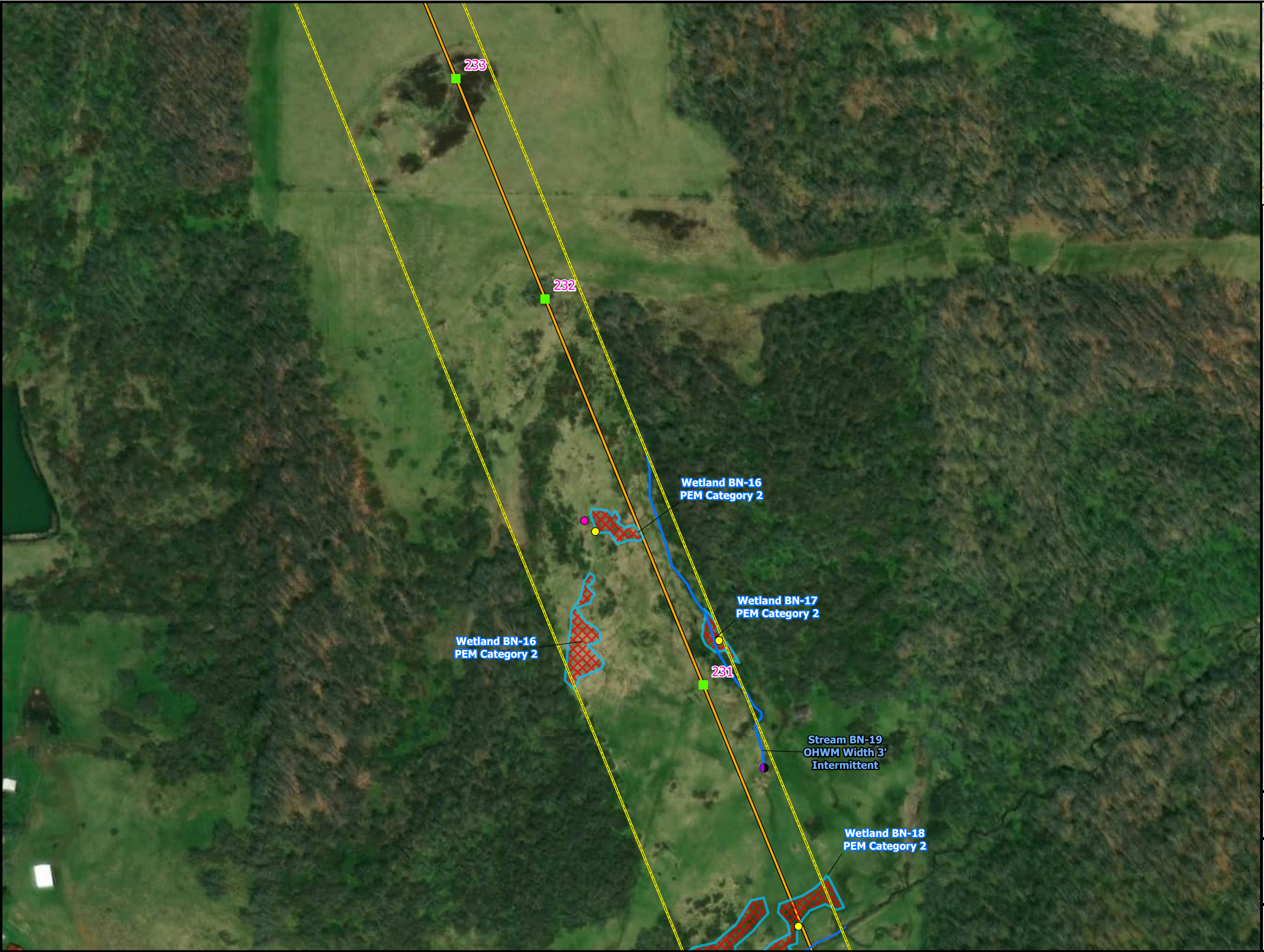


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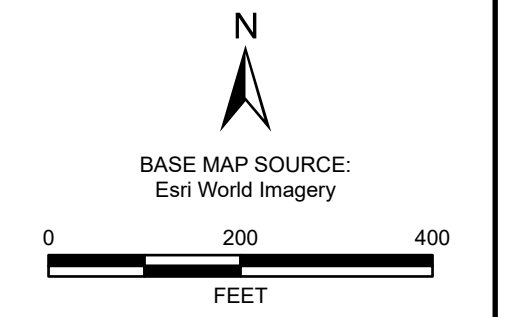
**FIGURE 3-26
DELINEATED FEATURES MAP**

DATE: 10/23/2023	Jacobs
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\\dc:1vs01\GIS\Proj\GIS\Proj\FirstEnergy\Holloway_Knox\Maps\Working\Proj\HK_Phase4_WDR.aprx



- LEGEND:**
- Proposed Structure - Drilled Shaft
 - Upland Data Point
 - Wetland Data Point
 - Culvert
 - Buckeye Power-Nottingham - Phase 4
 - Delineated Stream
 - Delineated Pond
 - Delineated PEM Wetland
 - Delineated PSS Wetland
 - Environmental Survey Boundary

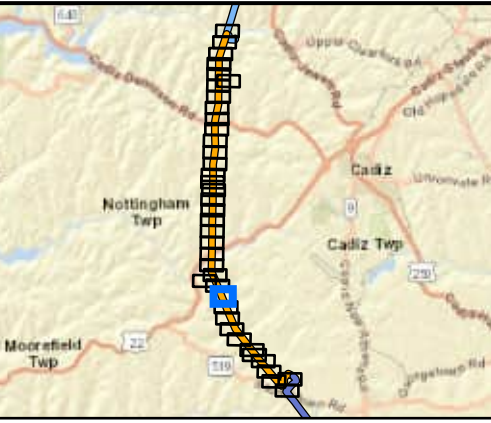
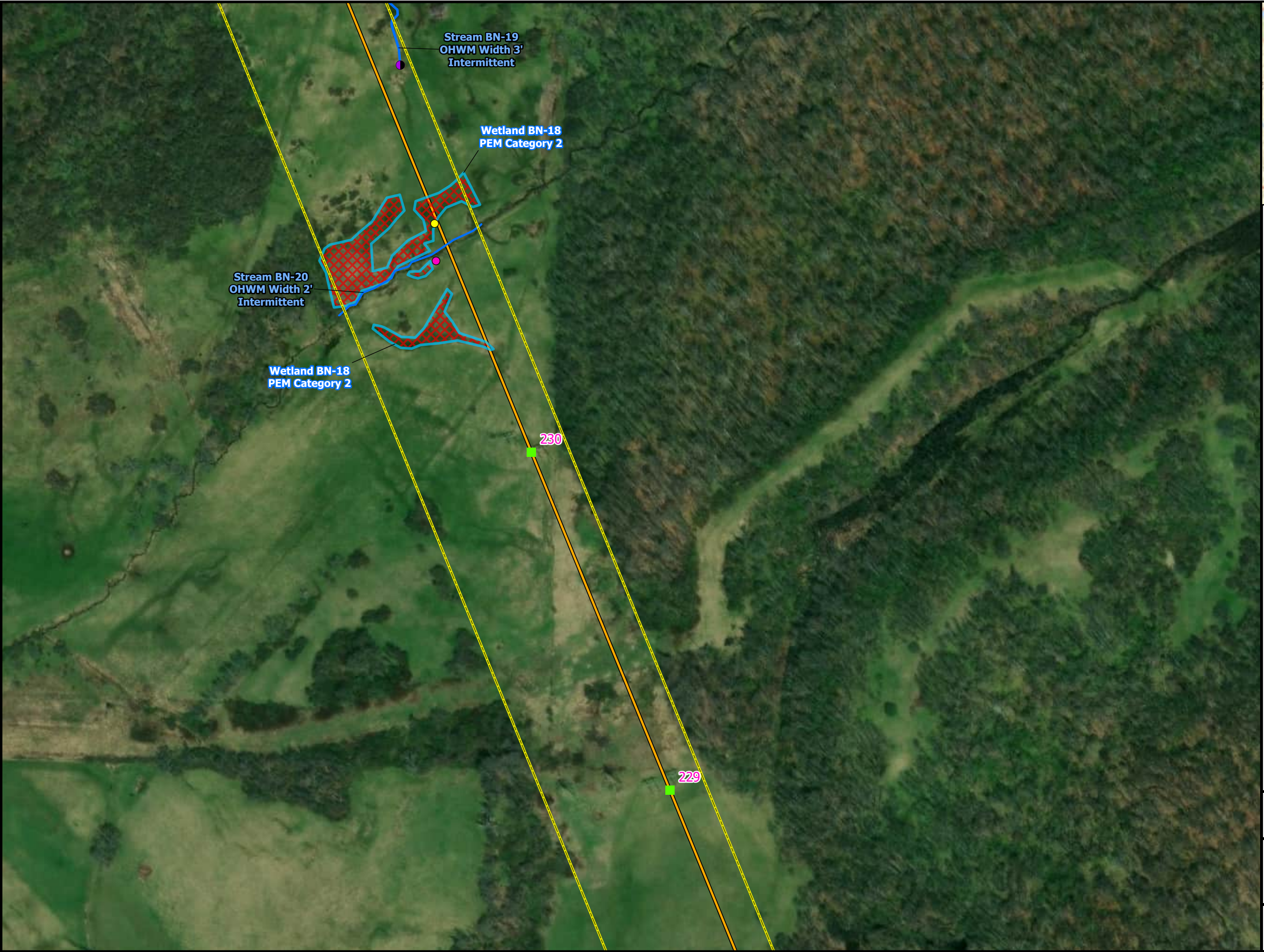


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**FIGURE 3-27
DELINEATED FEATURES MAP**

DATE: 10/23/2023	Jacobs
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\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Proj\HK_Phase4_WDR.aprx

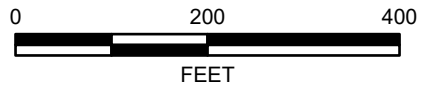


LEGEND:

- Proposed Structure - Drilled Shaft
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery



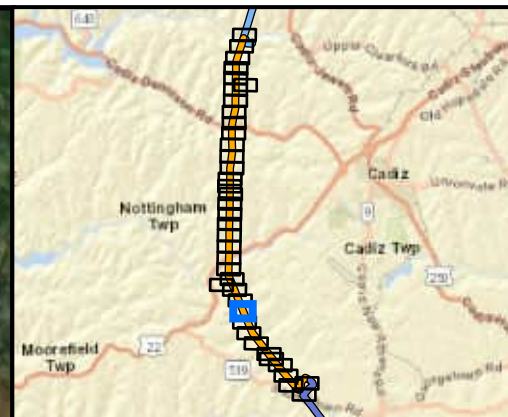
Buckeye Power-Nottingham
138kV Transmission Line
Rebuild Project

FIGURE 3-28
DELINEATED FEATURES MAP

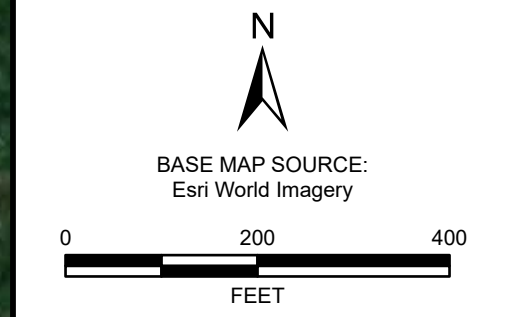
DATE: 10/23/2023



\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Proj\HK_Phase4_WDR.aprx



- LEGEND:**
- Proposed Structure - Drilled Shaft
 - Upland Data Point
 - Wetland Data Point
 - Culvert
 - Buckeye Power-Nottingham - Phase 4
 - Delineated Stream
 - Delineated Pond
 - Delineated PEM Wetland
 - Delineated PSS Wetland
 - Environmental Survey Boundary



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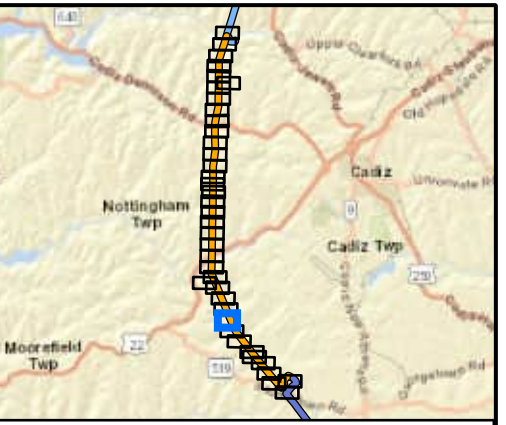
Buckeye Power-Nottingham
138kV Transmission Line
Rebuild Project

FIGURE 3-29
DELINEATED FEATURES MAP

DATE: 10/23/2023

Jacobs

\\dc:1vs01\GIS\Proj\1\F\FirstEnergy\Holloway_Knox\Maps\Working\Pro\HK_Phase4_WDR.aprx

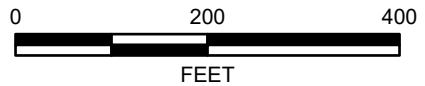


LEGEND:

- Proposed Structure - Drilled Shaft
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary



BASE MAP SOURCE:
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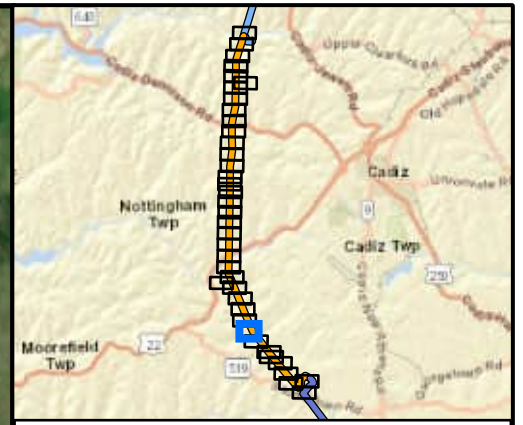
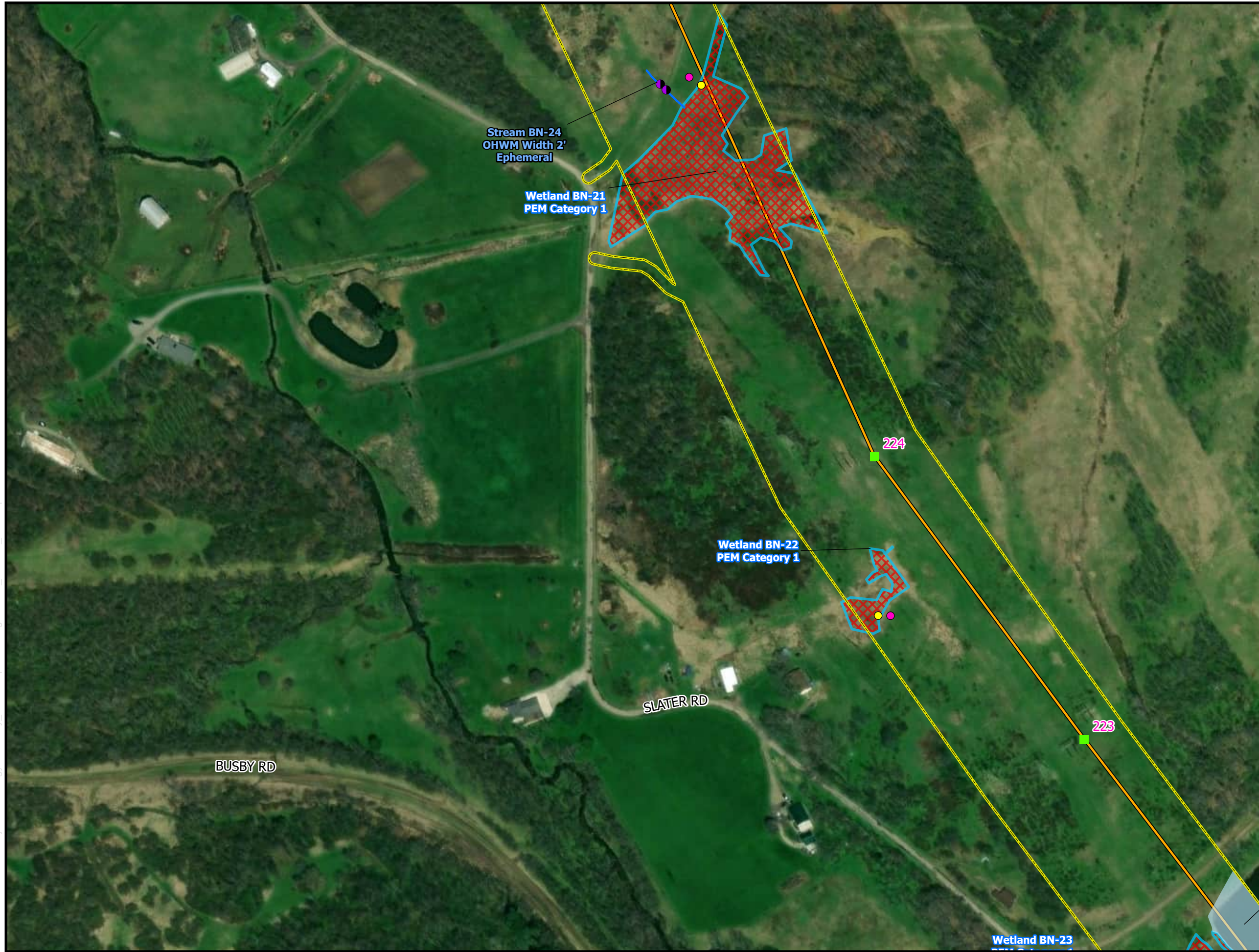
Buckeye Power-Nottingham
138kV Transmission Line
Rebuild Project

FIGURE 3-30
DELINEATED FEATURES MAP

DATE: 10/23/2023

Jacobs

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LEGEND:

- Proposed Structure - Drilled Shaft
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary

N

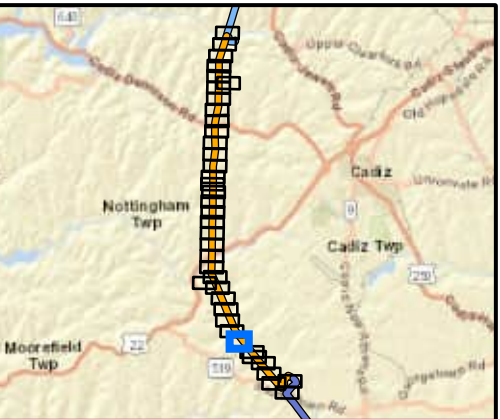
BASE MAP SOURCE:
Esri World Imagery

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FEET

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**FIGURE 3-31
DELINEATED FEATURES MAP**

DATE: 10/23/2023	Jacobs
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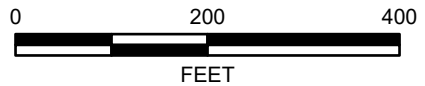


LEGEND:

- Proposed Structure - Drilled Shaft
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery



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Rebuild Project

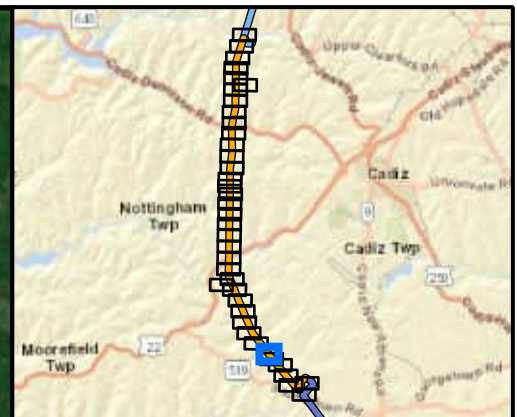
**FIGURE 3-32
DELINEATED FEATURES MAP**

DATE: 10/23/2023

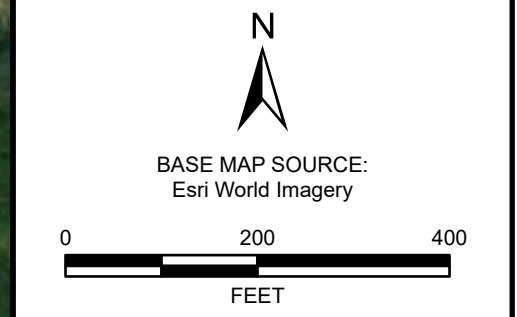
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- LEGEND:**
- Proposed Structure - Drilled Shaft
 - Upland Data Point
 - Wetland Data Point
 - Culvert
 - Buckeye Power-Nottingham - Phase 4
 - Delineated Stream
 - Delineated Pond
 - Delineated PEM Wetland
 - Delineated PSS Wetland
 - Environmental Survey Boundary



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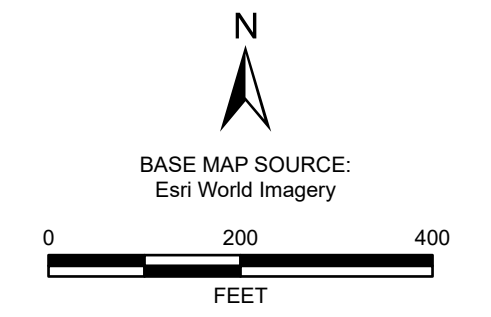
**FIGURE 3-33
 DELINEATED FEATURES MAP**

DATE: 10/23/2023	Jacobs
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\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Working\Proj\HK_Phase4_WDR.aprx



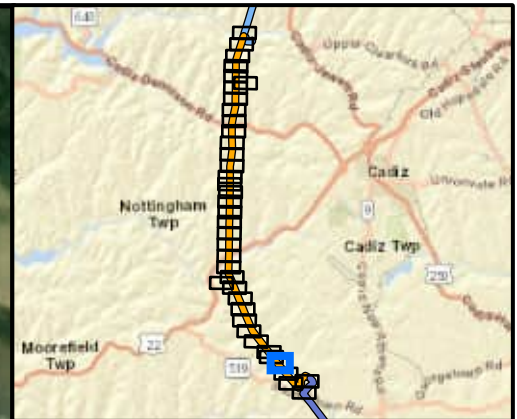
- LEGEND:**
- Proposed Structure - Drilled Shaft
 - Upland Data Point
 - Wetland Data Point
 - Culvert
 - Buckeye Power-Nottingham - Phase 4
 - Delineated Stream
 - Delineated Pond
 - Delineated PEM Wetland
 - Delineated PSS Wetland
 - Environmental Survey Boundary



<p style="font-size: 8px; margin: 0;">American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</p>	<p style="font-size: 8px; margin: 0;">Buckeye Power-Nottingham 138kV Transmission Line Rebuild Project</p>
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FIGURE 3-34
DELINEATED FEATURES MAP

DATE: 10/23/2023	
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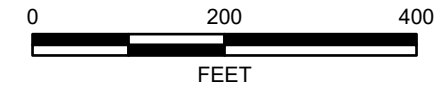


LEGEND:

- Proposed Structure - Drilled Shaft
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery



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138kV Transmission Line
Rebuild Project

**FIGURE 3-35
DELINEATED FEATURES MAP**

DATE: 10/23/2023

Jacobs

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LEGEND:

- Proposed Structure - Drilled Shaft
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

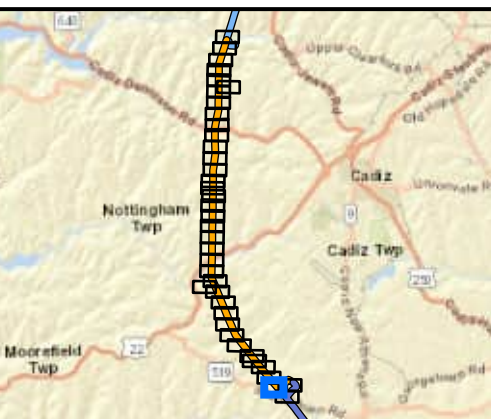
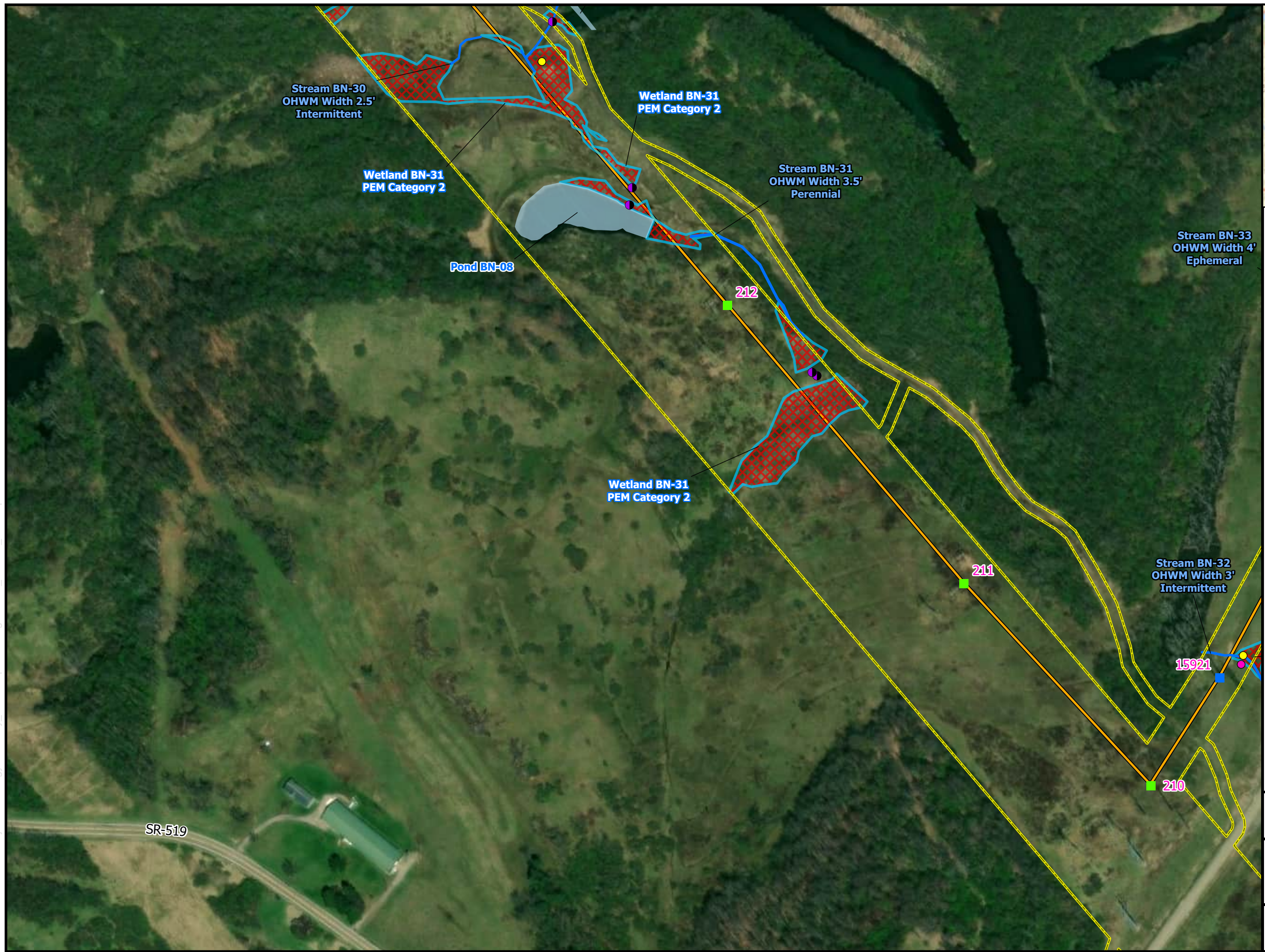
0 200 400
FEET

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**FIGURE 3-36
DELINEATED FEATURES MAP**

DATE: 10/23/2023	Jacobs
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LEGEND:

- Proposed Structure - Drilled Shaft
- Proposed Structure - Other
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Delineated PSS Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

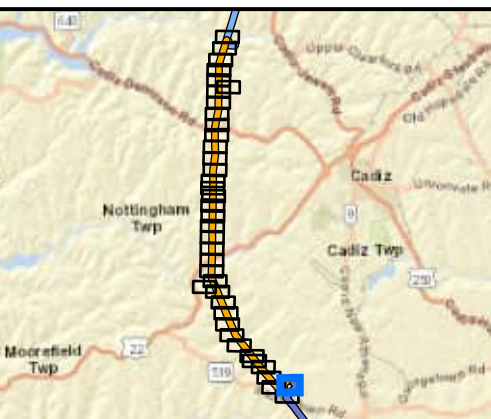
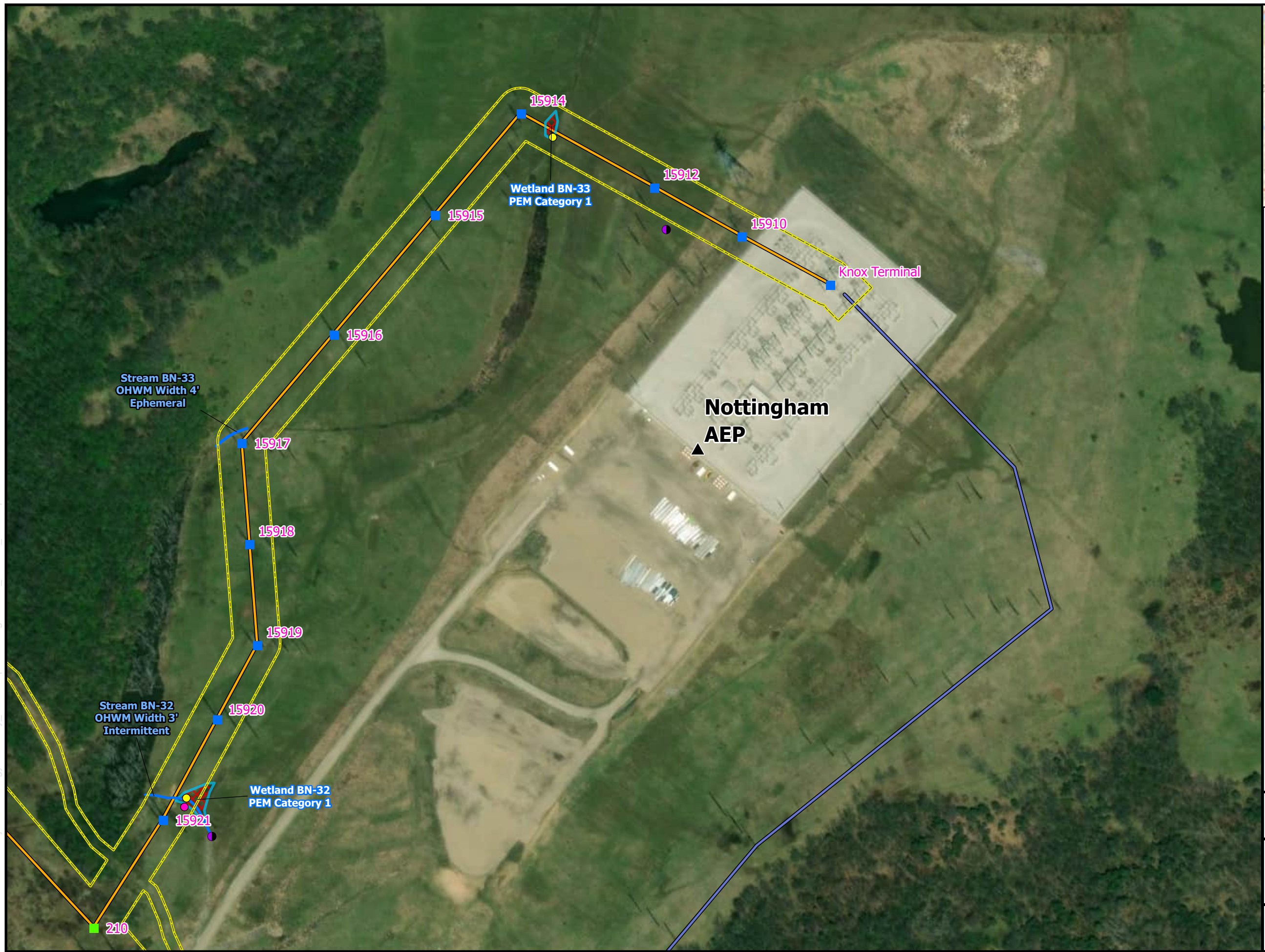
0 200 400
FEET

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**FIGURE 3-37
DELINEATED FEATURES MAP**

DATE: 10/23/2023	Jacobs
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LEGEND:

- ▲ Substation
- Proposed Structure - Drilled Shaft
- Proposed Structure - Other
- Upland Data Point
- Wetland Data Point
- Culvert
- Buckeye Power-Nottingham - Phase 4
- Nottingham-Holloway - Phase 5
- Delineated Stream
- Delineated Pond
- ▨ Delineated PEM Wetland
- ▨ Delineated PSS Wetland
- ▭ Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

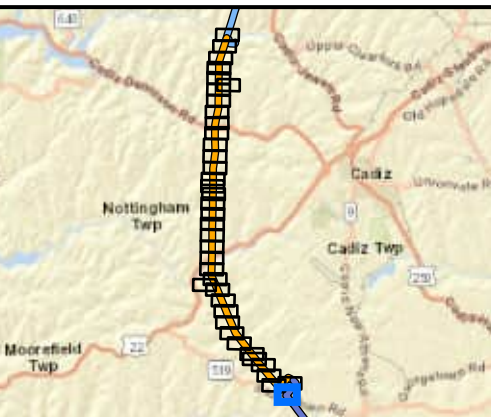
0 200 400
FEET

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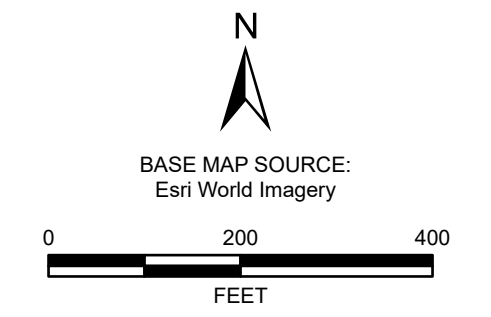
**FIGURE 3-38
DELINEATED FEATURES MAP**

DATE: 10/23/2023	Jacobs
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- LEGEND:**
- Proposed Structure - Drilled Shaft
 - Proposed Structure - Other
 - Upland Data Point
 - Wetland Data Point
 - Culvert
 - Buckeye Power-Nottingham - Phase 4
 - Nottingham-Holloway - Phase 5
 - Delineated Stream
 - Delineated Pond
 - Delineated PEM Wetland
 - Delineated PSS Wetland
 - Environmental Survey Boundary



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--	---

**FIGURE 3-39
DELINEDATED FEATURES MAP**

DATE: 10/23/2023	Jacobs
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Appendix B
USACE Wetland Determination Field Data Forms

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/02/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-01
 Investigator(s): JFW Section, Township, Range: S21 T11N R5W
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR or MLRA): LRR N, MLRA 220 Lat: 40.327982 Long: -81.061945 Datum: NAD 83
 Soil Map Unit Name: Or: Orrville silt loam, 0 to 3 percent slopes, occasionally flooded NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1)
---	--

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-01

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>10</u></td> <td>x 1 = <u>10.0</u></td> </tr> <tr> <td>FACW species <u>55</u></td> <td>x 2 = <u>110.0</u></td> </tr> <tr> <td>FAC species <u>50</u></td> <td>x 3 = <u>150.0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>115</u> (A)</td> <td><u>270.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.3</u>	Total % Cover of:	Multiply by:	OBL species <u>10</u>	x 1 = <u>10.0</u>	FACW species <u>55</u>	x 2 = <u>110.0</u>	FAC species <u>50</u>	x 3 = <u>150.0</u>	FACU species <u>0</u>	x 4 = <u>0.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>115</u> (A)	<u>270.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>10</u>	x 1 = <u>10.0</u>																	
FACW species <u>55</u>	x 2 = <u>110.0</u>																	
FAC species <u>50</u>	x 3 = <u>150.0</u>																	
FACU species <u>0</u>	x 4 = <u>0.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>115</u> (A)	<u>270.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: No <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u>Problematic Hydrophytic Vegetation¹</u> (Explain)														
1. <u>Phalaris arundinacea</u>	<u>50</u>	<u>Yes</u>	<u>FACW</u>															
2. <u>Echinochloa crus-galli</u>	<u>50</u>	<u>Yes</u>	<u>FAC</u>															
3. <u>Cyperus flavescens</u>	<u>10</u>	<u>No</u>	<u>OBL</u>															
4. <u>Persicaria pensylvanica</u>	<u>5</u>	<u>No</u>	<u>FACW</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>115</u> = Total Cover																		
50% of total cover: <u>57.5</u> 20% of total cover: <u>23.0</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Hydrophytic Vegetation Present? Yes <u>X</u> No _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: Wetland BN-01

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 4/1	80	5YR 4/6	20	Concen	PL,M	Silty clay	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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:



N



W



E



S



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/02/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland BN-01
 Investigator(s): JFW Section, Township, Range: S21 T11N R5W
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR or MLRA): LRR N, MLRA 220 Lat: 40.327985 Long: -81.062048 Datum: NAD 83
 Soil Map Unit Name: Or: Orrville silt loam, 0 to 3 percent slopes, occasionally flooded NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> FAC-Neutral Test (D5)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Upland BN-01

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.25</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0.0</u> FACW species <u>5</u> x 2 = <u>10.0</u> FAC species <u>0</u> x 3 = <u>0.0</u> FACU species <u>110</u> x 4 = <u>440.0</u> UPL species <u>0</u> x 5 = <u>0.0</u> Column Totals: <u>115</u> (A) <u>450.0</u> (B) Prevalence Index = B/A = <u>3.9</u>	
50% of total cover: _____		20% of total cover: _____			
Sapling/Shrub Stratum (Plot size: <u>15</u>)					
1. <u>Rosa multiflora</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>		
2. <u>Hypericum prolificum</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: <u>25.0</u>		20% of total cover: <u>25.0</u>			
Herb Stratum (Plot size: <u>5</u>)					
1. <u>Solidago canadensis</u>	<u>50</u>	<u>Yes</u>	<u>FACU</u>		
2. <u>Symphyotrichum novae-angliae</u>	<u>15</u>	<u>No</u>	<u>FACW</u>		
3. <u>Phalaris arundinacea</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>		
4. <u>Pycnanthemum tenuifolium</u>	<u>5</u>	<u>No</u>	<u>FACW</u>		
5. <u>Apocynum cannabinum</u>	<u>10</u>	<u>No</u>	<u>FACU</u>		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: <u>50.0</u>		20% of total cover: <u>20.0</u>			
Woody Vine Stratum (Plot size: <u>30</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: _____		20% of total cover: _____			
Remarks: (Include photo numbers here or on a separate sheet.)					

Hydrophytic Vegetation Indicators:
 No 1 - Rapid Test for Hydrophytic Vegetation
 No 2 - Dominance Test is >50%
 No 3 - Prevalence Index is ≤3.0¹
 No 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 No Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:
Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

SOIL

Sampling Point: Upland BN-01

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 4/2	80	5YR 4/6	20	Concen	PL	Silty clay	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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:



S



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/02/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-02
 Investigator(s): JFW Section, Township, Range: S20 T11N R5W
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Flat Slope (%): 2
 Subregion (LRR or MLRA): LRR N, MLRA 220 Lat: 40.321401 Long: -81.064483 Datum: NAD 83
 Soil Map Unit Name: CnD: Coshocton silt loam, 15 to 25 percent slopes NWI classification: PUBG

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland adjacent to pond in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-02

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>75</u></td> <td>x 1 = <u>75.0</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40.0</u></td> </tr> <tr> <td>FAC species <u>5</u></td> <td>x 3 = <u>15.0</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>105</u> (A)</td> <td><u>150.0</u> (B)</td> </tr> </table> <p style="text-align:center;">Prevalence Index = B/A = <u>1.4</u></p>	Total % Cover of:	Multiply by:	OBL species <u>75</u>	x 1 = <u>75.0</u>	FACW species <u>20</u>	x 2 = <u>40.0</u>	FAC species <u>5</u>	x 3 = <u>15.0</u>	FACU species <u>5</u>	x 4 = <u>20.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>105</u> (A)	<u>150.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>75</u>	x 1 = <u>75.0</u>																	
FACW species <u>20</u>	x 2 = <u>40.0</u>																	
FAC species <u>5</u>	x 3 = <u>15.0</u>																	
FACU species <u>5</u>	x 4 = <u>20.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>105</u> (A)	<u>150.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Typha angustifolia</u>	<u>70</u>	Yes	OBL															
2. <u>Impatiens capensis</u>	<u>15</u>	No	FACW															
3. <u>Amphicarpaea bracteata</u>	<u>5</u>	No	FAC															
4. <u>Eupatorium perfoliatum</u>	<u>5</u>	No	FACW															
5. <u>Galium aparine</u>	<u>5</u>	No	FACU															
6. <u>Carex lurida</u>	<u>5</u>	No	OBL															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>105</u> = Total Cover																		
50% of total cover: <u>52.5</u> 20% of total cover: <u>21.0</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Hydrophytic Vegetation Present? Yes <u>X</u> No _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: Wetland BN-02

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	2.5Y 4/1	70	7.5YR 4/6	30	Concen	M,PL	Silty clay	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

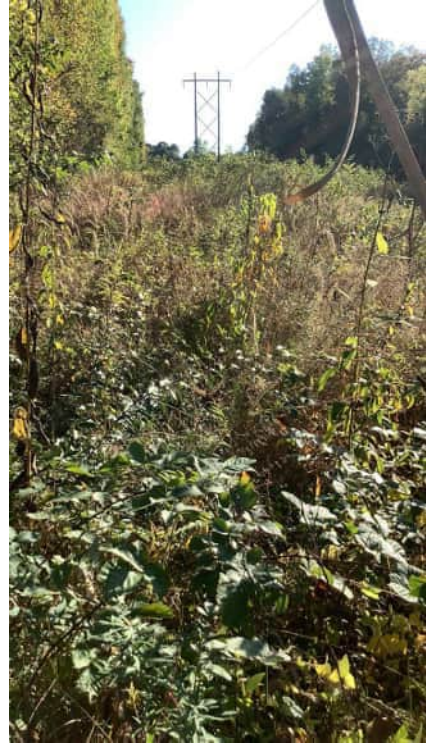
Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:



N



S



E



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/02/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland BN-02
 Investigator(s): JFW Section, Township, Range: S20 T11N R5W
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Flat Slope (%): 1
 Subregion (LRR or MLRA): LRR N, MLRA 220 Lat: 40.322011 Long: -81.064226 Datum: NAD 83
 Soil Map Unit Name: Me: Melvin silt loam, frequently ponded, 0 to 3 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Upland BN-02

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)					Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0.0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>110</u></td> <td>x 4 = <u>440.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>110</u> (A)</td> <td><u>440.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.0</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0.0</u>	FACW species <u>0</u>	x 2 = <u>0.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>110</u>	x 4 = <u>440.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>110</u> (A)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0.0</u>																	
FACW species <u>0</u>	x 2 = <u>0.0</u>																	
FAC species <u>0</u>	x 3 = <u>0.0</u>																	
FACU species <u>110</u>	x 4 = <u>440.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>110</u> (A)	<u>440.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <u>No</u> 1 - Rapid Test for Hydrophytic Vegetation <u>No</u> 2 - Dominance Test is >50% <u>No</u> 3 - Prevalence Index is ≤3.0 ¹ <u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Poa annua</u>	<u>80</u>	<u>Yes</u>	<u>FACU</u>															
2. <u>Trifolium repens</u>	<u>20</u>	<u>No</u>	<u>FACU</u>															
3. <u>Taraxacum officinale</u>	<u>5</u>	<u>No</u>	<u>FACU</u>															
4. <u>Glechoma hederacea</u>	<u>5</u>	<u>No</u>	<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
_____ = Total Cover 50% of total cover: <u>55.0</u> 20% of total cover: <u>22.0</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>														

SOIL

Sampling Point: Upland BN-02

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 4	10YR 4/2	100					Silty clay	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Rock
 Depth (inches): 4.0

Hydric Soil Present? Yes No

Remarks:



Soil



NE

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/02/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-03
 Investigator(s): JFW Section, Township, Range: S26 T11N R5W
 Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): Concave Slope (%): 5
 Subregion (LRR or MLRA): LRR N, MLRA 220 Lat: 40.31849 Long: -81.065706 Datum: NAD 83
 Soil Map Unit Name: WnF: Westmoreland-Dekalb complex, 40 to 70 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland along a stream in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-03

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species <u>10</u> x 1 = <u>10.0</u>
3. _____	_____	_____	_____	FACW species <u>115</u> x 2 = <u>230.0</u>
4. _____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0.0</u>
5. _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0.0</u>
6. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0.0</u>
7. _____	_____	_____	_____	Column Totals: <u>125</u> (A) <u>240.0</u> (B)
8. _____	_____	_____	_____	Prevalence Index = B/A = <u>1.9</u>
9. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:
_____ = Total Cover				<u>Yes</u> 1 - Rapid Test for Hydrophytic Vegetation
50% of total cover: _____ 20% of total cover: _____				<u>Yes</u> 2 - Dominance Test is >50%
Herb Stratum (Plot size: <u>5</u>)				<u>Yes</u> 3 - Prevalence Index is ≤3.0 ¹
1. <u>Agrimonia parviflora</u>	<u>60</u>	<u>Yes</u>	<u>FACW</u>	<u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Solidago gigantea</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>	<u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Onoclea sensibilis</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. <u>Juncus effusus</u>	<u>15</u>	<u>No</u>	<u>FACW</u>	
5. <u>Persicaria sagittata</u>	<u>10</u>	<u>No</u>	<u>OBL</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>125</u> = Total Cover				
50% of total cover: <u>62.5</u> 20% of total cover: <u>25.0</u>				
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata:
1. _____	_____	_____	_____	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
2. _____	_____	_____	_____	Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
3. _____	_____	_____	_____	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
4. _____	_____	_____	_____	Woody vine – All woody vines greater than 3.28 ft in height.
5. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: Wetland BN-03

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 6	10YR 3/1	100					Silty clay loam	
6 - 10	Gley 1 4/10Y	95	10YR 4/6	5	Depletic	M	Silty clay	
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Rock
 Depth (inches): 10.0

Hydric Soil Present? Yes X No

Remarks:



N
North



S
South



E
East



W
West



Soil
Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/02/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland BN-03
 Investigator(s): JFW Section, Township, Range: S26 T11N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Flat Slope (%): 6
 Subregion (LRR or MLRA): LRR N, MLRA 220 Lat: 40.318471 Long: -81.065684 Datum: NAD 83
 Soil Map Unit Name: WnF: Westmoreland-Dekalb complex, 40 to 70 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Upland BN-03

	Absolute % Cover	Dominant Species?	Indicator Status																													
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0</u> (A/B)																												
1. _____	_____	_____	_____																													
2. _____	_____	_____	_____																													
3. _____	_____	_____	_____																													
4. _____	_____	_____	_____																													
5. _____	_____	_____	_____																													
6. _____	_____	_____	_____																													
7. _____	_____	_____	_____																													
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____																																
Sapling/Shrub Stratum (Plot size: <u>15</u>)																																
1. <u>Rosa multiflora</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>	Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">Multiply by:</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td>x 1 =</td> <td style="text-align: center;"><u>0.0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>0</u></td> <td>x 2 =</td> <td style="text-align: center;"><u>0.0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>20</u></td> <td>x 3 =</td> <td style="text-align: center;"><u>60.0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>110</u></td> <td>x 4 =</td> <td style="text-align: center;"><u>440.0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td>x 5 =</td> <td style="text-align: center;"><u>0.0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>130</u></td> <td>(A)</td> <td style="text-align: center;"><u>500.0</u></td> (B)</tr></table>	Total % Cover of:	_____	Multiply by:	_____	OBL species	<u>0</u>	x 1 =	<u>0.0</u>	FACW species	<u>0</u>	x 2 =	<u>0.0</u>	FAC species	<u>20</u>	x 3 =	<u>60.0</u>	FACU species	<u>110</u>	x 4 =	<u>440.0</u>	UPL species	<u>0</u>	x 5 =	<u>0.0</u>	Column Totals:	<u>130</u>	(A)	<u>500.0</u>
Total % Cover of:	_____	Multiply by:	_____																													
OBL species	<u>0</u>	x 1 =	<u>0.0</u>																													
FACW species	<u>0</u>	x 2 =	<u>0.0</u>																													
FAC species	<u>20</u>	x 3 =	<u>60.0</u>																													
FACU species	<u>110</u>	x 4 =	<u>440.0</u>																													
UPL species	<u>0</u>	x 5 =	<u>0.0</u>																													
Column Totals:	<u>130</u>	(A)	<u>500.0</u>																													
Prevalence Index = B/A = <u>3.8</u>																																

2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: 10.0 20% of total cover: 10.0				
Herb Stratum (Plot size: 5)				
1. Dichanthelium oligosanthes	80	Yes	FACU	**Hydrophytic Vegetation Indicators:** No 1 - Rapid Test for Hydrophytic Vegetation No 2 - Dominance Test is >50% No 3 - Prevalence Index is ≤3.0¹ No 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) No Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. Verbesina alternifolia	20	No	FAC	
3. Rosa multiflora	10	No	FACU	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: 55.0 20% of total cover: 22.0				
Woody Vine Stratum (Plot size: 30)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

Hydrophytic Vegetation Present? Yes _____ No X

SOIL

Sampling Point: Upland BN-03

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 3	10YR 4/2	100					Silty clay	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Rock
 Depth (inches): 3.0

Hydric Soil Present? Yes No

Remarks:



Soil



E

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/03/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-04E
 Investigator(s): JFW Section, Township, Range: S19 T11N R5W
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 1
 Subregion (LRR or MLRA): LRR N, MLRA 220 Lat: 40.306533 Long: -81.064548 Datum: NAD 83
 Soil Map Unit Name: Mwc3D: Morrystown silty clay loam, 8 to 25 percent slopes, reclaimed NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent portion of a PEM/PSS wetland complex on either side of a farm path.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>16</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-04E

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>90</u></td> <td>x 1 = <u>90.0</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>110.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.1</u>	Total % Cover of:	Multiply by:	OBL species <u>90</u>	x 1 = <u>90.0</u>	FACW species <u>10</u>	x 2 = <u>20.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>0</u>	x 4 = <u>0.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>100</u> (A)	<u>110.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>90</u>	x 1 = <u>90.0</u>																	
FACW species <u>10</u>	x 2 = <u>20.0</u>																	
FAC species <u>0</u>	x 3 = <u>0.0</u>																	
FACU species <u>0</u>	x 4 = <u>0.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>100</u> (A)	<u>110.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Typha angustifolia</u>	<u>90</u>	<u>Yes</u>	<u>OBL</u>															
2. <u>Scirpus cyperinus</u>	<u>10</u>	<u>No</u>	<u>FACW</u>															
3. <u>Juncus effusus</u>	<u>5</u>	<u>No</u>	<u>FACW</u>															
4. <u>Eupatorium perfoliatum</u>	<u>5</u>	<u>No</u>	<u>FACW</u>															
5. <u>Agrimonia parviflora</u>	<u>10</u>	<u>No</u>	<u>FACW</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: <u>60.0</u> 20% of total cover: <u>24.0</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____														

SOIL

Sampling Point: Wetland BN-04E

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 6	10YR 3/1	95	10YR 5/6	5	Concen	PL	Silt	
6 - 18	Gley 1 5/10Y	100					Clay	
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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



N



E



S



W

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/03/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-04S
 Investigator(s): JFW Section, Township, Range: S19 T11N R5W
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 1
 Subregion (LRR or MLRA): LRR N, MLRA 220 Lat: 40.30654 Long: -81.064546 Datum: NAD 83
 Soil Map Unit Name: Mwc3D: Morrystown silty clay loam, 8 to 25 percent slopes, reclaimed NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine scrub/shrub portion of a PEM/PSS wetland complex on either side of a farm path.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-04S

	Absolute % Cover	Dominant Species?	Indicator Status																																	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)																																
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____																																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)																																				
1. <u>Salix interior</u>	<u>70</u>	<u>Yes</u>	<u>FACW</u>	Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;"></td> <td style="width:20%; text-align: center;">Total % Cover of:</td> <td style="width:20%;"></td> <td style="width:20%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td></td> <td style="text-align: center;">x 1 = <u>0.0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>110</u></td> <td></td> <td style="text-align: center;">x 2 = <u>220.0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>0</u></td> <td></td> <td style="text-align: center;">x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>0</u></td> <td></td> <td style="text-align: center;">x 4 = <u>0.0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td></td> <td style="text-align: center;">x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>110</u></td> <td style="text-align: center;">(A)</td> <td style="text-align: center;"><u>220.0</u> (B)</td> </tr> <tr> <td colspan="4" style="text-align: center;">Prevalence Index = B/A = <u>2.0</u></td> </tr> </table>		Total % Cover of:		Multiply by:	OBL species	<u>0</u>		x 1 = <u>0.0</u>	FACW species	<u>110</u>		x 2 = <u>220.0</u>	FAC species	<u>0</u>		x 3 = <u>0.0</u>	FACU species	<u>0</u>		x 4 = <u>0.0</u>	UPL species	<u>0</u>		x 5 = <u>0.0</u>	Column Totals:	<u>110</u>	(A)	<u>220.0</u> (B)	Prevalence Index = B/A = <u>2.0</u>			
	Total % Cover of:		Multiply by:																																	
OBL species	<u>0</u>		x 1 = <u>0.0</u>																																	
FACW species	<u>110</u>		x 2 = <u>220.0</u>																																	
FAC species	<u>0</u>		x 3 = <u>0.0</u>																																	
FACU species	<u>0</u>		x 4 = <u>0.0</u>																																	
UPL species	<u>0</u>		x 5 = <u>0.0</u>																																	
Column Totals:	<u>110</u>	(A)	<u>220.0</u> (B)																																	
Prevalence Index = B/A = <u>2.0</u>																																				
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
_____ = Total Cover 50% of total cover: <u>35.0</u> 20% of total cover: <u>35.0</u>																																				
Herb Stratum (Plot size: <u>5</u>)																																				
1. <u>Symphyotrichum lanceolatum</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																																
2. <u>Agrimonia parviflora</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>																																	
3. <u>Juncus effusus</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																																	
4. <u>Eupatorium perfoliatum</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
10. _____	_____	_____	_____																																	
11. _____	_____	_____	_____																																	
_____ = Total Cover 50% of total cover: <u>27.5</u> 20% of total cover: <u>11.0</u>																																				
Woody Vine Stratum (Plot size: <u>30</u>)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____																																				
Remarks: (Include photo numbers here or on a separate sheet.)																																				

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

SOIL

Sampling Point: Wetland BN-04S

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 3/1	85	10YR 5/8	15	Concen	PL,M	Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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



S



N



E



W

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/03/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland BN-04
 Investigator(s): JFW Section, Township, Range: S19 T11N R5W
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Flat Slope (%): 2
 Subregion (LRR or MLRA): LRR N, MLRA 220 Lat: 40.30645 Long: -81.064604 Datum: NAD 83
 Soil Map Unit Name: Mwc3D: Morrystown silty clay loam, 8 to 25 percent slopes, reclaimed NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point along a farm path.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Upland BN-04

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Schedonorus arundinaceus</u>	<u>90</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Trifolium pratense</u>	<u>10</u>	<u>No</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>50.0</u> 20% of total cover: <u>20.0</u>				
Woody Vine Stratum (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0.0</u>
FACW species <u>0</u>	x 2 = <u>0.0</u>
FAC species <u>0</u>	x 3 = <u>0.0</u>
FACU species <u>100</u>	x 4 = <u>400.0</u>
UPL species <u>0</u>	x 5 = <u>0.0</u>
Column Totals: <u>100</u> (A)	<u>400.0</u> (B)
Prevalence Index = B/A = <u>4.0</u>	

- Hydrophytic Vegetation Indicators:**
- No 1 - Rapid Test for Hydrophytic Vegetation
 - No 2 - Dominance Test is >50%
 - No 3 - Prevalence Index is ≤3.0¹
 - No 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - No Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

SOIL

Sampling Point: Upland BN-04

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 4	2.5YR 4/6	70	5Y 6/1	30			Clay	Disturbed; gravel fines
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	
<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

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

Restrictive Layer (if observed): Type: <u>Rock/gravel</u> Depth (inches): <u>4.0</u>	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks:



Soil



W

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/03/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-05
 Investigator(s): JFW Section, Township, Range: S25 T11N R5W
 Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR or MLRA): LRR N, MLRA 220 Lat: 40.300501 Long: -81.066664 Datum: NAD 83
 Soil Map Unit Name: CnD: Coshocton silt loam, 15 to 25 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>12</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-05

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>60</u> x 1 = <u>60.0</u> FACW species <u>50</u> x 2 = <u>100.0</u> FAC species <u>0</u> x 3 = <u>0.0</u> FACU species <u>0</u> x 4 = <u>0.0</u> UPL species <u>0</u> x 5 = <u>0.0</u> Column Totals: <u>110</u> (A) <u>160.0</u> (B) Prevalence Index = B/A = <u>1.5</u>	
50% of total cover: _____		20% of total cover: _____			
Sapling/Shrub Stratum (Plot size: <u>15</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
_____ = Total Cover				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
50% of total cover: _____		20% of total cover: _____			
Herb Stratum (Plot size: <u>5</u>)					
1. <u>Typha angustifolia</u>	<u>40</u>	<u>Yes</u>	<u>OBL</u>		
2. <u>Juncus effusus</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>		
3. <u>Mimulus ringens</u>	<u>10</u>	<u>No</u>	<u>OBL</u>		
4. <u>Onoclea sensibilis</u>	<u>10</u>	<u>No</u>	<u>FACW</u>		
5. <u>Carex lurida</u>	<u>5</u>	<u>No</u>	<u>OBL</u>		
6. <u>Scirpus atrovirens</u>	<u>5</u>	<u>No</u>	<u>OBL</u>		
7. <u>Eupatorium perfoliatum</u>	<u>15</u>	<u>No</u>	<u>FACW</u>		
8. <u>Agrimonia parviflora</u>	<u>5</u>	<u>No</u>	<u>FACW</u>		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
_____ = Total Cover				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.	
50% of total cover: <u>55.0</u>		20% of total cover: <u>22.0</u>			
Woody Vine Stratum (Plot size: <u>30</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
50% of total cover: _____		20% of total cover: _____			
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: Wetland BN-05

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 3/2	90	10YR 5/8	10	Concen	PL	Sandy clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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:



S



W



N



E



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/03/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland BN-05
 Investigator(s): JFW Section, Township, Range: S25 T11N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Flat Slope (%): 4
 Subregion (LRR or MLRA): LRR N, MLRA 220 Lat: 40.300521 Long: -81.066645 Datum: NAD 83
 Soil Map Unit Name: CnD: Coshocton silt loam, 15 to 25 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Upland BN-05

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u>	(A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u>	(B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0</u>	(A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:	
5. _____	_____	_____	_____	Total % Cover of: _____	Multiply by: _____
6. _____	_____	_____	_____	OBL species <u>0</u>	x 1 = <u>0.0</u>
7. _____	_____	_____	_____	FACW species <u>0</u>	x 2 = <u>0.0</u>
_____ = Total Cover				FAC species <u>15</u>	x 3 = <u>45.0</u>
50% of total cover: _____ 20% of total cover: _____				FACU species <u>85</u>	x 4 = <u>340.0</u>
Sapling/Shrub Stratum (Plot size: <u>15</u>)				UPL species <u>5</u>	x 5 = <u>25.0</u>
1. _____	_____	_____	_____	Column Totals: <u>105</u>	(A) <u>410.0</u> (B)
2. _____	_____	_____	_____	Prevalence Index = B/A = <u>3.9</u>	
3. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:	
4. _____	_____	_____	_____	<u>No</u> 1 - Rapid Test for Hydrophytic Vegetation	
5. _____	_____	_____	_____	<u>No</u> 2 - Dominance Test is >50%	
6. _____	_____	_____	_____	<u>No</u> 3 - Prevalence Index is ≤3.0 ¹	
7. _____	_____	_____	_____	<u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
8. _____	_____	_____	_____	<u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)	
9. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
_____ = Total Cover				Definitions of Four Vegetation Strata:	
50% of total cover: _____ 20% of total cover: _____				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Herb Stratum (Plot size: <u>5</u>)				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
1. <u>Poa annua</u>	<u>80</u>	<u>Yes</u>	<u>FACU</u>	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
2. <u>Asclepias syriaca</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	Woody vine – All woody vines greater than 3.28 ft in height.	
3. <u>Verbesina alternifolia</u>	<u>15</u>	<u>No</u>	<u>FAC</u>	Hydrophytic Vegetation Present? Yes _____ No <u>X</u> _____	
4. <u>Daucus carota</u>	<u>5</u>	<u>No</u>	<u>UPL</u>		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
<u>105</u> = Total Cover					
50% of total cover: <u>52.5</u> 20% of total cover: <u>21.0</u>					
Woody Vine Stratum (Plot size: <u>30</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: _____ 20% of total cover: _____					
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: Upland BN-05

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 4	10YR 4/2	100					Silty clay	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Rock
 Depth (inches): 4.0

Hydric Soil Present? Yes No

Remarks:



Soil



N

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/03/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-06
 Investigator(s): JFW Section, Township, Range: S30 T10N R5W
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 3
 Subregion (LRR or MLRA): LRR N, MLRA 220 Lat: 40.294896 Long: -81.068876 Datum: NAD 83
 Soil Map Unit Name: RcB: Richland silt loam, 2 to 6 percent slopes NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland abutting a stream in a cattle pasture.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> FAC-Neutral Test (D5)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-06

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.67</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species <u>25</u> x 1 = <u>25.0</u>
3. _____	_____	_____	_____	FACW species <u>5</u> x 2 = <u>10.0</u>
4. _____	_____	_____	_____	FAC species <u>40</u> x 3 = <u>120.0</u>
5. _____	_____	_____	_____	FACU species <u>40</u> x 4 = <u>160.0</u>
6. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0.0</u>
7. _____	_____	_____	_____	Column Totals: <u>110</u> (A) <u>315.0</u> (B)
8. _____	_____	_____	_____	Prevalence Index = B/A = <u>2.9</u>
9. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:
_____ = Total Cover				<u>No</u> 1 - Rapid Test for Hydrophytic Vegetation
50% of total cover: _____		20% of total cover: _____		<u>Yes</u> 2 - Dominance Test is >50%
Herb Stratum (Plot size: <u>5</u>)				<u>Yes</u> 3 - Prevalence Index is ≤3.0 ¹
1. <u>Acorus calamus</u>	<u>25</u>	<u>Yes</u>	<u>OBL</u>	<u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Juncus effusus</u>	<u>5</u>	<u>No</u>	<u>FACW</u>	<u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Dichanthelium acuminatum</u>	<u>40</u>	<u>Yes</u>	<u>FAC</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. <u>Schedonorus arundinaceus</u>	<u>40</u>	<u>Yes</u>	<u>FACU</u>	Definitions of Four Vegetation Strata:
5. _____	_____	_____	_____	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
6. _____	_____	_____	_____	Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
7. _____	_____	_____	_____	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
8. _____	_____	_____	_____	Woody vine – All woody vines greater than 3.28 ft in height.
9. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>55.0</u>		20% of total cover: <u>22.0</u>		
Woody Vine Stratum (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: Wetland BN-06

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 4/1	75	5YR 3/4	25	Concen	M,PL	Sandy clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
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¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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:



S



N



E



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/03/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland BN-06
 Investigator(s): JFW Section, Township, Range: S30 T10N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Concave Slope (%): 3
 Subregion (LRR or MLRA): LRR N, MLRA 220 Lat: 40.294913 Long: -81.068943 Datum: NAD 83
 Soil Map Unit Name: RcB: Richland silt loam, 2 to 6 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point in a cattle pasture.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Upland BN-06

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0</u> (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet:
50% of total cover: _____ 20% of total cover: _____				Total % Cover of: _____ Multiply by: _____
Sapling/Shrub Stratum (Plot size: <u>15</u>)				OBL species <u>0</u> x 1 = <u>0.0</u>
1. _____	_____	_____	_____	FACW species <u>0</u> x 2 = <u>0.0</u>
2. _____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0.0</u>
3. _____	_____	_____	_____	FACU species <u>95</u> x 4 = <u>380.0</u>
4. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0.0</u>
5. _____	_____	_____	_____	Column Totals: <u>95</u> (A) <u>380.0</u> (B)
6. _____	_____	_____	_____	Prevalence Index = B/A = <u>4.0</u>
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Indicators:
50% of total cover: _____ 20% of total cover: _____				<u>No</u> 1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: <u>5</u>)				<u>No</u> 2 - Dominance Test is >50%
1. <u>Trifolium repens</u>	<u>70</u>	<u>Yes</u>	<u>FACU</u>	<u>No</u> 3 - Prevalence Index is ≤3.0 ¹
2. <u>Schedonorus arundinaceus</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>	<u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
3. <u>Dipsacus fullonum</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	<u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)
4. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>95</u> = Total Cover				Definitions of Four Vegetation Strata:
50% of total cover: <u>47.5</u> 20% of total cover: <u>19.0</u>				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Woody Vine Stratum (Plot size: <u>30</u>)				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
1. _____	_____	_____	_____	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
2. _____	_____	_____	_____	Woody vine – All woody vines greater than 3.28 ft in height.
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: Upland BN-06

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 3	10YR 4/2	100					Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Rock
 Depth (inches): 3.0

Hydric Soil Present? Yes No

Remarks:



Soil



N

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/04/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-07
 Investigator(s): JFW Section, Township, Range: S24 T10N R5W
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 1
 Subregion (LRR or MLRA): LRR N, MLRA 220 Lat: 40.293306 Long: -81.066843 Datum: NAD 83
 Soil Map Unit Name: Or: Orrville silt loam, 0 to 3 percent slopes, occasionally flooded NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland in the floodplain of Standingstone Fork	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-07

	Absolute % Cover	Dominant Species?	Indicator Status																													
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)																												
1. _____	_____	_____	_____																													
2. _____	_____	_____	_____																													
3. _____	_____	_____	_____																													
4. _____	_____	_____	_____																													
5. _____	_____	_____	_____																													
6. _____	_____	_____	_____																													
7. _____	_____	_____	_____																													
_____ = Total Cover																																
50% of total cover: _____ 20% of total cover: _____																																
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;"></td> <td style="width:20%; text-align: center;">Total % Cover of:</td> <td style="width:20%;"></td> <td style="width:20%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 1 =</td> <td style="text-align: center;"><u>0.0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>22</u></td> <td style="text-align: center;">x 2 =</td> <td style="text-align: center;"><u>44.0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>50</u></td> <td style="text-align: center;">x 3 =</td> <td style="text-align: center;"><u>150.0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>30</u></td> <td style="text-align: center;">x 4 =</td> <td style="text-align: center;"><u>120.0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 5 =</td> <td style="text-align: center;"><u>0.0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>102</u></td> <td style="text-align: center;">(A)</td> <td style="text-align: center;"><u>314.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.1</u>		Total % Cover of:		Multiply by:	OBL species	<u>0</u>	x 1 =	<u>0.0</u>	FACW species	<u>22</u>	x 2 =	<u>44.0</u>	FAC species	<u>50</u>	x 3 =	<u>150.0</u>	FACU species	<u>30</u>	x 4 =	<u>120.0</u>	UPL species	<u>0</u>	x 5 =	<u>0.0</u>	Column Totals:	<u>102</u>	(A)	<u>314.0</u> (B)
	Total % Cover of:		Multiply by:																													
OBL species	<u>0</u>	x 1 =	<u>0.0</u>																													
FACW species	<u>22</u>	x 2 =	<u>44.0</u>																													
FAC species	<u>50</u>	x 3 =	<u>150.0</u>																													
FACU species	<u>30</u>	x 4 =	<u>120.0</u>																													
UPL species	<u>0</u>	x 5 =	<u>0.0</u>																													
Column Totals:	<u>102</u>	(A)	<u>314.0</u> (B)																													
1. _____	_____	_____	_____																													
2. _____	_____	_____	_____																													
3. _____	_____	_____	_____																													
4. _____	_____	_____	_____																													
5. _____	_____	_____	_____																													
6. _____	_____	_____	_____																													
7. _____	_____	_____	_____																													
8. _____	_____	_____	_____																													
9. _____	_____	_____	_____																													
_____ = Total Cover																																
50% of total cover: _____ 20% of total cover: _____																																
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: No <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% No <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u>Problematic Hydrophytic Vegetation¹ (Explain)</u> ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																												
1. <u>Trifolium repens</u>	<u>15</u>	<u>No</u>	<u>FACU</u>																													
2. <u>Juncus effusus</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>																													
3. <u>Juncus tenuis</u>	<u>50</u>	<u>Yes</u>	<u>FAC</u>																													
4. <u>Prunella vulgaris</u>	<u>2</u>	<u>No</u>	<u>FACU</u>																													
5. <u>Lotus tenuis</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																													
6. <u>Asclepias syriaca</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																													
7. <u>Solanum carolinense</u>	<u>3</u>	<u>No</u>	<u>FACU</u>																													
8. <u>Lysimachia nummularia</u>	<u>2</u>	<u>No</u>	<u>FACW</u>																													
9. _____	_____	_____	_____																													
10. _____	_____	_____	_____																													
11. _____	_____	_____	_____																													
_____ = Total Cover																																
50% of total cover: <u>51.0</u> 20% of total cover: <u>20.4</u>																																
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.																												
1. _____	_____	_____	_____																													
2. _____	_____	_____	_____																													
3. _____	_____	_____	_____																													
4. _____	_____	_____	_____																													
5. _____	_____	_____	_____																													
_____ = Total Cover																																
50% of total cover: _____ 20% of total cover: _____																																
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____																												

SOIL

Sampling Point: Wetland BN-07

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 4/1	85	5YR 4/6	15	Concen	PL	Clay	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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



N



E



W



S

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/04/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland BN-07
 Investigator(s): JFW Section, Township, Range: S24 T10N R5W
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Flat Slope (%): 2
 Subregion (LRR or MLRA): LRR N, MLRA 220 Lat: 40.293421 Long: -81.066722 Datum: NAD 83
 Soil Map Unit Name: Or: Orrville silt loam, 0 to 3 percent slopes, occasionally flooded NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point in a mowed field.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--	---

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Upland BN-07

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0.0</u> FACW species <u>0</u> x 2 = <u>0.0</u> FAC species <u>0</u> x 3 = <u>0.0</u> FACU species <u>90</u> x 4 = <u>360.0</u> UPL species <u>15</u> x 5 = <u>75.0</u> Column Totals: <u>105</u> (A) <u>435.0</u> (B) Prevalence Index = B/A = <u>4.1</u>	
50% of total cover: _____		20% of total cover: _____			
Sapling/Shrub Stratum (Plot size: <u>15</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
_____ = Total Cover				Hydrophytic Vegetation Indicators: No <u>1</u> - Rapid Test for Hydrophytic Vegetation No <u>2</u> - Dominance Test is >50% No <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
50% of total cover: _____		20% of total cover: _____			
Herb Stratum (Plot size: <u>5</u>)					
1. Lotus tenuis	5	No	FACU		
2. Schedonorus arundinaceus	60	Yes	FACU		
3. Plantago lanceolata	15	No	UPL		
4. Galium aparine	15	No	FACU		
5. Trifolium pratense	10	No	FACU		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
50% of total cover: <u>52.5</u>		20% of total cover: <u>21.0</u>			
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	
50% of total cover: _____		20% of total cover: _____			
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: Upland BN-07

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 4/2	100					Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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



E

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/04/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-08
 Investigator(s): JFW Section, Township, Range: S24 T10N R5W
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 5
 Subregion (LRR or MLRA): LRR N, MLRA 220 Lat: 40.287852 Long: -81.068303 Datum: NAD 83
 Soil Map Unit Name: WmE: Westmoreland-Coshocton complex, 25 to 40 percent slopes NWI classification: PUBG

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland adjacent to pond in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-08

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>80</u></td> <td>x 1 = <u>80.0</u></td> </tr> <tr> <td>FACW species <u>40</u></td> <td>x 2 = <u>80.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>120</u> (A)</td> <td><u>160.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.3</u>	Total % Cover of:	Multiply by:	OBL species <u>80</u>	x 1 = <u>80.0</u>	FACW species <u>40</u>	x 2 = <u>80.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>0</u>	x 4 = <u>0.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>120</u> (A)	<u>160.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>80</u>	x 1 = <u>80.0</u>																	
FACW species <u>40</u>	x 2 = <u>80.0</u>																	
FAC species <u>0</u>	x 3 = <u>0.0</u>																	
FACU species <u>0</u>	x 4 = <u>0.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>120</u> (A)	<u>160.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Leersia oryzoides</u>	<u>50</u>	<u>Yes</u>	<u>OBL</u>															
2. <u>Juncus effusus</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>															
3. <u>Typha angustifolia</u>	<u>20</u>	<u>No</u>	<u>OBL</u>															
4. <u>Impatiens capensis</u>	<u>10</u>	<u>No</u>	<u>FACW</u>															
5. <u>Persicaria sagittata</u>	<u>5</u>	<u>No</u>	<u>OBL</u>															
6. <u>Schoenoplectus tabernaemontani</u>	<u>5</u>	<u>No</u>	<u>OBL</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>120</u> = Total Cover																		
50% of total cover: <u>60.0</u> 20% of total cover: <u>24.0</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____														

SOIL

Sampling Point: Wetland BN-08

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8	10YR 3/1	100					Clay loam	
8 - 18	Gley 1 4/10Y	85	Gley 1 2.5/N	15	Depletic	PL	Clay	
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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:



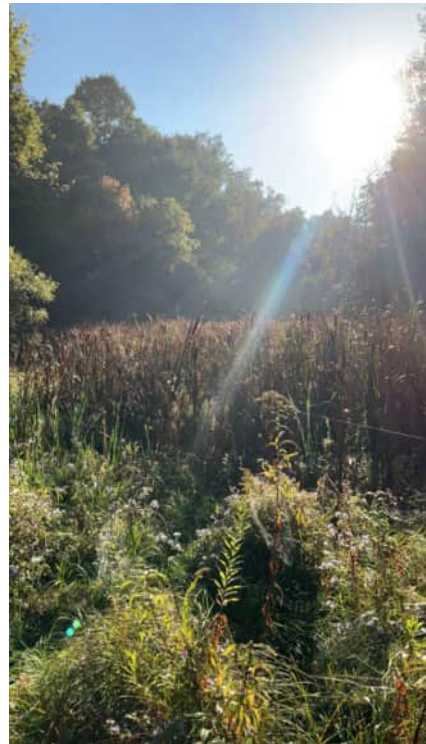
Soil



N



S



E



W

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/04/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland BN-08
 Investigator(s): JFW Section, Township, Range: S24 T10N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Convex Slope (%): 5
 Subregion (LRR or MLRA): LRR N, MLRA 220 Lat: 40.287737 Long: -81.068221 Datum: NAD 83
 Soil Map Unit Name: WmE: Westmoreland-Coshocton complex, 25 to 40 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Upland BN-08

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.25</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0.0</u> FACW species <u>0</u> x 2 = <u>0.0</u> FAC species <u>50</u> x 3 = <u>150.0</u> FACU species <u>60</u> x 4 = <u>240.0</u> UPL species <u>0</u> x 5 = <u>0.0</u> Column Totals: <u>110</u> (A) <u>390.0</u> (B) Prevalence Index = B/A = <u>3.5</u>	
50% of total cover: _____		20% of total cover: _____			
Sapling/Shrub Stratum (Plot size: <u>15</u>)					
1. <u>Rosa multiflora</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
50% of total cover: <u>5.0</u>		20% of total cover: <u>5.0</u>			
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <u>No</u> 1 - Rapid Test for Hydrophytic Vegetation <u>No</u> 2 - Dominance Test is >50% <u>No</u> 3 - Prevalence Index is ≤3.0 ¹ <u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1. <u>Symphyotrichum pilosum</u>	<u>40</u>	<u>Yes</u>	<u>FAC</u>		
2. <u>Solidago canadensis</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>		
3. <u>Rosa multiflora</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>		
4. <u>Achillea millefolium</u>	<u>10</u>	<u>No</u>	<u>FACU</u>		
5. <u>Verbesina alternifolia</u>	<u>10</u>	<u>No</u>	<u>FAC</u>		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
50% of total cover: <u>50.0</u>		20% of total cover: <u>20.0</u>			
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
50% of total cover: _____		20% of total cover: _____			
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	

SOIL

Sampling Point: Upland BN-08

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 5/4	100					Clay	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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



S

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/03/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-09
 Investigator(s): JFW Section, Township, Range: S29 T10N R5W
 Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): Concave Slope (%): 3
 Subregion (LRR or MLRA): LRR N, MLRA 220 Lat: 40.28047 Long: -81.069005 Datum: NAD 83
 Soil Map Unit Name: GuD2: Guernsey silty clay loam, 15 to 25 percent slopes, eroded NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>8</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-09

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>80</u></td> <td>x 1 = <u>80.0</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>105</u> (A)</td> <td><u>140.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.3</u>	Total % Cover of:	Multiply by:	OBL species <u>80</u>	x 1 = <u>80.0</u>	FACW species <u>20</u>	x 2 = <u>40.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>5</u>	x 4 = <u>20.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>105</u> (A)	<u>140.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>80</u>	x 1 = <u>80.0</u>																	
FACW species <u>20</u>	x 2 = <u>40.0</u>																	
FAC species <u>0</u>	x 3 = <u>0.0</u>																	
FACU species <u>5</u>	x 4 = <u>20.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>105</u> (A)	<u>140.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Typha angustifolia</u>	<u>80</u>	<u>Yes</u>	<u>OBL</u>															
2. <u>Epilobium coloratum</u>	<u>10</u>	<u>No</u>	<u>FACW</u>															
3. <u>Eupatorium perfoliatum</u>	<u>10</u>	<u>No</u>	<u>FACW</u>															
4. <u>Solidago canadensis</u>	<u>5</u>	<u>No</u>	<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: <u>52.5</u> 20% of total cover: <u>21.0</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____														

SOIL

Sampling Point: Wetland BN-09

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	5Y 4/1	80	7.5YR 3/4	20	Concen	M,PL	Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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:



N



S



W



E



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/03/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland BN-09
 Investigator(s): JFW Section, Township, Range: S29 T10N R5W
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 4
 Subregion (LRR or MLRA): LRR N, MLRA 220 Lat: 40.280433 Long: -81.068984 Datum: NAD 83
 Soil Map Unit Name: GuD2: Guernsey silty clay loam, 15 to 25 percent slopes, eroded NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
--	--

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--	---

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Upland BN-09

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0</u> (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet:
50% of total cover: _____ 20% of total cover: _____				Total % Cover of: _____ Multiply by: _____
Sapling/Shrub Stratum (Plot size: <u>15</u>)				OBL species <u>0</u> x 1 = <u>0.0</u>
1. _____	_____	_____	_____	FACW species <u>0</u> x 2 = <u>0.0</u>
2. _____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0.0</u>
3. _____	_____	_____	_____	FACU species <u>100</u> x 4 = <u>400.0</u>
4. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0.0</u>
5. _____	_____	_____	_____	Column Totals: <u>100</u> (A) <u>400.0</u> (B)
6. _____	_____	_____	_____	Prevalence Index = B/A = <u>4.0</u>
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Indicators:
50% of total cover: _____ 20% of total cover: _____				<u>No</u> 1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: <u>5</u>)				<u>No</u> 2 - Dominance Test is >50%
1. <u>Solidago canadensis</u>	<u>90</u>	<u>Yes</u>	<u>FACU</u>	<u>No</u> 3 - Prevalence Index is ≤3.0 ¹
2. <u>Schedonorus arundinaceus</u>	<u>10</u>	<u>No</u>	<u>FACU</u>	<u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
3. _____	_____	_____	_____	<u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)
4. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				Definitions of Four Vegetation Strata:
50% of total cover: <u>50.0</u> 20% of total cover: <u>20.0</u>				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Woody Vine Stratum (Plot size: <u>30</u>)				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
1. _____	_____	_____	_____	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
2. _____	_____	_____	_____	Woody vine – All woody vines greater than 3.28 ft in height.
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: Upland BN-09

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8	10YR 4/2	95	10YR 5/8	5	Concen	M	Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Clay
 Depth (inches): 8.0

Hydric Soil Present? Yes X No

Remarks:



Soil



E

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/04/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-10
 Investigator(s): JFW Section, Township, Range: S29 T10N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Concave Slope (%): 8
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.274919 Long: -81.069697 Datum: NAD 83
 Soil Map Unit Name: WnF: Westmoreland-Dekalb complex, 40 to 70 percent slopes NWI classification: PUBG

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland associated with a stream in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>7</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-10

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Leersia oryzoides</u>	<u>60</u>	<u>Yes</u>	<u>OBL</u>	
2. <u>Eupatorium perfoliatum</u>	<u>5</u>	<u>No</u>	<u>FACW</u>	
3. <u>Carex lurida</u>	<u>20</u>	<u>No</u>	<u>OBL</u>	
4. <u>Symphyotrichum prenanthoides</u>	<u>20</u>	<u>No</u>	<u>FAC</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>52.5</u> 20% of total cover: <u>21.0</u>				
Woody Vine Stratum (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No _____ Problematic Hydrophytic Vegetation ¹ (Explain)				
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: Wetland BN-10

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 6	10YR 2/2	90	5YR 4/6	10	Concen	M	Clay loam	
6 - 14	10YR 4/1	70	7.5YR 3/3	30	Concen	M	Clay loam	
14 - 18	5Y 4/1	80	Gley 1 2.5/N	20	Depletic	M	Clay loam	
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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



N



S



E



W

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/04/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland BN-10
 Investigator(s): JFW Section, Township, Range: S29 T10N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Concave Slope (%): 8
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.274867 Long: -81.069642 Datum: NAD 83
 Soil Map Unit Name: WnF: Westmoreland-Dekalb complex, 40 to 70 percent slopes NWI classification: PUBG

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Upland BN-10

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0.0</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20.0</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60.0</u></td> </tr> <tr> <td>FACU species <u>80</u></td> <td>x 4 = <u>320.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>110</u> (A)</td> <td><u>400.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.6</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0.0</u>	FACW species <u>10</u>	x 2 = <u>20.0</u>	FAC species <u>20</u>	x 3 = <u>60.0</u>	FACU species <u>80</u>	x 4 = <u>320.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>110</u> (A)	<u>400.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0.0</u>																	
FACW species <u>10</u>	x 2 = <u>20.0</u>																	
FAC species <u>20</u>	x 3 = <u>60.0</u>																	
FACU species <u>80</u>	x 4 = <u>320.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>110</u> (A)	<u>400.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <u>No</u> 1 - Rapid Test for Hydrophytic Vegetation <u>No</u> 2 - Dominance Test is >50% <u>No</u> 3 - Prevalence Index is ≤3.0 ¹ <u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <i>Verbesina alternifolia</i>	20	No	FAC															
2. <i>Solidago canadensis</i>	30	Yes	FACU															
3. <i>Rubus allegheniensis</i>	50	Yes	FACU															
4. <i>Persicaria pensylvanica</i>	5	No	FACW															
5. <i>Elymus virginicus</i>	5	No	FACW															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: <u>55.0</u> 20% of total cover: <u>22.0</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: Upland BN-10

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 3/3	100					Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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



N

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/04/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-11
 Investigator(s): JFW Section, Township, Range: S28 T10N R5W
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 3
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.26806 Long: -81.069888 Datum: NAD 83
 Soil Map Unit Name: WnE: Westmoreland-Dekalb complex, 25 to 40 percent slopes NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland associated with streams in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>4</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-11

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>85</u></td> <td>x 1 = <u>85.0</u></td> </tr> <tr> <td>FACW species <u>25</u></td> <td>x 2 = <u>50.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>110</u> (A)</td> <td><u>135.0</u> (B)</td> </tr> </table> <p style="text-align:center;">Prevalence Index = B/A = <u>1.2</u></p>	Total % Cover of:	Multiply by:	OBL species <u>85</u>	x 1 = <u>85.0</u>	FACW species <u>25</u>	x 2 = <u>50.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>0</u>	x 4 = <u>0.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>110</u> (A)	<u>135.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>85</u>	x 1 = <u>85.0</u>																	
FACW species <u>25</u>	x 2 = <u>50.0</u>																	
FAC species <u>0</u>	x 3 = <u>0.0</u>																	
FACU species <u>0</u>	x 4 = <u>0.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>110</u> (A)	<u>135.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Onoclea sensibilis</u>	<u>20</u>	<u>No</u>	<u>FACW</u>															
2. <u>Schoenoplectus tabernaemontani</u>	<u>15</u>	<u>No</u>	<u>OBL</u>															
3. <u>Leersia oryzoides</u>	<u>60</u>	<u>Yes</u>	<u>OBL</u>															
4. <u>Scirpus atrovirens</u>	<u>10</u>	<u>No</u>	<u>OBL</u>															
5. <u>Impatiens capensis</u>	<u>5</u>	<u>No</u>	<u>FACW</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>110</u> = Total Cover																		
50% of total cover: <u>55.0</u> 20% of total cover: <u>22.0</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Hydrophytic Vegetation Present? Yes <u>X</u> No _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: Wetland BN-11

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 3	10YR 3/2	70	10YR 4/6	30	Concen	M	Silty clay loam	
3 - 18	Gley 1 4/10Y	100					Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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



N



S



E



W

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/04/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland BN-11
 Investigator(s): JFW Section, Township, Range: S28 T10N R5W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Convex Slope (%): 4
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.268172 Long: -81.069856 Datum: NAD 83
 Soil Map Unit Name: GuD2: Guernsey silty clay loam, 15 to 25 percent slopes, eroded NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Upland BN-11

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.33</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)					Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0.0</u></td> </tr> <tr> <td>FACW species <u>30</u></td> <td>x 2 = <u>60.0</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30.0</u></td> </tr> <tr> <td>FACU species <u>80</u></td> <td>x 4 = <u>320.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>120</u> (A)</td> <td><u>410.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.4</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0.0</u>	FACW species <u>30</u>	x 2 = <u>60.0</u>	FAC species <u>10</u>	x 3 = <u>30.0</u>	FACU species <u>80</u>	x 4 = <u>320.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>120</u> (A)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0.0</u>																	
FACW species <u>30</u>	x 2 = <u>60.0</u>																	
FAC species <u>10</u>	x 3 = <u>30.0</u>																	
FACU species <u>80</u>	x 4 = <u>320.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>120</u> (A)	<u>410.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <u>No</u> 1 - Rapid Test for Hydrophytic Vegetation <u>No</u> 2 - Dominance Test is >50% <u>No</u> 3 - Prevalence Index is ≤3.0 ¹ <u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Agrimonia parviflora</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>															
2. <u>Solidago canadensis</u>	<u>50</u>	<u>Yes</u>	<u>FACU</u>															
3. <u>Symphytotrichum pilosum</u>	<u>10</u>	<u>No</u>	<u>FAC</u>															
4. <u>Schedonorus arundinaceus</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
_____ = Total Cover 50% of total cover: <u>60.0</u> 20% of total cover: <u>24.0</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>														

SOIL

Sampling Point: Upland BN-11

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 3	10YR 4/2	100					Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Rock
 Depth (inches): 3.0

Hydric Soil Present? Yes No

Remarks:



Soil



N

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/04/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-12
 Investigator(s): JFW Section, Township, Range: S28 T10N R5W
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 7
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.2655 Long: -81.069911 Datum: NAD 83
 Soil Map Unit Name: WnE: Westmoreland-Dekalb complex, 25 to 40 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-12

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
_____ = Total Cover				
50% of total cover: _____				20% of total cover: _____
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
_____ = Total Cover				
50% of total cover: _____				20% of total cover: _____
Herb Stratum (Plot size: <u>5</u>)				
1.	<u>Typha angustifolia</u>	<u>70</u>	<u>Yes</u>	<u>OBL</u>
2.	<u>Solidago gigantea</u>	<u>15</u>	<u>No</u>	<u>FACW</u>
3.	<u>Schoenoplectus tabernaemontani</u>	<u>5</u>	<u>No</u>	<u>OBL</u>
4.	<u>Carex tribuloides</u>	<u>20</u>	<u>No</u>	<u>FACW</u>
5.				
6.				
7.				
8.				
9.				
10.				
11.				
_____ = Total Cover				
50% of total cover: <u>55.0</u>				20% of total cover: <u>22.0</u>
Woody Vine Stratum (Plot size: <u>30</u>)				
1.				
2.				
3.				
4.				
5.				
_____ = Total Cover				
50% of total cover: _____				20% of total cover: _____
Remarks: (Include photo numbers here or on a separate sheet.)				

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: 1.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>75</u>	x 1 = <u>75.0</u>
FACW species <u>35</u>	x 2 = <u>70.0</u>
FAC species <u>0</u>	x 3 = <u>0.0</u>
FACU species <u>0</u>	x 4 = <u>0.0</u>
UPL species <u>0</u>	x 5 = <u>0.0</u>
Column Totals: <u>110</u> (A)	<u>145.0</u> (B)

Prevalence Index = B/A = 1.3

Hydrophytic Vegetation Indicators:

Yes 1 - Rapid Test for Hydrophytic Vegetation

Yes 2 - Dominance Test is >50%

Yes 3 - Prevalence Index is ≤3.0¹

No 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

No Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

SOIL

Sampling Point: Wetland BN-12

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 6	10YR 4/2	85	7.5YR 4/6	15	Concen	PL	Sandy clay loam	
6 - 18	Gley 1 4/10Y	100						
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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



N



S



E



W

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/04/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland BN-12
 Investigator(s): JFW Section, Township, Range: S28 T10N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Undulating Slope (%): 5
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.265562 Long: -81.069841 Datum: NAD 83
 Soil Map Unit Name: WnE: Westmoreland-Dekalb complex, 25 to 40 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Upland BN-12

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0.0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>105</u></td> <td>x 4 = <u>420.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>105</u> (A)</td> <td><u>420.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.0</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0.0</u>	FACW species <u>0</u>	x 2 = <u>0.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>105</u>	x 4 = <u>420.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>105</u> (A)	<u>420.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0.0</u>																	
FACW species <u>0</u>	x 2 = <u>0.0</u>																	
FAC species <u>0</u>	x 3 = <u>0.0</u>																	
FACU species <u>105</u>	x 4 = <u>420.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>105</u> (A)	<u>420.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: No <u>1</u> - Rapid Test for Hydrophytic Vegetation No <u>2</u> - Dominance Test is >50% No <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Poa pratensis</u>	<u>60</u>	<u>Yes</u>	<u>FACU</u>															
2. <u>Solidago canadensis</u>	<u>20</u>	<u>No</u>	<u>FACU</u>															
3. <u>Schizachyrium scoparium</u>	<u>15</u>	<u>No</u>	<u>FACU</u>															
4. <u>Tridens flavus</u>	<u>10</u>	<u>No</u>	<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>105</u> = Total Cover																		
50% of total cover: <u>52.5</u> 20% of total cover: <u>21.0</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: Upland BN-12

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 6	10YR 5/4	100					Clay	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Rock
 Depth (inches): 6.0

Hydric Soil Present? Yes No

Remarks:



Soil



N

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/04/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-13
 Investigator(s): JFW Section, Township, Range: S28 T10N R5W
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 6
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.262539 Long: -81.069976 Datum: NAD 83
 Soil Map Unit Name: WnE: Westmoreland-Dekalb complex, 25 to 40 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland associated with a stream in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-13

	Absolute % Cover	Dominant Species?	Indicator Status																																									
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)																																								
1. _____	_____	_____	_____																																									
2. _____	_____	_____	_____																																									
3. _____	_____	_____	_____																																									
4. _____	_____	_____	_____																																									
5. _____	_____	_____	_____																																									
6. _____	_____	_____	_____																																									
7. _____	_____	_____	_____																																									
_____ = Total Cover																																												
50% of total cover: _____ 20% of total cover: _____																																												
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;"></td> <td style="width:10%;">Total % Cover of:</td> <td style="width:10%;"></td> <td style="width:10%;">Multiply by:</td> <td style="width:10%;"></td> </tr> <tr> <td>OBL species</td> <td><u>10</u></td> <td>x 1 =</td> <td><u>10.0</u></td> <td></td> </tr> <tr> <td>FACW species</td> <td><u>95</u></td> <td>x 2 =</td> <td><u>190.0</u></td> <td></td> </tr> <tr> <td>FAC species</td> <td><u>0</u></td> <td>x 3 =</td> <td><u>0.0</u></td> <td></td> </tr> <tr> <td>FACU species</td> <td><u>0</u></td> <td>x 4 =</td> <td><u>0.0</u></td> <td></td> </tr> <tr> <td>UPL species</td> <td><u>0</u></td> <td>x 5 =</td> <td><u>0.0</u></td> <td></td> </tr> <tr> <td>Column Totals:</td> <td><u>105</u></td> <td>(A)</td> <td><u>200.0</u></td> <td>(B)</td> </tr> <tr> <td colspan="5" style="text-align: center;">Prevalence Index = B/A = <u>1.9</u></td> </tr> </table>		Total % Cover of:		Multiply by:		OBL species	<u>10</u>	x 1 =	<u>10.0</u>		FACW species	<u>95</u>	x 2 =	<u>190.0</u>		FAC species	<u>0</u>	x 3 =	<u>0.0</u>		FACU species	<u>0</u>	x 4 =	<u>0.0</u>		UPL species	<u>0</u>	x 5 =	<u>0.0</u>		Column Totals:	<u>105</u>	(A)	<u>200.0</u>	(B)	Prevalence Index = B/A = <u>1.9</u>				
	Total % Cover of:		Multiply by:																																									
OBL species	<u>10</u>	x 1 =	<u>10.0</u>																																									
FACW species	<u>95</u>	x 2 =	<u>190.0</u>																																									
FAC species	<u>0</u>	x 3 =	<u>0.0</u>																																									
FACU species	<u>0</u>	x 4 =	<u>0.0</u>																																									
UPL species	<u>0</u>	x 5 =	<u>0.0</u>																																									
Column Totals:	<u>105</u>	(A)	<u>200.0</u>		(B)																																							
Prevalence Index = B/A = <u>1.9</u>																																												
1. _____	_____	_____	_____																																									
2. _____	_____	_____	_____																																									
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4. _____	_____	_____	_____																																									
5. _____	_____	_____	_____																																									
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7. _____	_____	_____	_____																																									
8. _____	_____	_____	_____																																									
9. _____	_____	_____	_____																																									
_____ = Total Cover																																												
50% of total cover: _____ 20% of total cover: _____																																												
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																																								
1. <u>Solidago gigantea</u>	<u>50</u>	<u>Yes</u>	<u>FACW</u>																																									
2. <u>Carex tribuloides</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>																																									
3. <u>Juncus effusus</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																																									
4. <u>Symphyotrichum novae-angliae</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																																									
5. <u>Persicaria sagittata</u>	<u>10</u>	<u>No</u>	<u>OBL</u>																																									
6. _____	_____	_____	_____																																									
7. _____	_____	_____	_____																																									
8. _____	_____	_____	_____																																									
9. _____	_____	_____	_____																																									
10. _____	_____	_____	_____																																									
11. _____	_____	_____	_____																																									
_____ = Total Cover																																												
50% of total cover: <u>52.5</u> 20% of total cover: <u>21.0</u>																																												
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.																																								
1. _____	_____	_____	_____																																									
2. _____	_____	_____	_____																																									
3. _____	_____	_____	_____																																									
4. _____	_____	_____	_____																																									
5. _____	_____	_____	_____																																									
_____ = Total Cover																																												
50% of total cover: _____ 20% of total cover: _____																																												
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____																																								

SOIL

Sampling Point: Wetland BN-13

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 3/1	85	7.5YR 4/6	15	Concen	M	Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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



N



S



E



W

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/04/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland BN-13
 Investigator(s): JFW Section, Township, Range: S28 T10N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Concave Slope (%): 6
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.262622 Long: -81.070045 Datum: NAD 83
 Soil Map Unit Name: WnE: Westmoreland-Dekalb complex, 25 to 40 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Upland BN-13

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u>	(A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u>	(B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0</u>	(A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:	
5. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____	
6. _____	_____	_____	_____	OBL species <u>10</u>	x 1 = <u>10.0</u>
7. _____	_____	_____	_____	FACW species <u>0</u>	x 2 = <u>0.0</u>
_____ = Total Cover					
50% of total cover: _____ 20% of total cover: _____					
Sapling/Shrub Stratum (Plot size: <u>15</u>)					
1. _____	_____	_____	_____	FAC species <u>5</u>	x 3 = <u>15.0</u>
2. _____	_____	_____	_____	FACU species <u>90</u>	x 4 = <u>360.0</u>
3. _____	_____	_____	_____	UPL species <u>0</u>	x 5 = <u>0.0</u>
4. _____	_____	_____	_____	Column Totals: <u>105</u>	(A) <u>385.0</u> (B)
5. _____	_____	_____	_____	Prevalence Index = B/A = <u>3.7</u>	
6. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:	
7. _____	_____	_____	_____	<u>No</u> 1 - Rapid Test for Hydrophytic Vegetation	
8. _____	_____	_____	_____	<u>No</u> 2 - Dominance Test is >50%	
9. _____	_____	_____	_____	<u>No</u> 3 - Prevalence Index is ≤3.0 ¹	
_____ = Total Cover				<u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
50% of total cover: _____ 20% of total cover: _____				<u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)	
Herb Stratum (Plot size: <u>5</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1. <i>Verbesina alternifolia</i>	5	No	FAC	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.	
2. <i>Solidago canadensis</i>	30	Yes	FACU		
3. <i>Scirpus atrovirens</i>	10	No	OBL		
4. <i>Schedonorus arundinaceus</i>	60	Yes	FACU		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
_____ = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	
50% of total cover: <u>52.5</u> 20% of total cover: <u>21.0</u>					
Woody Vine Stratum (Plot size: <u>30</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: _____ 20% of total cover: _____					
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: Upland BN-13

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 4/2	85	5YR 3/4	15	Concen	M	Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

³Indicators 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 <u>X</u>
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Remarks:



Soil



N

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/05/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-14
 Investigator(s): JFW Section, Township, Range: S27 T10N R5W
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 3
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.244276 Long: -81.070806 Datum: NAD 83
 Soil Map Unit Name: WnE: Westmoreland-Dekalb complex, 25 to 40 percent slopes NWI classification: R5UBH

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland in the floodplain of Brushy Fork in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>24</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-14

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)																
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0.0</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>10</u> (A)</td> <td><u>20.0</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.0</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0.0</u>	FACW species <u>10</u>	x 2 = <u>20.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>0</u>	x 4 = <u>0.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>10</u> (A)	<u>20.0</u> (B)	Prevalence Index = B/A = <u>2.0</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0.0</u>																			
FACW species <u>10</u>	x 2 = <u>20.0</u>																			
FAC species <u>0</u>	x 3 = <u>0.0</u>																			
FACU species <u>0</u>	x 4 = <u>0.0</u>																			
UPL species <u>0</u>	x 5 = <u>0.0</u>																			
Column Totals: <u>10</u> (A)	<u>20.0</u> (B)																			
Prevalence Index = B/A = <u>2.0</u>																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																
1. <u>Phalaris arundinacea</u>	<u>70</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Nasturtium officinale</u>	<u>40</u>	<u>Yes</u>	<u>OBL</u>																	
3. <u>Mentha spicata</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: <u>60.0</u> 20% of total cover: <u>24.0</u>																				
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.																
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____																				
Remarks: (Include photo numbers here or on a separate sheet.)																				

SOIL

Sampling Point: Wetland BN-14

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	Gley 1 3/10Y	100					Silty clay	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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



N



S



E



W

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/05/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland BN-14
 Investigator(s): JFW Section, Township, Range: S27 T10N R5W
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.244275 Long: -81.070805 Datum: NAD 83
 Soil Map Unit Name: WnE: Westmoreland-Dekalb complex, 25 to 40 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Upland BN-14

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0.0</u> FACW species <u>0</u> x 2 = <u>0.0</u> FAC species <u>5</u> x 3 = <u>15.0</u> FACU species <u>70</u> x 4 = <u>280.0</u> UPL species <u>0</u> x 5 = <u>0.0</u> Column Totals: <u>75</u> (A) <u>295.0</u> (B) Prevalence Index = B/A = <u>3.9</u>
50% of total cover: _____		20% of total cover: _____		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Herb Stratum (Plot size: <u>5</u>)				
1. <i>Schedonorus arundinaceus</i>	70	Yes	FACU	
2. <i>Solidago canadensis</i>	20	No	FACU	
3. <i>Rosa multiflora</i>	20	No	FACU	
4. <i>Symphotrichum pilosum</i>	5	No	FAC	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>57.5</u>		20% of total cover: <u>23.0</u>		
Woody Vine Stratum (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Remarks: (Include photo numbers here or on a separate sheet.)				

Hydrophytic Vegetation Indicators:
 No 1 - Rapid Test for Hydrophytic Vegetation
 No 2 - Dominance Test is >50%
 No 3 - Prevalence Index is ≤3.0¹
 No 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 No Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

SOIL

Sampling Point: Upland BN-14

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 3/2	100					Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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



S

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/05/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-15
 Investigator(s): MJA Section, Township, Range: S 26 T 10N R 5W
 Landform (hillslope, terrace, etc.): Gulch or Gully Local relief (concave, convex, none): Concave Slope (%): 5-10
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.238981 Long: -81.071127 Datum: NAD 83
 Soil Map Unit Name: GuD2: Guernsey silty clay loam, 15 to 25 percent slopes, eroded NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland in active cow pasture. Soils disturbance from cows present. Wetland flows into an ephemeral stream which begins approximately 20 feet downslope and north of wetland.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-15

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>110</u></td> <td>x 1 = <u>110.0</u></td> </tr> <tr> <td>FACW species <u>60</u></td> <td>x 2 = <u>120.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>170</u> (A)</td> <td><u>230.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.4</u>	Total % Cover of:	Multiply by:	OBL species <u>110</u>	x 1 = <u>110.0</u>	FACW species <u>60</u>	x 2 = <u>120.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>0</u>	x 4 = <u>0.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>170</u> (A)	<u>230.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>110</u>	x 1 = <u>110.0</u>																	
FACW species <u>60</u>	x 2 = <u>120.0</u>																	
FAC species <u>0</u>	x 3 = <u>0.0</u>																	
FACU species <u>0</u>	x 4 = <u>0.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>170</u> (A)	<u>230.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Leersia oryzoides</u>	<u>50</u>	<u>Yes</u>	<u>OBL</u>															
2. <u>Carex frankii</u>	<u>40</u>	<u>Yes</u>	<u>OBL</u>															
3. <u>Eupatorium perfoliatum</u>	<u>20</u>	<u>No</u>	<u>FACW</u>															
4. <u>Juncus effusus</u>	<u>40</u>	<u>Yes</u>	<u>FACW</u>															
5. <u>Scirpus atrovirens</u>	<u>20</u>	<u>No</u>	<u>OBL</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>170</u> = Total Cover																		
50% of total cover: <u>85.0</u> 20% of total cover: <u>34.0</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____														

SOIL

Sampling Point: Wetland BN-15

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8	10YR 3/2	95	5YR 4/4	5	Concen	PL	Silty loam	
8 - 16	7.5YR 5/4	100					Clay	
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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



N



S



E



W

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/05/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland BN-15
 Investigator(s): MJA Section, Township, Range: S 26 T 10N R 5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Convex Slope (%): 15-20
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.238994 Long: -81.071085 Datum: NAD 83
 Soil Map Unit Name: GuD2: Guernsey silty clay loam, 15 to 25 percent slopes, eroded NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point in active cow pasture.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Upland BN-15

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.33</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0.0</u>
3. _____	_____	_____	_____	FACW species <u>0</u> x 2 = <u>0.0</u>
4. _____	_____	_____	_____	FAC species <u>35</u> x 3 = <u>105.0</u>
5. _____	_____	_____	_____	FACU species <u>110</u> x 4 = <u>440.0</u>
6. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0.0</u>
7. _____	_____	_____	_____	Column Totals: <u>145</u> (A) <u>545.0</u> (B)
8. _____	_____	_____	_____	Prevalence Index = B/A = <u>3.8</u>
9. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:
_____ = Total Cover				<u>No</u> 1 - Rapid Test for Hydrophytic Vegetation
50% of total cover: _____ 20% of total cover: _____				<u>No</u> 2 - Dominance Test is >50%
Herb Stratum (Plot size: <u>5</u>)				<u>No</u> 3 - Prevalence Index is ≤3.0 ¹
1. <i>Solidago canadensis</i>	<u>60</u>	<u>Yes</u>	<u>FACU</u>	<u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <i>Schedonorus arundinaceus</i>	<u>30</u>	<u>Yes</u>	<u>FACU</u>	<u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)
3. <i>Phleum pratense</i>	<u>20</u>	<u>No</u>	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. <i>Symphyotrichum pilosum</i>	<u>35</u>	<u>Yes</u>	<u>FAC</u>	Definitions of Four Vegetation Strata:
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>145</u> = Total Cover				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
50% of total cover: <u>72.5</u> 20% of total cover: <u>29.0</u>				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
Woody Vine Stratum (Plot size: <u>30</u>)				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
1. _____	_____	_____	_____	Woody vine – All woody vines greater than 3.28 ft in height.
2. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: Upland BN-15

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 6	10YR 4/3	100					Silty clay loam	
6 - 8	10YR 4/4	100					Silty clay loam	
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Compacted clay
 Depth (inches): 8.0

Hydric Soil Present? Yes No

Remarks:



Soil



N

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/05/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-16
 Investigator(s): MJA Section, Township, Range: S20 T10N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Concave Slope (%): 1-5
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.231636 Long: -81.068525 Datum: NAD 83
 Soil Map Unit Name: GuE2: Guernsey silty clay loam, 25 to 40 percent slopes, eroded NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland on plateau in maintained powerline easement. Hillside seep influences. Wetland composed of multiple polygons that share same hillside seep hydrology.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-16

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Herb Stratum (Plot size: <u>5</u>)				
1. <i>Typha angustifolia</i>	70	Yes	OBL	
2. <i>Carex lurida</i>	25	Yes	OBL	
3. <i>Eupatorium perfoliatum</i>	15	No	FACW	
4. <i>Onoclea sensibilis</i>	10	No	FACW	
5. <i>Carex vulpinoidea</i>	20	No	OBL	
6. <i>Dipsacus fullonum</i>	15	No	FACU	
7. <i>Solidago gigantea</i>	15	No	FACW	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
170 = Total Cover				
50% of total cover: <u>85.0</u>		20% of total cover: <u>34.0</u>		
Woody Vine Stratum (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
<p>Remarks: (Include photo numbers here or on a separate sheet.)</p>				

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: 1.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>115</u>	x 1 = <u>115.0</u>
FACW species <u>40</u>	x 2 = <u>80.0</u>
FAC species <u>0</u>	x 3 = <u>0.0</u>
FACU species <u>15</u>	x 4 = <u>60.0</u>
UPL species <u>0</u>	x 5 = <u>0.0</u>
Column Totals: <u>170</u> (A)	<u>255.0</u> (B)

Prevalence Index = B/A = 1.5

Hydrophytic Vegetation Indicators:

Yes 1 - Rapid Test for Hydrophytic Vegetation

Yes 2 - Dominance Test is >50%

Yes 3 - Prevalence Index is ≤3.0¹

No 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

No Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

SOIL

Sampling Point: Wetland BN-16

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 6	10YR 4/2	90	7.5YR 4/6	10	Concen	M,PL	Clay loam	
6 - 18	10YR 5/3	90	7.5YR 4/6	10	Concen	PL	Clay	
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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



N



S



E



W

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/05/23
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-17
 Investigator(s): JFW Section, Township, Range: S20 T10N R5W
 Landform (hillslope, terrace, etc.): Bench Local relief (concave, convex, none): Concave Slope (%): 5
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.23099 Long: -81.06760 Datum: NAD 83
 Soil Map Unit Name: GuD2: Guernsey silty clay loam, 15 to 25 percent slopes, eroded NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland associated with a stream in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-17

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>40</u></td> <td>x 1 = <u>40.0</u></td> </tr> <tr> <td>FACW species <u>5</u></td> <td>x 2 = <u>10.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>45</u> (A)</td> <td><u>50.0</u> (B)</td> </tr> </table> <p style="text-align: center;">Prevalence Index = B/A = <u>1.10</u></p>	Total % Cover of:	Multiply by:	OBL species <u>40</u>	x 1 = <u>40.0</u>	FACW species <u>5</u>	x 2 = <u>10.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>0</u>	x 4 = <u>0.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>45</u> (A)	<u>50.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>40</u>	x 1 = <u>40.0</u>																	
FACW species <u>5</u>	x 2 = <u>10.0</u>																	
FAC species <u>0</u>	x 3 = <u>0.0</u>																	
FACU species <u>0</u>	x 4 = <u>0.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>45</u> (A)	<u>50.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Carex lurida</u>	<u>40</u>	<u>Yes</u>	<u>OBL</u>															
2. <u>Scirpus atrovirens</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>															
3. <u>Carex vulpinoidea</u>	<u>10</u>	<u>No</u>	<u>OBL</u>															
4. <u>Juncus effusus</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>															
5. <u>Epilobium ciliatum</u>	<u>10</u>	<u>No</u>	<u>FAC</u>															
6. <u>Typha angustifolia</u>	<u>15</u>	<u>Yes</u>	<u>OBL</u>															
7. <u>Symphotrichum novae-angliae</u>	<u>5</u>	<u>No</u>	<u>FACW</u>															
8. <u>Onoclea sensibilis</u>	<u>5</u>	<u>No</u>	<u>FACW</u>															
9. <u>Solidago gigantea</u>	<u>5</u>	<u>No</u>	<u>FACW</u>															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: <u>63</u> 20% of total cover: <u>25</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____														

SOIL

Sampling Point: Wetland BN-17

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 10	10YR 4/2	90	5YR 4/6	10	Concen	M	Clay loam	
10 - 18	Gley 1 4/10Y	60	Gley 1 2.5/N	30	Reduce	M	Clay	
-			7.5YR 5/6	10	Concen	M		
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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:



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/05/23
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland BN-16,17
 Investigator(s): MJA Section, Township, Range: S20 T10N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Convex Slope (%): 15-20
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.23170 Long: -81.06861 Datum: NAD 83
 Soil Map Unit Name: GuE2: Guernsey silty clay loam, 25 to 40 percent slopes, eroded NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Upland BN-16,17

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet:
50% of total cover: _____		20% of total cover: _____		
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0.0</u> FACW species <u>0</u> x 2 = <u>0.0</u> FAC species <u>0</u> x 3 = <u>0.0</u> FACU species <u>170</u> x 4 = <u>680.0</u> UPL species <u>10</u> x 5 = <u>50.0</u> Column Totals: <u>180</u> (A) <u>730.0</u> (B) Prevalence Index = B/A = <u>4.10</u>
50% of total cover: _____		20% of total cover: _____		
<u>Herb Stratum</u> (Plot size: <u>5</u>)				
1. <u>Dactylis glomerata</u>	<u>30</u>	<u>No</u>	<u>FACU</u>	
2. <u>Schedonorus arundinaceus</u>	<u>60</u>	<u>Yes</u>	<u>FACU</u>	
3. <u>Poa pratensis</u>	<u>55</u>	<u>Yes</u>	<u>FACU</u>	
4. <u>Daucus carota</u>	<u>10</u>	<u>No</u>	<u>UPL</u>	
5. <u>Solidago canadensis</u>	<u>25</u>	<u>No</u>	<u>FACU</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Indicators: <u>No</u> 1 - Rapid Test for Hydrophytic Vegetation <u>No</u> 2 - Dominance Test is >50% <u>No</u> 3 - Prevalence Index is ≤3.0 ¹ <u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: <u>90</u>		20% of total cover: <u>36</u>		
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
50% of total cover: _____		20% of total cover: _____		
1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: Upland BN-16,17

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	10YR 4/2	98	10YR 4/6	2	Concen	M	Silty clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <u> X </u> No _____
---	---

Remarks:



N



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/05/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-18
 Investigator(s): MJA Section, Township, Range: S20 T10N R5W
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 1-3
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.229313 Long: -81.067027 Datum: NAD 83
 Soil Map Unit Name: Me: Melvin silt loam, frequently ponded, 0 to 3 percent slopes NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland in maintained powerline easement. Wetland comprised of multiple hydrologically connected and ecologically similar polygons.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-18

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>40</u> x 1 = <u>40.0</u> FACW species <u>195</u> x 2 = <u>390.0</u> FAC species <u>0</u> x 3 = <u>0.0</u> FACU species <u>0</u> x 4 = <u>0.0</u> UPL species <u>0</u> x 5 = <u>0.0</u> Column Totals: <u>235</u> (A) <u>430.0</u> (B) Prevalence Index = B/A = <u>1.8</u>	
50% of total cover: _____		20% of total cover: _____			
Sapling/Shrub Stratum (Plot size: <u>15</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
_____ = Total Cover				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
50% of total cover: _____		20% of total cover: _____			
Herb Stratum (Plot size: <u>5</u>)					
1. <u>Solidago gigantea</u>	<u>45</u>	<u>Yes</u>	<u>FACW</u>		
2. <u>Phalaris arundinacea</u>	<u>25</u>	<u>No</u>	<u>FACW</u>		
3. <u>Mimulus ringens</u>	<u>10</u>	<u>No</u>	<u>OBL</u>		
4. <u>Scirpus atrovirens</u>	<u>20</u>	<u>No</u>	<u>OBL</u>		
5. <u>Agrimonia parviflora</u>	<u>55</u>	<u>Yes</u>	<u>FACW</u>		
6. <u>Onoclea sensibilis</u>	<u>50</u>	<u>Yes</u>	<u>FACW</u>		
7. <u>Carex vulpinoidea</u>	<u>10</u>	<u>No</u>	<u>OBL</u>		
8. <u>Juncus effusus</u>	<u>20</u>	<u>No</u>	<u>FACW</u>		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
_____ = Total Cover				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.	
50% of total cover: <u>117.5</u>		20% of total cover: <u>47.0</u>			
Woody Vine Stratum (Plot size: <u>30</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
50% of total cover: _____		20% of total cover: _____			
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: Wetland BN-18

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	10YR 4/2	85	2.5YR 3/6	15	Concen	PL	Silty loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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:



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/05/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland BN-18
 Investigator(s): MJA Section, Township, Range: S20 T10N R5W
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Flat Slope (%): 0
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.229095 Long: -81.06702 Datum: NAD 83
 Soil Map Unit Name: Me: Melvin silt loam, frequently ponded, 0 to 3 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Upland BN-18

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0.0</u> FACW species <u>0</u> x 2 = <u>0.0</u> FAC species <u>10</u> x 3 = <u>30.0</u> FACU species <u>110</u> x 4 = <u>440.0</u> UPL species <u>10</u> x 5 = <u>50.0</u> Column Totals: <u>130</u> (A) <u>520.0</u> (B) Prevalence Index = B/A = <u>4.0</u>
50% of total cover: _____		20% of total cover: _____		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Solidago canadensis</u>	<u>80</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Daucus carota</u>	<u>10</u>	<u>No</u>	<u>UPL</u>	
3. <u>Vernonia gigantea</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	
4. <u>Poa pratensis</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>130</u> = Total Cover				
50% of total cover: <u>65.0</u>		20% of total cover: <u>26.0</u>		
Woody Vine Stratum (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Remarks: (Include photo numbers here or on a separate sheet.) 				Hydrophytic Vegetation Indicators: <u>No</u> 1 - Rapid Test for Hydrophytic Vegetation <u>No</u> 2 - Dominance Test is >50% <u>No</u> 3 - Prevalence Index is ≤3.0 ¹ <u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>

SOIL

Sampling Point: Upland BN-18

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	10YR 4/3	100					Silty clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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:



NE



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/05/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-19
 Investigator(s): MJA Section, Township, Range: S19 T10N R5W
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 1-3
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.22136 Long: -81.063537 Datum: NAD 83
 Soil Map Unit Name: FcA: Fitchville silt loam, 0 to 3 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland in maintained powerline easement. Hillside seep influences.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-19

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>20</u></td> <td>x 1 = <u>20.0</u></td> </tr> <tr> <td>FACW species <u>140</u></td> <td>x 2 = <u>280.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>160</u> (A)</td> <td><u>300.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.9</u>	Total % Cover of:	Multiply by:	OBL species <u>20</u>	x 1 = <u>20.0</u>	FACW species <u>140</u>	x 2 = <u>280.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>0</u>	x 4 = <u>0.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>160</u> (A)	<u>300.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>20</u>	x 1 = <u>20.0</u>																	
FACW species <u>140</u>	x 2 = <u>280.0</u>																	
FAC species <u>0</u>	x 3 = <u>0.0</u>																	
FACU species <u>0</u>	x 4 = <u>0.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>160</u> (A)	<u>300.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Epilobium coloratum</u>	<u>50</u>	<u>Yes</u>	<u>FACW</u>															
2. <u>Mentha spicata</u>	<u>55</u>	<u>Yes</u>	<u>FACW</u>															
3. <u>Symphotrichum novae-angliae</u>	<u>20</u>	<u>No</u>	<u>FACW</u>															
4. <u>Eupatorium perfoliatum</u>	<u>15</u>	<u>No</u>	<u>FACW</u>															
5. <u>Scirpus atrovirens</u>	<u>20</u>	<u>No</u>	<u>OBL</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>160</u> = Total Cover																		
50% of total cover: <u>80.0</u> 20% of total cover: <u>32.0</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Hydrophytic Vegetation Present? Yes <u>X</u> No _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: Wetland BN-19

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 5	10YR 3/2	97	7.5YR 4/6	3	Concen	PL	Silt	
5 - 16	10YR 2/1	100					Silty clay loam	Coal parent material
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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



N



E



W



S

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/05/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-20
 Investigator(s): MJA Section, Township, Range: S19 T10N R5W
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Flat Slope (%): 1-2
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.221176 Long: -81.063094 Datum: NAD 83
 Soil Map Unit Name: GuD2: Guernsey silty clay loam, 15 to 25 percent slopes, eroded NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland in maintained powerline easement. Wetland abuts intermittent stream.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-20

	Absolute % Cover	Dominant Species?	Indicator Status																																									
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)																																								
1. _____	_____	_____	_____																																									
2. _____	_____	_____	_____																																									
3. _____	_____	_____	_____																																									
4. _____	_____	_____	_____																																									
5. _____	_____	_____	_____																																									
6. _____	_____	_____	_____																																									
7. _____	_____	_____	_____																																									
_____ = Total Cover																																												
50% of total cover: _____ 20% of total cover: _____																																												
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;"></td> <td style="width:20%;">Total % Cover of:</td> <td style="width:20%;"></td> <td style="width:20%;">Multiply by:</td> <td style="width:20%;"></td> </tr> <tr> <td>OBL species</td> <td><u>10</u></td> <td>x 1 =</td> <td><u>10.0</u></td> <td></td> </tr> <tr> <td>FACW species</td> <td><u>110</u></td> <td>x 2 =</td> <td><u>220.0</u></td> <td></td> </tr> <tr> <td>FAC species</td> <td><u>0</u></td> <td>x 3 =</td> <td><u>0.0</u></td> <td></td> </tr> <tr> <td>FACU species</td> <td><u>0</u></td> <td>x 4 =</td> <td><u>0.0</u></td> <td></td> </tr> <tr> <td>UPL species</td> <td><u>0</u></td> <td>x 5 =</td> <td><u>0.0</u></td> <td></td> </tr> <tr> <td>Column Totals:</td> <td><u>120</u></td> <td>(A)</td> <td><u>230.0</u></td> <td>(B)</td> </tr> <tr> <td colspan="5" style="text-align: center;">Prevalence Index = B/A = <u>1.9</u></td> </tr> </table>		Total % Cover of:		Multiply by:		OBL species	<u>10</u>	x 1 =	<u>10.0</u>		FACW species	<u>110</u>	x 2 =	<u>220.0</u>		FAC species	<u>0</u>	x 3 =	<u>0.0</u>		FACU species	<u>0</u>	x 4 =	<u>0.0</u>		UPL species	<u>0</u>	x 5 =	<u>0.0</u>		Column Totals:	<u>120</u>	(A)	<u>230.0</u>	(B)	Prevalence Index = B/A = <u>1.9</u>				
	Total % Cover of:		Multiply by:																																									
OBL species	<u>10</u>	x 1 =	<u>10.0</u>																																									
FACW species	<u>110</u>	x 2 =	<u>220.0</u>																																									
FAC species	<u>0</u>	x 3 =	<u>0.0</u>																																									
FACU species	<u>0</u>	x 4 =	<u>0.0</u>																																									
UPL species	<u>0</u>	x 5 =	<u>0.0</u>																																									
Column Totals:	<u>120</u>	(A)	<u>230.0</u>		(B)																																							
Prevalence Index = B/A = <u>1.9</u>																																												
1. _____	_____	_____	_____																																									
2. _____	_____	_____	_____																																									
3. _____	_____	_____	_____																																									
4. _____	_____	_____	_____																																									
5. _____	_____	_____	_____																																									
6. _____	_____	_____	_____																																									
7. _____	_____	_____	_____																																									
8. _____	_____	_____	_____																																									
9. _____	_____	_____	_____																																									
_____ = Total Cover																																												
50% of total cover: _____ 20% of total cover: _____																																												
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																																								
1. <u>Phalaris arundinacea</u>	<u>90</u>	<u>Yes</u>	<u>FACW</u>																																									
2. <u>Eupatorium perfoliatum</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																																									
3. <u>Scirpus atrovirens</u>	<u>10</u>	<u>No</u>	<u>OBL</u>																																									
4. <u>Symphyotrichum novae-angliae</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																																									
5. <u>Agrimonia parviflora</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																																									
6. _____	_____	_____	_____																																									
7. _____	_____	_____	_____																																									
8. _____	_____	_____	_____																																									
9. _____	_____	_____	_____																																									
10. _____	_____	_____	_____																																									
11. _____	_____	_____	_____																																									
<u>120</u> = Total Cover																																												
50% of total cover: <u>60.0</u> 20% of total cover: <u>24.0</u>																																												
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.																																								
1. _____	_____	_____	_____																																									
2. _____	_____	_____	_____																																									
3. _____	_____	_____	_____																																									
4. _____	_____	_____	_____																																									
5. _____	_____	_____	_____																																									
_____ = Total Cover																																												
50% of total cover: _____ 20% of total cover: _____																																												
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____																																								

SOIL

Sampling Point: Wetland BN-20

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	10YR 4/2	95	5YR 3/4	5	Concen	PL	Silty clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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



N



E



S



W

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/05/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland BN-19,20
 Investigator(s): MJA Section, Township, Range: S19 T10N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Convex Slope (%): 5-8
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.221388 Long: -81.063481 Datum: NAD 83
 Soil Map Unit Name: FcA: Fitchville silt loam, 0 to 3 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Upland BN-19,20

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0.0</u> FACW species <u>5</u> x 2 = <u>10.0</u> FAC species <u>10</u> x 3 = <u>30.0</u> FACU species <u>95</u> x 4 = <u>380.0</u> UPL species <u>80</u> x 5 = <u>400.0</u> Column Totals: <u>190</u> (A) <u>820.0</u> (B) Prevalence Index = B/A = <u>4.3</u>
50% of total cover: _____ 20% of total cover: _____				
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)				
1. <u>Rubus allegheniensis</u>	<u>50</u>	<u>Yes</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>25.0</u> 20% of total cover: <u>25.0</u>				
<u>Herb Stratum</u> (Plot size: <u>5</u>)				
1. <u>Solidago canadensis</u>	<u>45</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Bromus inermis</u>	<u>80</u>	<u>Yes</u>	<u>UPL</u>	
3. <u>Symphyotrichum novae-angliae</u>	<u>5</u>	<u>No</u>	<u>FACW</u>	
4. <u>Verbesina alternifolia</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>70.0</u> 20% of total cover: <u>28.0</u>				
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

Hydrophytic Vegetation Indicators:
No 1 - Rapid Test for Hydrophytic Vegetation
No 2 - Dominance Test is >50%
No 3 - Prevalence Index is ≤3.0¹
No 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
No Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

SOIL

Sampling Point: Upland BN-19,20

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	10YR 3/2	95	7.5YR 4/6	5	Concen	M,PL	Silty clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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



N

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/05/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-21
 Investigator(s): JFW Section, Township, Range: S19 T10N R5W
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 3
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.217542 Long: -81.061001 Datum: NAD 83
 Soil Map Unit Name: GuE2: Guernsey silty clay loam, 25 to 40 percent slopes, eroded NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-21

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>80</u></td> <td>x 1 = <u>80.0</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>120.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.2</u>	Total % Cover of:	Multiply by:	OBL species <u>80</u>	x 1 = <u>80.0</u>	FACW species <u>20</u>	x 2 = <u>40.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>0</u>	x 4 = <u>0.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>100</u> (A)	<u>120.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>80</u>	x 1 = <u>80.0</u>																	
FACW species <u>20</u>	x 2 = <u>40.0</u>																	
FAC species <u>0</u>	x 3 = <u>0.0</u>																	
FACU species <u>0</u>	x 4 = <u>0.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>100</u> (A)	<u>120.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Typha angustifolia</u>	<u>80</u>	<u>Yes</u>	<u>OBL</u>															
2. <u>Epilobium coloratum</u>	<u>15</u>	<u>No</u>	<u>FACW</u>															
3. <u>Phalaris arundinacea</u>	<u>20</u>	<u>No</u>	<u>FACW</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: <u>57.5</u> 20% of total cover: <u>23.0</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____														

SOIL

Sampling Point: Wetland BN-21

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 12	10YR 4/1	95	10YR 3/6	5	Concen	PL	Clay	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Clay
 Depth (inches): 12.0

Hydric Soil Present? Yes X No

Remarks:



Soil



N



S



E



W

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/05/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland BN-21
 Investigator(s): JFW Section, Township, Range: S19 T10N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Concave Slope (%): 3
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.217547 Long: -81.061027 Datum: NAD 83
 Soil Map Unit Name: GuE2: Guernsey silty clay loam, 25 to 40 percent slopes, eroded NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Upland BN-21

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u>	(A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u>	(B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.5</u>	(A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:	
5. _____	_____	_____	_____	Total % Cover of: _____	Multiply by: _____
6. _____	_____	_____	_____	OBL species <u>0</u>	x 1 = <u>0.0</u>
7. _____	_____	_____	_____	FACW species <u>0</u>	x 2 = <u>0.0</u>
8. _____	_____	_____	_____	FAC species <u>0</u>	x 3 = <u>0.0</u>
9. _____	_____	_____	_____	FACU species <u>60</u>	x 4 = <u>240.0</u>
10. _____	_____	_____	_____	UPL species <u>0</u>	x 5 = <u>0.0</u>
11. _____	_____	_____	_____	Column Totals: <u>60</u>	(A) <u>240.0</u> (B)
_____ = Total Cover				Prevalence Index = B/A = <u>4.0</u>	
50% of total cover: _____ 20% of total cover: _____				Hydrophytic Vegetation Indicators:	
Sapling/Shrub Stratum (Plot size: <u>15</u>)				<u>No</u> 1 - Rapid Test for Hydrophytic Vegetation	
1. _____	_____	_____	_____	<u>No</u> 2 - Dominance Test is >50%	
2. _____	_____	_____	_____	<u>No</u> 3 - Prevalence Index is ≤3.0 ¹	
3. _____	_____	_____	_____	<u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. _____	_____	_____	_____	<u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
6. _____	_____	_____	_____	Definitions of Four Vegetation Strata:	
7. _____	_____	_____	_____	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
8. _____	_____	_____	_____	Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
9. _____	_____	_____	_____	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
10. _____	_____	_____	_____	Woody vine – All woody vines greater than 3.28 ft in height.	
11. _____	_____	_____	_____		
_____ = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	
50% of total cover: _____ 20% of total cover: _____					
Herb Stratum (Plot size: <u>5</u>)					
1. <i>Schedonorus arundinaceus</i>	50	Yes	FACU		
2. <i>Verbesina alternifolia</i>	30	Yes	FAC		
3. <i>Daucus carota</i>	15	No	UPL		
4. <i>Urtica dioica</i>	10	No	FACU		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: <u>52.5</u> 20% of total cover: <u>21.0</u>					
Woody Vine Stratum (Plot size: <u>30</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: _____ 20% of total cover: _____					
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: Upland BN-21

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 10	10YR 4/2	100					Clay	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Clay
 Depth (inches): 10.0

Hydric Soil Present? Yes No

Remarks:



Soil



N

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/05/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-22
 Investigator(s): JFW Section, Township, Range: S19 T10N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Flat Slope (%): 4
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.214355 Long: -81.059612 Datum: NAD 83
 Soil Map Unit Name: GuE2: Guernsey silty clay loam, 25 to 40 percent slopes, eroded NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-22

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)																
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0.0</u></td> </tr> <tr> <td>FACW species <u>5</u></td> <td>x 2 = <u>10.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>5</u> (A)</td> <td><u>10.0</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.0</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0.0</u>	FACW species <u>5</u>	x 2 = <u>10.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>0</u>	x 4 = <u>0.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>5</u> (A)	<u>10.0</u> (B)	Prevalence Index = B/A = <u>2.0</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0.0</u>																			
FACW species <u>5</u>	x 2 = <u>10.0</u>																			
FAC species <u>0</u>	x 3 = <u>0.0</u>																			
FACU species <u>0</u>	x 4 = <u>0.0</u>																			
UPL species <u>0</u>	x 5 = <u>0.0</u>																			
Column Totals: <u>5</u> (A)	<u>10.0</u> (B)																			
Prevalence Index = B/A = <u>2.0</u>																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																
1. <u>Typha angustifolia</u>	<u>70</u>	<u>Yes</u>	<u>OBL</u>																	
2. <u>Solidago gigantea</u>	<u>20</u>	<u>No</u>	<u>FACW</u>																	
3. <u>Scirpus atrovirens</u>	<u>10</u>	<u>No</u>	<u>OBL</u>																	
4. <u>Symphyotrichum novae-angliae</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: <u>52.5</u> 20% of total cover: <u>21.0</u>																				
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.																
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____																				
Remarks: (Include photo numbers here or on a separate sheet.)																				

SOIL

Sampling Point: Wetland BN-22

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8	10YR 4/1	90	7.5YR 4/6	10	Concen	M	Silty clay	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> (MLRA 147, 148)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> (MLRA 136, 147)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	
<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

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

Restrictive Layer (if observed): Type: <u>Clay</u> Depth (inches): <u>8.0</u>	Hydric Soil Present? Yes <u>X</u> No <u> </u>
--	---

Remarks:



Soil



N



S



E



W

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/05/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland BN-22
 Investigator(s): JFW Section, Township, Range: S19 T10N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Flat Slope (%): 4
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.214381 Long: -81.059558 Datum: NAD 83
 Soil Map Unit Name: GuE2: Guernsey silty clay loam, 25 to 40 percent slopes, eroded NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Upland BN-22

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.25</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0.0</u> FACW species <u>0</u> x 2 = <u>0.0</u> FAC species <u>0</u> x 3 = <u>0.0</u> FACU species <u>5</u> x 4 = <u>20.0</u> UPL species <u>0</u> x 5 = <u>0.0</u> Column Totals: <u>5</u> (A) <u>20.0</u> (B) Prevalence Index = B/A = <u>4.0</u>	
50% of total cover: _____		20% of total cover: _____			
Sapling/Shrub Stratum (Plot size: <u>15</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: _____		20% of total cover: _____			
Herb Stratum (Plot size: <u>5</u>)					
1. <u>Galium aparine</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <u>No</u> 1 - Rapid Test for Hydrophytic Vegetation <u>No</u> 2 - Dominance Test is >50% <u>No</u> 3 - Prevalence Index is ≤3.0 ¹ <u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Verbesina alternifolia</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>		
3. <u>Daucus carota</u>	<u>20</u>	<u>Yes</u>	<u>UPL</u>		
4. <u>Vernonia gigantea</u>	<u>5</u>	<u>No</u>	<u>FAC</u>		
5. <u>Solidago canadensis</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>		
6. <u>Dipsacus fullonum</u>	<u>5</u>	<u>No</u>	<u>FACU</u>		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: <u>50.0</u>		20% of total cover: <u>20.0</u>			
Woody Vine Stratum (Plot size: <u>30</u>)					
1. _____	_____	_____	_____	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: _____		20% of total cover: _____			
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	

SOIL

Sampling Point: Upland BN-22

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8	10YR 4/2	100					Clay	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Clay
 Depth (inches): 8.0

Hydric Soil Present? Yes No

Remarks:



Soil



N

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/05/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-23
 Investigator(s): JFW Section, Township, Range: S19 T10N R5W
 Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): Concave Slope (%): 3
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.212092 Long: -81.057241 Datum: NAD 83
 Soil Map Unit Name: Me: Melvin silt loam, frequently ponded, 0 to 3 percent slopes NWI classification: R5UBH

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland associated with a stream and pond in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-23

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0.0</u>
3. _____	_____	_____	_____	FACW species <u>105</u> x 2 = <u>210.0</u>
4. _____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0.0</u>
5. _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0.0</u>
6. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0.0</u>
7. _____	_____	_____	_____	Column Totals: <u>105</u> (A) <u>210.0</u> (B)
8. _____	_____	_____	_____	Prevalence Index = B/A = <u>2.0</u>
9. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Herb Stratum (Plot size: <u>5</u>)				
1. <i>Phalaris arundinacea</i>	100	Yes	FACW	<u>Yes</u> 1 - Rapid Test for Hydrophytic Vegetation
2. <i>Typha angustifolia</i>	5	No	OBL	<u>Yes</u> 2 - Dominance Test is >50%
3. <i>Symphyotrichum novae-angliae</i>	5	No	FACW	<u>Yes</u> 3 - Prevalence Index is ≤3.0 ¹
4. _____	_____	_____	_____	<u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	_____	_____	_____	<u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)
6. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7. _____	_____	_____	_____	Definitions of Four Vegetation Strata:
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
50% of total cover: <u>55.0</u>		20% of total cover: <u>22.0</u>		
Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.				
Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
Woody vine – All woody vines greater than 3.28 ft in height.				
Woody Vine Stratum (Plot size: <u>30</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: Wetland BN-23

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 3	10YR 4/1	90	7.5YR 4/4	10	Concen	PL	Clay loam	
3 - 10	10YR 4/1	85	5YR 4/6	15	Concen	PL	Clay	
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: <u>Rock</u> Depth (inches): <u>10.0</u>	Hydric Soil Present? Yes <u>X</u> No <u> </u>
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Remarks:



Soil



N



S



E



W

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/03/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-24
 Investigator(s): MJA Section, Township, Range: S19 T10N R5W
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 1-3
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.211882 Long: -81.056858 Datum: NAD 83
 Soil Map Unit Name: BnE: Berks-Guernsey complex, 25 to 40 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: PEM wetland at toe of slope adjacent to gravel drive.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-24

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u>	(A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u>	(B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u>	(A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:	
5. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____	
6. _____	_____	_____	_____	OBL species <u>35</u>	x 1 = <u>35.0</u>
7. _____	_____	_____	_____	FACW species <u>75</u>	x 2 = <u>150.0</u>
_____ = Total Cover				FAC species <u>0</u>	x 3 = <u>0.0</u>
50% of total cover: _____ 20% of total cover: _____				FACU species <u>10</u>	x 4 = <u>40.0</u>
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)				UPL species <u>0</u>	x 5 = <u>0.0</u>
1. _____	_____	_____	_____	Column Totals: <u>120</u>	(A) <u>225.0</u> (B)
2. _____	_____	_____	_____	Prevalence Index = B/A = <u>1.9</u>	
3. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:	
4. _____	_____	_____	_____	<u>Yes</u> 1 - Rapid Test for Hydrophytic Vegetation	
5. _____	_____	_____	_____	<u>Yes</u> 2 - Dominance Test is >50%	
6. _____	_____	_____	_____	<u>Yes</u> 3 - Prevalence Index is ≤3.0 ¹	
7. _____	_____	_____	_____	<u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
8. _____	_____	_____	_____	<u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)	
9. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
_____ = Total Cover				Definitions of Four Vegetation Strata:	
50% of total cover: _____ 20% of total cover: _____				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
<u>Herb Stratum</u> (Plot size: <u>5</u>)				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
1. <u>Phalaris arundinacea</u>	<u>70</u>	<u>Yes</u>	<u>FACW</u>	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
2. <u>Typha angustifolia</u>	<u>35</u>	<u>Yes</u>	<u>OBL</u>	Woody vine – All woody vines greater than 3.28 ft in height.	
3. <u>Symphytichum novae-angliae</u>	<u>5</u>	<u>No</u>	<u>FACW</u>	Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
4. <u>Solidago canadensis</u>	<u>10</u>	<u>No</u>	<u>FACU</u>		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____	Remarks: (Include photo numbers here or on a separate sheet.)	
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: <u>60.0</u> 20% of total cover: <u>24.0</u>					
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: _____ 20% of total cover: _____					

SOIL

Sampling Point: Wetland BN-24

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	10YR 4/2	95	5YR 5/6	5	Concen	PL,M	Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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:



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/03/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland BN-23,24
 Investigator(s): MJA Section, Township, Range: S19 T10N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Convex Slope (%): 5-15
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.211872 Long: -81.056809 Datum: NAD 83
 Soil Map Unit Name: BnE: Berks-Guernsey complex, 25 to 40 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Upland BN-23,24

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet:
50% of total cover: _____		20% of total cover: _____		
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)				
1. <u>Rubus allegheniensis</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>5.0</u>		20% of total cover: <u>5.0</u>		
<u>Herb Stratum</u> (Plot size: <u>5</u>)				
1. <u>Solidago canadensis</u>	<u>55</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Verbesina alternifolia</u>	<u>20</u>	<u>No</u>	<u>FAC</u>	
3. <u>Apocynum cannabinum</u>	<u>35</u>	<u>Yes</u>	<u>FACU</u>	
4. <u>Conium maculatum</u>	<u>20</u>	<u>No</u>	<u>FACW</u>	
5. <u>Phalaris arundinacea</u>	<u>20</u>	<u>No</u>	<u>FACW</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>75.0</u>		20% of total cover: <u>30.0</u>		
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Remarks: (Include photo numbers here or on a separate sheet.)				

Hydrophytic Vegetation Indicators:
No 1 - Rapid Test for Hydrophytic Vegetation
No 2 - Dominance Test is >50%
No 3 - Prevalence Index is ≤3.0¹
No 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
No Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:
Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

SOIL

Sampling Point: Upland BN-23,24

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8	10YR 4/2	100					Clay loam	
8 - 16	10YR 4/3	100					Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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:



E



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/03/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-25
 Investigator(s): MJA Section, Township, Range: S18 T9N R5W
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0-3
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.20547 Long: -81.050854 Datum: NAD 83
 Soil Map Unit Name: Or: Orrville silt loam, 0 to 3 percent slopes, occasionally flooded NWI classification: R5UBH

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland in maintained powerline easement. Evidence of beaver activity. Abuts South Fork Brushy Fork (a perennial stream).	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-25

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species <u>30</u> x 1 = <u>30.0</u>
3. _____	_____	_____	_____	FACW species <u>90</u> x 2 = <u>180.0</u>
4. _____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0.0</u>
5. _____	_____	_____	_____	FACU species <u>10</u> x 4 = <u>40.0</u>
6. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0.0</u>
7. _____	_____	_____	_____	Column Totals: <u>130</u> (A) <u>250.0</u> (B)
8. _____	_____	_____	_____	Prevalence Index = B/A = <u>1.9</u>
9. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Herb Stratum (Plot size: <u>5</u>)				
1. <i>Phalaris arundinacea</i>	90	Yes	FACW	<u>Yes</u> 1 - Rapid Test for Hydrophytic Vegetation
2. <i>Typha angustifolia</i>	30	Yes	OBL	<u>Yes</u> 2 - Dominance Test is >50%
3. <i>Dipsacus fullonum</i>	5	No	FACU	<u>Yes</u> 3 - Prevalence Index is ≤3.0 ¹
4. <i>Solidago canadensis</i>	5	No	FACU	<u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	_____	_____	_____	<u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)
6. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>65.0</u>		20% of total cover: <u>26.0</u>		
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata:
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Hydrophytic Vegetation Present?				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
_____ = Total Cover				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: _____		20% of total cover: _____		Woody vine – All woody vines greater than 3.28 ft in height.
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____

SOIL

Sampling Point: Wetland BN-25

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	10YR 4/2	95	5YR 4/6	5	Concen	PL,M		
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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:



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/03/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland BN-25
 Investigator(s): MJA Section, Township, Range: S18 T9N R5W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Flat Slope (%): 3-5
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.205534 Long: -81.050868 Datum: NAD 83
 Soil Map Unit Name: Or: Orrville silt loam, 0 to 3 percent slopes, occasionally flooded NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Upland BN-25

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u>	(A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u>	(B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0</u>	(A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:	
5. _____	_____	_____	_____	Total % Cover of: _____	Multiply by: _____
6. _____	_____	_____	_____	OBL species <u>0</u>	x 1 = <u>0.0</u>
7. _____	_____	_____	_____	FACW species <u>0</u>	x 2 = <u>0.0</u>
_____ = Total Cover				FAC species <u>25</u>	x 3 = <u>75.0</u>
50% of total cover: _____ 20% of total cover: _____				FACU species <u>110</u>	x 4 = <u>440.0</u>
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)				UPL species <u>0</u>	x 5 = <u>0.0</u>
1. <u>Rosa multiflora</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>	Column Totals: <u>135</u>	(A) <u>515.0</u> (B)
2. _____	_____	_____	_____	Prevalence Index = B/A = <u>3.8</u>	
3. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:	
4. _____	_____	_____	_____	<u>No</u> 1 - Rapid Test for Hydrophytic Vegetation	
5. _____	_____	_____	_____	<u>No</u> 2 - Dominance Test is >50%	
6. _____	_____	_____	_____	<u>No</u> 3 - Prevalence Index is ≤3.0 ¹	
7. _____	_____	_____	_____	<u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
8. _____	_____	_____	_____	<u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)	
9. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<u>20</u> = Total Cover				Definitions of Four Vegetation Strata:	
50% of total cover: <u>10.0</u> 20% of total cover: <u>10.0</u>				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
<u>Herb Stratum</u> (Plot size: <u>5</u>)				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
1. <u>Solidago canadensis</u>	<u>70</u>	<u>Yes</u>	<u>FACU</u>	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
2. <u>Dipsacus fullonum</u>	<u>20</u>	<u>No</u>	<u>FACU</u>	Woody vine – All woody vines greater than 3.28 ft in height.	
3. <u>Symphytichum pilosum</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	Hydrophytic Vegetation Present? Yes _____ No <u>X</u> _____	
4. <u>Verbesina alternifolia</u>	<u>15</u>	<u>No</u>	<u>FAC</u>		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
<u>115</u> = Total Cover					
50% of total cover: <u>57.5</u> 20% of total cover: <u>23.0</u>					
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: _____ 20% of total cover: _____					
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: Upland BN-25

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	10YR 4/3	100					Silty loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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:



N



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/03/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-26
 Investigator(s): MJA Section, Township, Range: S18 T9N R5W
 Landform (hillslope, terrace, etc.): Gulch or Gully Local relief (concave, convex, none): Concave Slope (%): 1-3
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.201122 Long: -81.046316 Datum: NAD 83
 Soil Map Unit Name: Mwg6F: Morristown channery silty clay loam, 25 to 70 percent slopes, unreclaimed NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> FAC-Neutral Test (D5)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-26

	Absolute % Cover	Dominant Species?	Indicator Status																													
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.5</u> (A/B)																												
1. _____	_____	_____	_____																													
2. _____	_____	_____	_____																													
3. _____	_____	_____	_____																													
4. _____	_____	_____	_____																													
5. _____	_____	_____	_____																													
6. _____	_____	_____	_____																													
7. _____	_____	_____	_____																													
_____ = Total Cover																																
50% of total cover: _____ 20% of total cover: _____																																
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;"></td> <td style="width:20%; text-align: center;">Total % Cover of:</td> <td style="width:20%;"></td> <td style="width:20%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;"><u>65</u></td> <td>x 1 =</td> <td style="text-align: center;"><u>65.0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>30</u></td> <td>x 2 =</td> <td style="text-align: center;"><u>60.0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>0</u></td> <td>x 3 =</td> <td style="text-align: center;"><u>0.0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>20</u></td> <td>x 4 =</td> <td style="text-align: center;"><u>80.0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td>x 5 =</td> <td style="text-align: center;"><u>0.0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>115</u></td> <td>(A)</td> <td style="text-align: center;"><u>205.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.8</u>		Total % Cover of:		Multiply by:	OBL species	<u>65</u>	x 1 =	<u>65.0</u>	FACW species	<u>30</u>	x 2 =	<u>60.0</u>	FAC species	<u>0</u>	x 3 =	<u>0.0</u>	FACU species	<u>20</u>	x 4 =	<u>80.0</u>	UPL species	<u>0</u>	x 5 =	<u>0.0</u>	Column Totals:	<u>115</u>	(A)	<u>205.0</u> (B)
	Total % Cover of:		Multiply by:																													
OBL species	<u>65</u>	x 1 =	<u>65.0</u>																													
FACW species	<u>30</u>	x 2 =	<u>60.0</u>																													
FAC species	<u>0</u>	x 3 =	<u>0.0</u>																													
FACU species	<u>20</u>	x 4 =	<u>80.0</u>																													
UPL species	<u>0</u>	x 5 =	<u>0.0</u>																													
Column Totals:	<u>115</u>	(A)	<u>205.0</u> (B)																													
1. _____	_____	_____	_____																													
2. _____	_____	_____	_____																													
3. _____	_____	_____	_____																													
4. _____	_____	_____	_____																													
5. _____	_____	_____	_____																													
6. _____	_____	_____	_____																													
7. _____	_____	_____	_____																													
8. _____	_____	_____	_____																													
9. _____	_____	_____	_____																													
_____ = Total Cover																																
50% of total cover: _____ 20% of total cover: _____																																
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <u>No</u> 1 - Rapid Test for Hydrophytic Vegetation <u>No</u> 2 - Dominance Test is >50% <u>Yes</u> 3 - Prevalence Index is ≤3.0 ¹ <u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)																												
1. <u>Scirpus atrovirens</u>	<u>50</u>	<u>Yes</u>	<u>OBL</u>																													
2. <u>Poa pratensis</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>																													
3. <u>Juncus effusus</u>	<u>15</u>	<u>No</u>	<u>FACW</u>																													
4. <u>Typha angustifolia</u>	<u>15</u>	<u>No</u>	<u>OBL</u>																													
5. <u>Mentha arvensis</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																													
6. <u>Eupatorium perfoliatum</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																													
7. _____	_____	_____	_____																													
8. _____	_____	_____	_____																													
9. _____	_____	_____	_____																													
10. _____	_____	_____	_____																													
11. _____	_____	_____	_____																													
_____ = Total Cover																																
50% of total cover: <u>57.5</u> 20% of total cover: <u>23.0</u>																																
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.																												
1. _____	_____	_____	_____																													
2. _____	_____	_____	_____																													
3. _____	_____	_____	_____																													
4. _____	_____	_____	_____																													
5. _____	_____	_____	_____																													
_____ = Total Cover																																
50% of total cover: _____ 20% of total cover: _____																																
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____																												

SOIL

Sampling Point: Wetland BN-26

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	10YR 3/2	70	7.5YR 5/6	10	Concen	PL,M	Silty clay	Silt top 2", silty clay below 2"
0 - 16	Gley 1 2.5/_	20					Silty clay loam	
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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:



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/03/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-27
 Investigator(s): MJA Section, Township, Range: S18 T9N R5W
 Landform (hillslope, terrace, etc.): Gulch or Gully Local relief (concave, convex, none): Concave Slope (%): 1-3
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.200372 Long: -81.045697 Datum: NAD 83
 Soil Map Unit Name: Mwf6F: Morristown channery silty clay loam, 25 to 70 percent slopes, unreclaimed NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland in maintained powerline easement. Wetland flows into an ephemeral stream, which flows west of ROW.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>3</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-27

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>65</u></td> <td>x 1 = <u>65.0</u></td> </tr> <tr> <td>FACW species <u>50</u></td> <td>x 2 = <u>100.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>15</u></td> <td>x 4 = <u>60.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>130</u> (A)</td> <td><u>225.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.7</u>	Total % Cover of:	Multiply by:	OBL species <u>65</u>	x 1 = <u>65.0</u>	FACW species <u>50</u>	x 2 = <u>100.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>15</u>	x 4 = <u>60.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>130</u> (A)	<u>225.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>65</u>	x 1 = <u>65.0</u>																	
FACW species <u>50</u>	x 2 = <u>100.0</u>																	
FAC species <u>0</u>	x 3 = <u>0.0</u>																	
FACU species <u>15</u>	x 4 = <u>60.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>130</u> (A)	<u>225.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Typha angustifolia</u>	<u>25</u>	<u>Yes</u>	<u>OBL</u>															
2. <u>Juncus effusus</u>	<u>45</u>	<u>Yes</u>	<u>FACW</u>															
3. <u>Scirpus atrovirens</u>	<u>20</u>	<u>No</u>	<u>OBL</u>															
4. <u>Carex lurida</u>	<u>15</u>	<u>No</u>	<u>OBL</u>															
5. <u>Eupatorium perfoliatum</u>	<u>5</u>	<u>No</u>	<u>FACW</u>															
6. <u>Carex frankii</u>	<u>5</u>	<u>No</u>	<u>OBL</u>															
7. <u>Schedonorus arundinaceus</u>	<u>15</u>	<u>No</u>	<u>FACU</u>															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>130</u> = Total Cover																		
50% of total cover: <u>65.0</u> 20% of total cover: <u>26.0</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____														

SOIL

Sampling Point: Wetland BN-27

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 3	10YR 3/2	100					Silty loam	
3 - 16	10YR 3/1	90	5YR 4/6	10	Concen	PL	Silty loam	
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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:



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/03/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-28
 Investigator(s): MJA Section, Township, Range: S18 T9N R5W
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 1-3
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.199589 Long: -81.044958 Datum: NAD 83
 Soil Map Unit Name: Mwg6F: Morristown channery silty clay loam, 25 to 70 percent slopes, unreclaimed NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-28

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>40</u> x 1 = <u>40.0</u> FACW species <u>60</u> x 2 = <u>120.0</u> FAC species <u>0</u> x 3 = <u>0.0</u> FACU species <u>10</u> x 4 = <u>40.0</u> UPL species <u>0</u> x 5 = <u>0.0</u> Column Totals: <u>110</u> (A) <u>200.0</u> (B) Prevalence Index = B/A = <u>1.8</u>	
50% of total cover: _____		20% of total cover: _____			
Sapling/Shrub Stratum (Plot size: <u>15</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: _____		20% of total cover: _____			
Herb Stratum (Plot size: <u>5</u>)					
1. <u>Typha angustifolia</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u>Problematic Hydrophytic Vegetation¹ (Explain)</u> ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Eupatorium perfoliatum</u>	<u>10</u>	<u>No</u>	<u>FACW</u>		
3. <u>Scirpus atrovirens</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>		
4. <u>Dipsacus fullonum</u>	<u>10</u>	<u>No</u>	<u>FACU</u>		
5. <u>Scirpus cyperinus</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>		
6. <u>Phalaris arundinacea</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
_____ = Total Cover				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.	
50% of total cover: <u>55.0</u>		20% of total cover: <u>22.0</u>			
Woody Vine Stratum (Plot size: <u>30</u>)					
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: _____		20% of total cover: _____			
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: Wetland BN-28

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	10YR 4/2	95	5YR 4/6	5	Concen	PL	Silty loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <u> X </u> No _____
---	---

Remarks:



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/03/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland BN-26,27,28
 Investigator(s): MJA Section, Township, Range: S18 T9N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Convex Slope (%): 15-20
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.20114 Long: -81.046398 Datum: NAD 83
 Soil Map Unit Name: Mwg6F: Morristown channery silty clay loam, 25 to 70 percent slopes, unreclaimed NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland point situated on steep vegetated slope in powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Upland BN-26,27,28

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0.0</u> FACW species <u>0</u> x 2 = <u>0.0</u> FAC species <u>0</u> x 3 = <u>0.0</u> FACU species <u>100</u> x 4 = <u>400.0</u> UPL species <u>15</u> x 5 = <u>75.0</u> Column Totals: <u>115</u> (A) <u>475.0</u> (B) Prevalence Index = B/A = <u>4.1</u>
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Rubus allegheniensis</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>5.0</u> 20% of total cover: <u>5.0</u>				
<u>Herb Stratum</u> (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Daucus carota</u>	<u>15</u>	<u>No</u>	<u>UPL</u>	
2. <u>Solidago canadensis</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>	
3. <u>Poa pratensis</u>	<u>40</u>	<u>Yes</u>	<u>FACU</u>	
4. <u>Schizachyrium scoparium</u>	<u>20</u>	<u>No</u>	<u>FACU</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>52.5</u> 20% of total cover: <u>21.0</u>				
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.) 				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>

SOIL

Sampling Point: Upland BN-26,27,28

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8	10YR 4/2	100					Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Rock
 Depth (inches): 8.0

Hydric Soil Present? Yes No

Remarks:



N



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/04/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-29
 Investigator(s): MJA Section, Township, Range: S18 T9N R5W
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 0-1
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.198422 Long: -81.043052 Datum: NAD 83
 Soil Map Unit Name: Mwc3D: Morrystown silty clay loam, 8 to 25 percent slopes, reclaimed NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>3</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-29

	Absolute % Cover	Dominant Species?	Indicator Status																																									
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)																																								
1. _____	_____	_____	_____																																									
2. _____	_____	_____	_____																																									
3. _____	_____	_____	_____																																									
4. _____	_____	_____	_____																																									
5. _____	_____	_____	_____																																									
6. _____	_____	_____	_____																																									
7. _____	_____	_____	_____																																									
_____ = Total Cover																																												
50% of total cover: _____ 20% of total cover: _____																																												
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;"></td> <td style="width:10%; text-align: center;">Total % Cover of:</td> <td style="width:10%;"></td> <td style="width:10%; text-align: center;">Multiply by:</td> <td style="width:30%;"></td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;"><u>80</u></td> <td></td> <td style="text-align: center;">x 1 =</td> <td style="text-align: center;"><u>80.0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>25</u></td> <td></td> <td style="text-align: center;">x 2 =</td> <td style="text-align: center;"><u>50.0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>0</u></td> <td></td> <td style="text-align: center;">x 3 =</td> <td style="text-align: center;"><u>0.0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>10</u></td> <td></td> <td style="text-align: center;">x 4 =</td> <td style="text-align: center;"><u>40.0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td></td> <td style="text-align: center;">x 5 =</td> <td style="text-align: center;"><u>0.0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>115</u></td> <td style="text-align: center;">(A)</td> <td></td> <td style="text-align: center;"><u>170.0</u> (B)</td> </tr> <tr> <td colspan="5" style="text-align: center;">Prevalence Index = B/A = <u>1.5</u></td> </tr> </table>		Total % Cover of:		Multiply by:		OBL species	<u>80</u>		x 1 =	<u>80.0</u>	FACW species	<u>25</u>		x 2 =	<u>50.0</u>	FAC species	<u>0</u>		x 3 =	<u>0.0</u>	FACU species	<u>10</u>		x 4 =	<u>40.0</u>	UPL species	<u>0</u>		x 5 =	<u>0.0</u>	Column Totals:	<u>115</u>	(A)		<u>170.0</u> (B)	Prevalence Index = B/A = <u>1.5</u>				
	Total % Cover of:		Multiply by:																																									
OBL species	<u>80</u>		x 1 =		<u>80.0</u>																																							
FACW species	<u>25</u>		x 2 =		<u>50.0</u>																																							
FAC species	<u>0</u>		x 3 =		<u>0.0</u>																																							
FACU species	<u>10</u>		x 4 =		<u>40.0</u>																																							
UPL species	<u>0</u>		x 5 =		<u>0.0</u>																																							
Column Totals:	<u>115</u>	(A)			<u>170.0</u> (B)																																							
Prevalence Index = B/A = <u>1.5</u>																																												
1. _____	_____	_____	_____																																									
2. _____	_____	_____	_____																																									
3. _____	_____	_____	_____																																									
4. _____	_____	_____	_____																																									
5. _____	_____	_____	_____																																									
6. _____	_____	_____	_____																																									
7. _____	_____	_____	_____																																									
8. _____	_____	_____	_____																																									
9. _____	_____	_____	_____																																									
_____ = Total Cover																																												
50% of total cover: _____ 20% of total cover: _____																																												
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																																								
1. <u>Typha angustifolia</u>	<u>80</u>	<u>Yes</u>	<u>OBL</u>																																									
2. <u>Phragmites australis</u>	<u>20</u>	<u>No</u>	<u>FACW</u>																																									
3. <u>Solidago canadensis</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																																									
4. <u>Symphyotrichum novae-angliae</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																																									
5. _____	_____	_____	_____																																									
6. _____	_____	_____	_____																																									
7. _____	_____	_____	_____																																									
8. _____	_____	_____	_____																																									
9. _____	_____	_____	_____																																									
10. _____	_____	_____	_____																																									
11. _____	_____	_____	_____																																									
_____ = Total Cover																																												
50% of total cover: <u>57.5</u> 20% of total cover: <u>23.0</u>																																												
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.																																								
1. _____	_____	_____	_____																																									
2. _____	_____	_____	_____																																									
3. _____	_____	_____	_____																																									
4. _____	_____	_____	_____																																									
5. _____	_____	_____	_____																																									
_____ = Total Cover																																												
50% of total cover: _____ 20% of total cover: _____																																												
Hydrophytic Vegetation Present? Yes <u>X</u> No _____																																												
Remarks: (Include photo numbers here or on a separate sheet.)																																												

SOIL

Sampling Point: Wetland BN-29

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 2	10YR 4/2	100					Silt	
2 - 16	Gley 1 2.5/_	100					Silty clay loam	Coal parent material
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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:



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/04/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-30
 Investigator(s): MJA Section, Township, Range: S18 T9N R5W
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 1-3
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.198162 Long: -81.042558 Datum: NAD 83
 Soil Map Unit Name: Mwc3D: Morrystown silty clay loam, 8 to 25 percent slopes, reclaimed NWI classification: PUBG

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland in maintained powerline easement. Wetland composed of multiple hydrologically connected polygons.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>10</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>6</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-30

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet:
50% of total cover: _____		20% of total cover: _____		
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)				Total % Cover of: _____ Multiply by: _____ OBL species <u>95</u> x 1 = <u>95.0</u> FACW species <u>33</u> x 2 = <u>66.0</u> FAC species <u>0</u> x 3 = <u>0.0</u> FACU species <u>15</u> x 4 = <u>60.0</u> UPL species <u>0</u> x 5 = <u>0.0</u> Column Totals: <u>143</u> (A) <u>221.0</u> (B) Prevalence Index = B/A = <u>1.5</u>
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: _____		20% of total cover: _____		
<u>Herb Stratum</u> (Plot size: <u>5</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. <u>Eupatorium perfoliatum</u>	<u>5</u>	<u>No</u>	<u>FACW</u>	
2. <u>Solidago canadensis</u>	<u>15</u>	<u>No</u>	<u>FACU</u>	
3. <u>Verbena hastata</u>	<u>3</u>	<u>No</u>	<u>FACW</u>	
4. <u>Phalaris arundinacea</u>	<u>25</u>	<u>No</u>	<u>FACW</u>	
5. <u>Carex lurida</u>	<u>50</u>	<u>No</u>	<u>OBL</u>	
6. <u>Schoenoplectus tabernaemontani</u>	<u>30</u>	<u>Yes</u>	<u>OBL</u>	
7. <u>Typha angustifolia</u>	<u>15</u>	<u>Yes</u>	<u>OBL</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>143</u> = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
50% of total cover: <u>71.5</u>		20% of total cover: <u>28.6</u>		
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: Wetland BN-30

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 4	10YR 3/2	80	5YR 4/6	5	Concen	PL,M	Clay loam	
0 - 4	10YR 2/1	15					Clay loam	Coal parent material
4 - 16	10YR 3/2	50	5YR 4/6	10	Concen	PL,M	Clay loam	
4 - 16	10YR 2/1	40					Clay loam	Clay parent material
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators 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:



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/04/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-31
 Investigator(s): MJA Section, Township, Range: S18 T9N R5W
 Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): Concave Slope (%): 1-10
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.197464 Long: -81.041645 Datum: NAD 83
 Soil Map Unit Name: Mwc3D: Morrystown silty clay loam, 8 to 25 percent slopes, reclaimed NWI classification: PUBGx, R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland in maintained powerline easement. Wetland composed of multiple hydrologically connected/ecologically similar polygons.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-31

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet:
50% of total cover: _____ 20% of total cover: _____				Total % Cover of: _____ Multiply by: _____
Sapling/Shrub Stratum (Plot size: <u>15</u>)				OBL species <u>60</u> x 1 = <u>60.0</u>
1. <u>Elaeagnus angustifolia</u>	<u>3</u>	No	FACU	FACW species <u>155</u> x 2 = <u>310.0</u>
2. _____	_____	No	_____	FAC species <u>0</u> x 3 = <u>0.0</u>
3. _____	_____	No	_____	FACU species <u>18</u> x 4 = <u>72.0</u>
4. _____	_____	No	_____	UPL species <u>1</u> x 5 = <u>5.0</u>
5. _____	_____	No	_____	Column Totals: <u>234</u> (A) <u>447.0</u> (B)
6. _____	_____	No	_____	Prevalence Index = B/A = <u>1.9</u>
7. _____	_____	No	_____	
8. _____	_____	No	_____	Hydrophytic Vegetation Indicators:
9. _____	_____	No	_____	<u>Yes</u> 1 - Rapid Test for Hydrophytic Vegetation
_____ = Total Cover				<u>Yes</u> 2 - Dominance Test is >50%
50% of total cover: <u>1.5</u> 20% of total cover: <u>1.5</u>				<u>Yes</u> 3 - Prevalence Index is ≤3.0 ¹
Herb Stratum (Plot size: <u>5</u>)				<u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
1. <u>Typha angustifolia</u>	<u>35</u>	No	OBL	<u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Eupatorium perfoliatum</u>	<u>40</u>	Yes	FACW	
3. <u>Carex lurida</u>	<u>25</u>	No	OBL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. <u>Poa pratensis</u>	<u>15</u>	No	FACU	
5. <u>Phragmites australis</u>	<u>45</u>	Yes	FACW	Definitions of Four Vegetation Strata:
6. <u>Juncus effusus</u>	<u>60</u>	Yes	FACW	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
7. <u>Symphotrichum novae-angliae</u>	<u>10</u>	No	FACW	Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
8. <u>Daucus carota</u>	<u>1</u>	No	UPL	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
9. _____	_____	_____	_____	Woody vine – All woody vines greater than 3.28 ft in height.
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>115.5</u> 20% of total cover: <u>46.2</u>				
Woody Vine Stratum (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: Wetland BN-31

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	Gley 1 3/_	75	7.5YR 4/6	5	Concen	PL	Silty clay loam	
0 - 16	10YR 2/1	20					Silty clay loam	Coal parent material
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <u> X </u> No _____
---	---

Remarks:



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/04/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland BN-29,30,31
 Investigator(s): MJA Section, Township, Range: S18 T9N R5W
 Landform (hillslope, terrace, etc.): Shoulder slope Local relief (concave, convex, none): Convex Slope (%): 10-15
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.19842 Long: -81.043054 Datum: NAD 83
 Soil Map Unit Name: Mwc3D: Morrystown silty clay loam, 8 to 25 percent slopes, reclaimed NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Upland BN-29,30,31

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0.0</u> FACW species <u>0</u> x 2 = <u>0.0</u> FAC species <u>0</u> x 3 = <u>0.0</u> FACU species <u>100</u> x 4 = <u>400.0</u> UPL species <u>15</u> x 5 = <u>75.0</u> Column Totals: <u>115</u> (A) <u>475.0</u> (B) Prevalence Index = B/A = <u>4.1</u>	
50% of total cover: _____		20% of total cover: _____			
Sapling/Shrub Stratum (Plot size: <u>15</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: _____		20% of total cover: _____			
Herb Stratum (Plot size: <u>5</u>)					
1. <u>Solidago canadensis</u>	<u>70</u>	<u>Yes</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <u>No</u> 1 - Rapid Test for Hydrophytic Vegetation <u>No</u> 2 - Dominance Test is >50% <u>No</u> 3 - Prevalence Index is ≤3.0 ¹ <u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Asclepias syriaca</u>	<u>15</u>	<u>No</u>	<u>FACU</u>		
3. <u>Dipsacus fullonum</u>	<u>10</u>	<u>No</u>	<u>FACU</u>		
4. <u>Daucus carota</u>	<u>15</u>	<u>No</u>	<u>UPL</u>		
5. <u>Cirsium arvense</u>	<u>5</u>	<u>No</u>	<u>FACU</u>		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: <u>57.5</u>		20% of total cover: <u>23.0</u>			
Woody Vine Stratum (Plot size: <u>30</u>)					
1. _____	_____	_____	_____	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: _____		20% of total cover: _____			
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	

SOIL

Sampling Point: Upland BN-29.30.31

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 12	10YR 3/2	100					Clay loam	Some gravel
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Rock
 Depth (inches): 12.0

Hydric Soil Present? Yes No

Remarks:



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/04/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-32
 Investigator(s): MJA Section, Township, Range: S17 T9N R5W
 Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): Concave Slope (%): 1-2
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.193919 Long: -81.036365 Datum: NAD 83
 Soil Map Unit Name: Mwc3D: Morrystown silty clay loam, 8 to 25 percent slopes, reclaimed NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland in maintained powerline easement. An intermittent stream flows westward through wetland.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-32

	Absolute % Cover	Dominant Species?	Indicator Status																													
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)																												
1. _____	_____	_____	_____																													
2. _____	_____	_____	_____																													
3. _____	_____	_____	_____																													
4. _____	_____	_____	_____																													
5. _____	_____	_____	_____																													
6. _____	_____	_____	_____																													
7. _____	_____	_____	_____																													
_____ = Total Cover																																
50% of total cover: _____ 20% of total cover: _____																																
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;"></td> <td style="width:20%; text-align: center;">Total % Cover of:</td> <td style="width:20%;"></td> <td style="width:20%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;"><u>80</u></td> <td>x 1 =</td> <td style="text-align: center;"><u>80.0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>85</u></td> <td>x 2 =</td> <td style="text-align: center;"><u>170.0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>15</u></td> <td>x 3 =</td> <td style="text-align: center;"><u>45.0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>0</u></td> <td>x 4 =</td> <td style="text-align: center;"><u>0.0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td>x 5 =</td> <td style="text-align: center;"><u>0.0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>180</u></td> <td>(A)</td> <td style="text-align: center;"><u>295.0</u> (B)</td> </tr> </table> <p style="text-align: center;">Prevalence Index = B/A = <u>1.6</u></p>		Total % Cover of:		Multiply by:	OBL species	<u>80</u>	x 1 =	<u>80.0</u>	FACW species	<u>85</u>	x 2 =	<u>170.0</u>	FAC species	<u>15</u>	x 3 =	<u>45.0</u>	FACU species	<u>0</u>	x 4 =	<u>0.0</u>	UPL species	<u>0</u>	x 5 =	<u>0.0</u>	Column Totals:	<u>180</u>	(A)	<u>295.0</u> (B)
	Total % Cover of:		Multiply by:																													
OBL species	<u>80</u>	x 1 =	<u>80.0</u>																													
FACW species	<u>85</u>	x 2 =	<u>170.0</u>																													
FAC species	<u>15</u>	x 3 =	<u>45.0</u>																													
FACU species	<u>0</u>	x 4 =	<u>0.0</u>																													
UPL species	<u>0</u>	x 5 =	<u>0.0</u>																													
Column Totals:	<u>180</u>	(A)	<u>295.0</u> (B)																													
1. _____	_____	_____	_____																													
2. _____	_____	_____	_____																													
3. _____	_____	_____	_____																													
4. _____	_____	_____	_____																													
5. _____	_____	_____	_____																													
6. _____	_____	_____	_____																													
7. _____	_____	_____	_____																													
8. _____	_____	_____	_____																													
9. _____	_____	_____	_____																													
_____ = Total Cover																																
50% of total cover: _____ 20% of total cover: _____																																
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																												
1. <u>Typha angustifolia</u>	<u>60</u>	Yes	OBL																													
2. <u>Eupatorium perfoliatum</u>	<u>10</u>	No	FACW																													
3. <u>Epilobium coloratum</u>	<u>35</u>	No	FACW																													
4. <u>Salix nigra</u>	<u>20</u>	No	OBL																													
5. <u>Euthamia graminifolia</u>	<u>15</u>	No	FAC																													
6. <u>Juncus effusus</u>	<u>40</u>	Yes	FACW																													
7. _____	_____	_____	_____																													
8. _____	_____	_____	_____																													
9. _____	_____	_____	_____																													
10. _____	_____	_____	_____																													
11. _____	_____	_____	_____																													
<u>180</u> = Total Cover																																
50% of total cover: <u>90.0</u> 20% of total cover: <u>36.0</u>																																
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.																												
1. _____	_____	_____	_____																													
2. _____	_____	_____	_____																													
3. _____	_____	_____	_____																													
4. _____	_____	_____	_____																													
5. _____	_____	_____	_____																													
_____ = Total Cover																																
50% of total cover: _____ 20% of total cover: _____																																
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____																												

SOIL

Sampling Point: Wetland BN-32

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 10	10YR 4/2	90	5YR 4/6	10	Concen	PL	Clay loam	Some gravel
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Rock
 Depth (inches): 10.0

Hydric Soil Present? Yes X No

Remarks:



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/04/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland BN-33
 Investigator(s): MJA Section, Township, Range: S12 T9N R5W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1-3
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.197754 Long: -81.033487 Datum: NAD 83
 Soil Map Unit Name: Mwc3D: Morrystown silty clay loam, 8 to 25 percent slopes, reclaimed NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Palustrine emergent wetland in maintained powerline easement. Abundant old, overgrown tire ruts.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wetland BN-33

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.5</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>90</u></td> <td>x 1 = <u>90.0</u></td> </tr> <tr> <td>FACW species <u>15</u></td> <td>x 2 = <u>30.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>30</u></td> <td>x 4 = <u>120.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>135</u> (A)</td> <td><u>240.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.8</u>	Total % Cover of:	Multiply by:	OBL species <u>90</u>	x 1 = <u>90.0</u>	FACW species <u>15</u>	x 2 = <u>30.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>30</u>	x 4 = <u>120.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>135</u> (A)	<u>240.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>90</u>	x 1 = <u>90.0</u>																	
FACW species <u>15</u>	x 2 = <u>30.0</u>																	
FAC species <u>0</u>	x 3 = <u>0.0</u>																	
FACU species <u>30</u>	x 4 = <u>120.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>135</u> (A)	<u>240.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <u>No</u> 1 - Rapid Test for Hydrophytic Vegetation <u>No</u> 2 - Dominance Test is >50% <u>Yes</u> 3 - Prevalence Index is ≤3.0 ¹ <u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Carex vulpinoidea</u>	<u>55</u>	<u>Yes</u>	<u>OBL</u>															
2. <u>Carex frankii</u>	<u>20</u>	<u>No</u>	<u>OBL</u>															
3. <u>Poa pratensis</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>															
4. <u>Scirpus atrovirens</u>	<u>15</u>	<u>No</u>	<u>OBL</u>															
5. <u>Juncus effusus</u>	<u>15</u>	<u>No</u>	<u>FACW</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: <u>67.5</u> 20% of total cover: <u>27.0</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes <u>X</u> No _____														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: Wetland BN-33

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 6	10YR 4/2	95	5YR 4/6	5	Concen	PL	Clay loam	Some gravel
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Rock and compacted clay
 Depth (inches): 6.0

Hydric Soil Present? Yes X No

Remarks:



Soil



N



E



S



W

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Buckeye Power-Nottingham City/County: Harrison County Sampling Date: 10/04/2023
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland BN-32,33
 Investigator(s): MJA Section, Township, Range: S17 T9N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Convex Slope (%): 5-10
 Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.193867 Long: -81.036382 Datum: NAD 83
 Soil Map Unit Name: Mwc3D: Morrystown silty clay loam, 8 to 25 percent slopes, reclaimed NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point in maintained powerline easement.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
--	--

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--	---

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Upland BN-32,33

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.5</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0.0</u>
3. _____	_____	_____	_____	FACW species <u>0</u> x 2 = <u>0.0</u>
4. _____	_____	_____	_____	FAC species <u>35</u> x 3 = <u>105.0</u>
5. _____	_____	_____	_____	FACU species <u>105</u> x 4 = <u>420.0</u>
6. _____	_____	_____	_____	UPL species <u>10</u> x 5 = <u>50.0</u>
7. _____	_____	_____	_____	Column Totals: <u>150</u> (A) <u>575.0</u> (B)
8. _____	_____	_____	_____	Prevalence Index = B/A = <u>3.8</u>
9. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:
_____ = Total Cover				<u>No</u> 1 - Rapid Test for Hydrophytic Vegetation
50% of total cover: _____		20% of total cover: _____		<u>No</u> 2 - Dominance Test is >50%
Herb Stratum (Plot size: <u>5</u>)				<u>No</u> 3 - Prevalence Index is ≤3.0 ¹
1. Lotus corniculatus	70	Yes	FACU	<u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Solidago canadensis	20	No	FACU	<u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)
3. Symphyotrichum pilosum	35	Yes	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Daucus carota	10	No	UPL	
5. Dactylis glomerata	15	No	FACU	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>75.0</u>		20% of total cover: <u>30.0</u>		
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata:
1. _____	_____	_____	_____	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
2. _____	_____	_____	_____	Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
3. _____	_____	_____	_____	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
4. _____	_____	_____	_____	Woody vine – All woody vines greater than 3.28 ft in height.
5. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: Upland BN-32,33

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 6	10YR 4/2	98	10YR 5/4	2	Concen	M	Clay loam	Abundant gravel
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Rock and hardpan
 Depth (inches): 6.0

Hydric Soil Present? Yes X No

Remarks:



W



Soil

Appendix C
OEPA ORAM Data Forms

Site: Wetland BN-01	Rater(s): JFW	Date: 2023-10-02
----------------------------	----------------------	-------------------------

1.0

1.0

Metric 1. Wetland Area (size).

- max 6 pts. subtotal
- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

8.0

9.0

Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal
- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11.0

20.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- | | | | | | | | | | | | |
|---|---|--------------------------------|---|-------------------------------|--|-------------------------------|---|-------------------------------|-----------------------------------|---|--------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input checked="" type="checkbox"/> Recovered (7) <input type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p style="text-align: center; font-weight: bold;">Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> ditch</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> tile</td> <td style="padding: 2px;"><input type="checkbox"/> filling/grading</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> dike</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> road bed/RR track</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> weir</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> stormwater input</td> <td style="padding: 2px;"><input type="checkbox"/> other _____</td> </tr> </table> | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading | <input type="checkbox"/> dike | <input checked="" type="checkbox"/> road bed/RR track | <input type="checkbox"/> weir | <input type="checkbox"/> dredging | <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | | | | | | | | | | |
| <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading | | | | | | | | | | |
| <input type="checkbox"/> dike | <input checked="" type="checkbox"/> road bed/RR track | | | | | | | | | | |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging | | | | | | | | | | |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ | | | | | | | | | | |

10.0

30.0

Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal
- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- | | | | | | | | | | | | | | |
|--|--|--|--|---|---|--|--|--|-----------------------------------|---|----------------------------------|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input checked="" type="checkbox"/> Recovered (6) <input type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p style="text-align: center; font-weight: bold;">Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input checked="" type="checkbox"/> mowing</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/> grazing</td> <td style="padding: 2px;"><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/> clearcutting</td> <td style="padding: 2px;"><input type="checkbox"/> sedimentation</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> selective cutting</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> woody debris removal</td> <td style="padding: 2px;"><input type="checkbox"/> farming</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> toxic pollutants</td> <td style="padding: 2px;"><input type="checkbox"/> nutrient enrichment</td> </tr> </table> | <input checked="" type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | <input checked="" type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |
| <input checked="" type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | | | | | | | | | | | | |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | | | | | | | | | | | | |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | | | | | | | | | | | | |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment | | | | | | | | | | | | |

30.0

subtotal this page

Site: Wetland BN-01	Rater(s): JFW	Date: 2023-10-02
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30.0

subtotal first page

0.0	30.0
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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-2.0	28.0
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

28.0

GRAND TOTAL (max 100 pts)

Site: Wetland BN-02	Rater(s): JFW	Date: 2023-10-02
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2.0

2.0

Metric 1. Wetland Area (size).

- max 6 pts. subtotal
- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

11.0

13.0

Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal
- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

16.5

29.5

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- | | | | | | | | | | | | |
|---|--|--------------------------------|---|-------------------------------|--|-------------------------------|--|-------------------------------|--|---|--------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input checked="" type="checkbox"/> Recovered (7) <input type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> ditch</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> tile</td> <td style="padding: 2px;"><input type="checkbox"/> filling/grading</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> dike</td> <td style="padding: 2px;"><input type="checkbox"/> road bed/RR track</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> weir</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> stormwater input</td> <td style="padding: 2px;"><input type="checkbox"/> other _____</td> </tr> </table> | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading | <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | <input type="checkbox"/> weir | <input checked="" type="checkbox"/> dredging | <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | | | | | | | | | | |
| <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading | | | | | | | | | | |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | | | | | | | | | | |
| <input type="checkbox"/> weir | <input checked="" type="checkbox"/> dredging | | | | | | | | | | |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ | | | | | | | | | | |

11.0

40.5

Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal
- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- | | | | | | | | | | | | | | |
|--|---|---------------------------------|--|----------------------------------|---|--|--|--|-----------------------------------|---|----------------------------------|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input checked="" type="checkbox"/> Recovered (6) <input type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> mowing</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> grazing</td> <td style="padding: 2px;"><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/> clearcutting</td> <td style="padding: 2px;"><input type="checkbox"/> sedimentation</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> selective cutting</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> woody debris removal</td> <td style="padding: 2px;"><input type="checkbox"/> farming</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> toxic pollutants</td> <td style="padding: 2px;"><input type="checkbox"/> nutrient enrichment</td> </tr> </table> | <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | | | | | | | | | | | | |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | | | | | | | | | | | | |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | | | | | | | | | | | | |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | | | | | | | | | | | | |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment | | | | | | | | | | | | |

40.5

subtotal this page

Site: Wetland BN-02	Rater(s): JFW	Date: 2023-10-02
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40.5

subtotal first page

0.0

40.5

Metric 5. Special Wetlands.

max 10 pts.

subtotal

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-2.0

38.5

Metric 6. Plant communities, interspersions, microtopography.

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 1 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 1 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

38.5

GRAND TOTAL (max 100 pts)

Site: Wetland BN-03	Rater(s): JFW	Date: 2023-10-02
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0.0

0.0

Metric 1. Wetland Area (size).

- max 6 pts. subtotal
- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

11.0

11.0

Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal
- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

10.5

21.5

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.

 - High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

 - >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

 - None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)

3b. Connectivity. Score all that apply.

 - 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

 - Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- Check all disturbances observed

 - ditch
 - tile
 - dike
 - weir
 - stormwater input

- point source (nonstormwater)
 - filling/grading
 - road bed/RR track
 - dredging
 - other _____

7.0

28.5

Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal
- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

 - mowing
 - grazing
 - clearcutting
 - selective cutting
 - woody debris removal
 - toxic pollutants

- shrub/sapling removal
 - herbaceous/aquatic bed removal
 - sedimentation
 - dredging
 - farming
 - nutrient enrichment

28.5

subtotal this page

Site: Wetland BN-03	Rater(s): JFW	Date: 2023-10-02
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28.5

subtotal first page

0.0

28.5

Metric 5. Special Wetlands.

max 10 pts.

subtotal

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

0.0

28.5

Metric 6. Plant communities, interspersions, microtopography.

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

28.5

GRAND TOTAL (max 100 pts)

Site: Wetland BN-04	Rater(s): JFW	Date: 2023-10-03
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2.0

2.0

Metric 1. Wetland Area (size).

- max 6 pts. subtotal
- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

11.0

13.0

Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal
- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12.0

25.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- | | | | | | | | | | | | |
|---|--|--------------------------------|---|-------------------------------|--|-------------------------------|---|-------------------------------|-----------------------------------|---|--------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input checked="" type="checkbox"/> Recovered (7) <input type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> ditch</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> tile</td> <td style="padding: 2px;"><input type="checkbox"/> filling/grading</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> dike</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> road bed/RR track</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> weir</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> stormwater input</td> <td style="padding: 2px;"><input type="checkbox"/> other _____</td> </tr> </table> | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading | <input type="checkbox"/> dike | <input checked="" type="checkbox"/> road bed/RR track | <input type="checkbox"/> weir | <input type="checkbox"/> dredging | <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | | | | | | | | | | |
| <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading | | | | | | | | | | |
| <input type="checkbox"/> dike | <input checked="" type="checkbox"/> road bed/RR track | | | | | | | | | | |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging | | | | | | | | | | |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ | | | | | | | | | | |

12.0

37.0

Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal
- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- | | | | | | | | | | | | | | |
|--|---|---------------------------------|--|----------------------------------|---|---------------------------------------|--|--|--|---|----------------------------------|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input checked="" type="checkbox"/> Recovered (6) <input type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> mowing</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> grazing</td> <td style="padding: 2px;"><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> clearcutting</td> <td style="padding: 2px;"><input type="checkbox"/> sedimentation</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> selective cutting</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> woody debris removal</td> <td style="padding: 2px;"><input type="checkbox"/> farming</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> toxic pollutants</td> <td style="padding: 2px;"><input type="checkbox"/> nutrient enrichment</td> </tr> </table> | <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | <input type="checkbox"/> selective cutting | <input checked="" type="checkbox"/> dredging | <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | | | | | | | | | | | | |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | | | | | | | | | | | | |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | | | | | | | | | | | | |
| <input type="checkbox"/> selective cutting | <input checked="" type="checkbox"/> dredging | | | | | | | | | | | | |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | | | | | | | | | | | | |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment | | | | | | | | | | | | |

37.0

subtotal this page

Site: Wetland BN-04	Rater(s): JFW	Date: 2023-10-03
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37.0

subtotal first page

0.0

37.0

Metric 5. Special Wetlands.

max 10 pts.

subtotal

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

4.0

41.0

Metric 6. Plant communities, interspersions, microtopography.

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 1 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- X Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- X Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 1 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

41.0

GRAND TOTAL (max 100 pts)

Site: Wetland BN-05	Rater(s): JFW	Date: 2023-10-03
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2.0

2.0

Metric 1. Wetland Area (size).

- max 6 pts. subtotal
- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

12.0

14.0

Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal
- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11.5

25.5

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- | | | | | | | | | | | | |
|---|---|--------------------------------|---|-------------------------------|--|-------------------------------|---|-------------------------------|-----------------------------------|---|--------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> None or none apparent (12) <input type="checkbox"/> Recovered (7) <input type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p style="text-align: center; font-weight: bold;">Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> ditch</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> tile</td> <td style="padding: 2px;"><input type="checkbox"/> filling/grading</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> dike</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> road bed/RR track</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> weir</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> stormwater input</td> <td style="padding: 2px;"><input type="checkbox"/> other _____</td> </tr> </table> | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading | <input type="checkbox"/> dike | <input checked="" type="checkbox"/> road bed/RR track | <input type="checkbox"/> weir | <input type="checkbox"/> dredging | <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | | | | | | | | | | |
| <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading | | | | | | | | | | |
| <input type="checkbox"/> dike | <input checked="" type="checkbox"/> road bed/RR track | | | | | | | | | | |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging | | | | | | | | | | |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ | | | | | | | | | | |

10.0

35.5

Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal
- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- | | | | | | | | | | | | | | |
|--|--|---------------------------------|--|----------------------------------|---|--|--|--|-----------------------------------|---|----------------------------------|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input checked="" type="checkbox"/> Recovered (6) <input type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p style="text-align: center; font-weight: bold;">Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> mowing</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> grazing</td> <td style="padding: 2px;"><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/> clearcutting</td> <td style="padding: 2px;"><input type="checkbox"/> sedimentation</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> selective cutting</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> woody debris removal</td> <td style="padding: 2px;"><input type="checkbox"/> farming</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> toxic pollutants</td> <td style="padding: 2px;"><input type="checkbox"/> nutrient enrichment</td> </tr> </table> | <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | | | | | | | | | | | | |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | | | | | | | | | | | | |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | | | | | | | | | | | | |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | | | | | | | | | | | | |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment | | | | | | | | | | | | |

35.5

subtotal this page

Site: Wetland BN-05	Rater(s): JFW	Date: 2023-10-03
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35.5

subtotal first page

0.0	35.5
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-3.0	32.5
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 1 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

32.5

GRAND TOTAL (max 100 pts)

Site: Wetland BN-06	Rater(s): JFW	Date: 2023-10-03
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0.0

0.0

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

1.0

1.0

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

4.5

5.5

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input checked="" type="checkbox"/> other <u>Cattle impact</u>

3.0

8.5

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

8.5

subtotal this page

Site: Wetland BN-06	Rater(s): JFW	Date: 2023-10-03
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8.5

subtotal first page

0.0

8.5

Metric 5. Special Wetlands.

max 10 pts.

subtotal

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2.0

10.5

Metric 6. Plant communities, interspersions, microtopography.

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

10.5

GRAND TOTAL (max 100 pts)

Site: Wetland BN-07	Rater(s): JFW	Date: 2023-10-04
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0.0

0.0

Metric 1. Wetland Area (size).

- max 6 pts. subtotal
- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

6.0

6.0

Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal
- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

5.0

11.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.

 - High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

 - >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

 - None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)

3b. Connectivity. Score all that apply.

 - 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

 - Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- Check all disturbances observed

 - ditch
 - tile
 - dike
 - weir
 - stormwater input

- point source (nonstormwater)
 - filling/grading
 - road bed/RR track
 - dredging
 - other _____

5.0

16.0

Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal
- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

 - mowing
 - grazing
 - clearcutting
 - selective cutting
 - woody debris removal
 - toxic pollutants

- shrub/sapling removal
 - herbaceous/aquatic bed removal
 - sedimentation
 - dredging
 - farming
 - nutrient enrichment

16.0

subtotal this page

Site: Wetland BN-07	Rater(s): JFW	Date: 2023-10-04
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16.0

subtotal first page

0.0

16.0

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2.0

18.0

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

18.0

GRAND TOTAL (max 100 pts)

Site: Wetland BN-08	Rater(s): JFW	Date: 2023-10-04
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2.0

2.0

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

1.0

3.0

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

10.5

13.5

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input checked="" type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

6.0

19.5

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

19.5

subtotal this page

Site: Wetland BN-08	Rater(s): JFW	Date: 2023-10-04
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19.5

subtotal first page

0.0

19.5

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-1.0

18.5

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 1 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

18.5

GRAND TOTAL (max 100 pts)

Site: Wetland BN-09	Rater(s): JFW	Date: 2023-10-03
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2.0

2.0

Metric 1. Wetland Area (size).

- max 6 pts. subtotal
- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

7.0

9.0

Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal
- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

10.5

19.5

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- | | | | | | | | | | | | |
|--|---|--------------------------------|---|-------------------------------|--|-------------------------------|---|-------------------------------|-----------------------------------|--|--------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input checked="" type="checkbox"/> Recovered (7) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> ditch</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> tile</td> <td style="padding: 2px;"><input type="checkbox"/> filling/grading</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> dike</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> road bed/RR track</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> weir</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/> stormwater input</td> <td style="padding: 2px;"><input type="checkbox"/> other _____</td> </tr> </table> | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading | <input type="checkbox"/> dike | <input checked="" type="checkbox"/> road bed/RR track | <input type="checkbox"/> weir | <input type="checkbox"/> dredging | <input checked="" type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | | | | | | | | | | |
| <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading | | | | | | | | | | |
| <input type="checkbox"/> dike | <input checked="" type="checkbox"/> road bed/RR track | | | | | | | | | | |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging | | | | | | | | | | |
| <input checked="" type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ | | | | | | | | | | |

10.0

29.5

Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal
- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- | | | | | | | | | | | | | | |
|--|---|---------------------------------|--|----------------------------------|---|--|--|--|-----------------------------------|---|----------------------------------|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input checked="" type="checkbox"/> Recovered (6) <input type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> mowing</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> grazing</td> <td style="padding: 2px;"><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/> clearcutting</td> <td style="padding: 2px;"><input type="checkbox"/> sedimentation</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> selective cutting</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> woody debris removal</td> <td style="padding: 2px;"><input type="checkbox"/> farming</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> toxic pollutants</td> <td style="padding: 2px;"><input type="checkbox"/> nutrient enrichment</td> </tr> </table> | <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | | | | | | | | | | | | |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | | | | | | | | | | | | |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | | | | | | | | | | | | |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | | | | | | | | | | | | |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment | | | | | | | | | | | | |

29.5

subtotal this page

Site: Wetland BN-09	Rater(s): JFW	Date: 2023-10-03
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29.5

subtotal first page

0.0

29.5

Metric 5. Special Wetlands.

max 10 pts.

subtotal

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-3.0

26.5

Metric 6. Plant communities, interspersions, microtopography.

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 1 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

26.5

GRAND TOTAL (max 100 pts)

Site: Wetland BN-10	Rater(s): JFW	Date: 2023-10-04
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0.0

0.0

Metric 1. Wetland Area (size).

- max 6 pts. subtotal
- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

11.0

11.0

Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal
- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

14.0

25.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.

 - High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

 - >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

 - None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)

3b. Connectivity. Score all that apply.

 - 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

 - Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- Check all disturbances observed

 - ditch
 - tile
 - dike
 - weir
 - stormwater input

- point source (nonstormwater)
 - filling/grading
 - road bed/RR track
 - dredging
 - other _____

7.0

32.0

Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal
- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

 - mowing
 - grazing
 - clearcutting
 - selective cutting
 - woody debris removal
 - toxic pollutants

- shrub/sapling removal
 - herbaceous/aquatic bed removal
 - sedimentation
 - dredging
 - farming
 - nutrient enrichment

32.0

subtotal this page

Site: Wetland BN-10	Rater(s): JFW	Date: 2023-10-04
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32.0

subtotal first page

0.0	32.0
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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

1.0	33.0
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

33.0	GRAND TOTAL (max 100 pts)
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Site: Wetland BN-11	Rater(s): JFW	Date: 2023-10-04
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0.0

0.0

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

11.0

11.0

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

10.0

21.0

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

8.5

29.5

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input checked="" type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

29.5

subtotal this page

Site: Wetland BN-11	Rater(s): JFW	Date: 2023-10-04
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29.5

subtotal first page

0.0

29.5

Metric 5. Special Wetlands.

max 10 pts.

subtotal

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2.0

31.5

Metric 6. Plant communities, interspersions, microtopography.

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

31.5

GRAND TOTAL (max 100 pts)

Site: Wetland BN-12	Rater(s): JFW	Date: 2023-10-04
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1.0

1.0

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

11.0

12.0

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11.0

23.0

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

7.0

30.0

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input checked="" type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

30.0

subtotal this page

Site: Wetland BN-12	Rater(s): JFW	Date: 2023-10-04
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30.0

subtotal first page

0.0	30.0
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-2.0	28.0
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- X None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- X Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

28.0	GRAND TOTAL (max 100 pts)
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Site: Wetland BN-13	Rater(s): JFW	Date: 2023-10-04
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0.0

0.0

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

11.0

11.0

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

10.0

21.0

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

8.0

29.0

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input checked="" type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

29.0

subtotal this page

Site: Wetland BN-13	Rater(s): JFW	Date: 2023-10-04
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29.0

subtotal first page

0.0	29.0
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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2.0	31.0
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

31.0	GRAND TOTAL (max 100 pts)
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Site: Wetland BN-14	Rater(s): JFW	Date: 2023-10-05
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0.0

0.0

Metric 1. Wetland Area (size).

- max 6 pts. subtotal
- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

7.0

7.0

Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal
- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12.0

19.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.

 - High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

 - >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

 - None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)

3b. Connectivity. Score all that apply.

 - 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

 - Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- Check all disturbances observed

 - ditch
 - tile
 - dike
 - weir
 - stormwater input

- point source (nonstormwater)
 - filling/grading
 - road bed/RR track
 - dredging
 - other _____

9.0

28.0

Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal
- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)

Check all disturbances observed

<ul style="list-style-type: none"> <input type="checkbox"/> mowing <input type="checkbox"/> grazing <input checked="" type="checkbox"/> clearcutting <input type="checkbox"/> selective cutting <input type="checkbox"/> woody debris removal <input type="checkbox"/> toxic pollutants 	<ul style="list-style-type: none"> <input type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment
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28.0

subtotal this page

Site: Wetland BN-14	Rater(s): JFW	Date: 2023-10-05
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28.0

subtotal first page

0.0

28.0

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-1.0

27.0

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 1 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

27.0

GRAND TOTAL (max 100 pts)

Site: Wetland BN-15	Rater(s): MJA	Date: 2023-10-05
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0.0

0.0

Metric 1. Wetland Area (size).

- max 6 pts. subtotal
- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

3.0

3.0

Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal
- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

7.0

10.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.

 - High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

 - >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

 - None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)

3b. Connectivity. Score all that apply.

 - 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

 - Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- Check all disturbances observed

 - ditch
 - tile
 - dike
 - weir
 - stormwater input

- point source (nonstormwater)
 - filling/grading
 - road bed/RR track
 - dredging
 - other Cattle disturbance

3.0

13.0

Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal
- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)

- Check all disturbances observed

<ul style="list-style-type: none"> <input type="checkbox"/> mowing <input checked="" type="checkbox"/> grazing <input checked="" type="checkbox"/> clearcutting <input type="checkbox"/> selective cutting <input type="checkbox"/> woody debris removal <input type="checkbox"/> toxic pollutants 	<ul style="list-style-type: none"> <input type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment
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13.0

subtotal this page

Site: Wetland BN-15	Rater(s): MJA	Date: 2023-10-05
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13.0

subtotal first page

0.0

13.0

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

3.0

16.0

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- X None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- X Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 1 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

16.0

GRAND TOTAL (max 100 pts)

Site: Wetland BN-16	Rater(s): MJA	Date: 2023-10-05
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2.0

2.0

Metric 1. Wetland Area (size).

- max 6 pts. subtotal
- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

8.0

10.0

Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal
- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

18.0

28.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- | | | | | | | | | | | | |
|--|--|--------------------------------|---|-------------------------------|---|-------------------------------|--|-------------------------------|-----------------------------------|---|--------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> None or none apparent (12) <input checked="" type="checkbox"/> Recovered (7) <input type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p style="text-align: center; font-weight: bold;">Check all disturbances observed</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;"><input type="checkbox"/> ditch</td> <td style="width: 50%; padding: 2px;"><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> tile</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> filling/grading</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> dike</td> <td style="padding: 2px;"><input type="checkbox"/> road bed/RR track</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> weir</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> stormwater input</td> <td style="padding: 2px;"><input type="checkbox"/> other _____</td> </tr> </table> | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading | <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | <input type="checkbox"/> weir | <input type="checkbox"/> dredging | <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | | | | | | | | | | |
| <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading | | | | | | | | | | |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | | | | | | | | | | |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging | | | | | | | | | | |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ | | | | | | | | | | |

8.5

36.5

Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal
- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- | | | | | | | | | | | | | | |
|--|--|---------------------------------|---|----------------------------------|---|--|--|--|-----------------------------------|---|----------------------------------|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input type="checkbox"/> Recovered (6) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p style="text-align: center; font-weight: bold;">Check all disturbances observed</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;"><input type="checkbox"/> mowing</td> <td style="width: 50%; padding: 2px;"><input checked="" type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> grazing</td> <td style="padding: 2px;"><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/> clearcutting</td> <td style="padding: 2px;"><input type="checkbox"/> sedimentation</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> selective cutting</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> woody debris removal</td> <td style="padding: 2px;"><input type="checkbox"/> farming</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> toxic pollutants</td> <td style="padding: 2px;"><input type="checkbox"/> nutrient enrichment</td> </tr> </table> | <input type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal | <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |
| <input type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal | | | | | | | | | | | | |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | | | | | | | | | | | | |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | | | | | | | | | | | | |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | | | | | | | | | | | | |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment | | | | | | | | | | | | |

36.5

subtotal this page

Site: Wetland BN-16	Rater(s): MJA	Date: 2023-10-05
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36.5

subtotal first page

0.0

36.5

Metric 5. Special Wetlands.

max 10 pts.

subtotal

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-2.0

34.5

Metric 6. Plant communities, interspersions, microtopography.

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

34.5

GRAND TOTAL (max 100 pts)

Site: Wetland BN-17	Rater(s): JFW	Date: 2023-10-05
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0.0

0.0

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

11.0

11.0

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

10.5

21.5

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

10.0

31.5

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input checked="" type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

31.5

subtotal this page

Site: Wetland BN-17	Rater(s): JFW	Date: 2023-10-05
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31.5

subtotal first page

0.0

31.5

Metric 5. Special Wetlands.

max 10 pts.

subtotal

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

0.0

31.5

Metric 6. Plant communities, interspersions, microtopography.

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

31.5

GRAND TOTAL (max 100 pts)

Site: Wetland BN-18	Rater(s): MJA	Date: 2023-10-05
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2.0

2.0

Metric 1. Wetland Area (size).

- max 6 pts. subtotal
- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

11.0

13.0

Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal
- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

14.5

27.5

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- | | | | | | | | | | | | |
|---|--|--------------------------------|---|-------------------------------|---|-------------------------------|--|-------------------------------|-----------------------------------|---|--------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input checked="" type="checkbox"/> Recovered (7) <input type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> ditch</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> tile</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> filling/grading</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> dike</td> <td style="padding: 2px;"><input type="checkbox"/> road bed/RR track</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> weir</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> stormwater input</td> <td style="padding: 2px;"><input type="checkbox"/> other _____</td> </tr> </table> | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading | <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | <input type="checkbox"/> weir | <input type="checkbox"/> dredging | <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | | | | | | | | | | |
| <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading | | | | | | | | | | |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | | | | | | | | | | |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging | | | | | | | | | | |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ | | | | | | | | | | |

10.0

37.5

Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal
- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- | | | | | | | | | | | | | | |
|--|--|---------------------------------|---|----------------------------------|---|--|--|--|-----------------------------------|---|----------------------------------|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input checked="" type="checkbox"/> Recovered (6) <input type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> mowing</td> <td style="width:50%; padding: 2px;"><input checked="" type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> grazing</td> <td style="padding: 2px;"><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/> clearcutting</td> <td style="padding: 2px;"><input type="checkbox"/> sedimentation</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> selective cutting</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> woody debris removal</td> <td style="padding: 2px;"><input type="checkbox"/> farming</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> toxic pollutants</td> <td style="padding: 2px;"><input type="checkbox"/> nutrient enrichment</td> </tr> </table> | <input type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal | <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |
| <input type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal | | | | | | | | | | | | |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | | | | | | | | | | | | |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | | | | | | | | | | | | |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | | | | | | | | | | | | |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment | | | | | | | | | | | | |

37.5

subtotal this page

Site: Wetland BN-18	Rater(s): MJA	Date: 2023-10-05
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37.5

subtotal first page

0.0	37.5
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-1.0	36.5
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 1 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

36.5	GRAND TOTAL (max 100 pts)
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Site: Wetland BN-19	Rater(s): MJA	Date: 2023-10-05
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0.0

0.0

Metric 1. Wetland Area (size).

- max 6 pts. subtotal
- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

8.0

8.0

Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal
- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

15.0

23.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.

 - High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

 - >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

 - None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)

3b. Connectivity. Score all that apply.

 - 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

 - Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- Check all disturbances observed

 - ditch
 - tile
 - dike
 - weir
 - stormwater input

- point source (nonstormwater)
 - filling/grading
 - road bed/RR track
 - dredging
 - other _____

8.0

31.0

Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal
- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

 - mowing
 - grazing
 - clearcutting
 - selective cutting
 - woody debris removal
 - toxic pollutants

- shrub/sapling removal
 - herbaceous/aquatic bed removal
 - sedimentation
 - dredging
 - farming
 - nutrient enrichment

31.0

subtotal this page

Site: Wetland BN-19	Rater(s): MJA	Date: 2023-10-05
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31.0

subtotal first page

0.0	31.0
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

4.0	35.0
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 2 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

35.0

GRAND TOTAL (max 100 pts)

Site: Wetland BN-20	Rater(s): MJA	Date: 2023-10-05
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1.0

1.0

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

8.0

9.0

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

10.5

19.5

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input checked="" type="checkbox"/> other <u>Culverted ATV crossing</u>

7.0

26.5

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input checked="" type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

26.5

subtotal this page

Site: Wetland BN-20	Rater(s): MJA	Date: 2023-10-05
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26.5

subtotal first page

0.0

26.5

Metric 5. Special Wetlands.

max 10 pts.

subtotal

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-4.0

22.5

Metric 6. Plant communities, interspersions, microtopography.

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

22.5

GRAND TOTAL (max 100 pts)

Site: Wetland BN-21	Rater(s): JFW	Date: 2023-10-05
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2.0

2.0

Metric 1. Wetland Area (size).

- max 6 pts. subtotal
- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

11.0

13.0

Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal
- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12.0

25.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.

 - High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

 - >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

 - None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)

3b. Connectivity. Score all that apply.

 - 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

 - Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- Check all disturbances observed

 - ditch
 - tile
 - dike
 - weir
 - stormwater input

- point source (nonstormwater)
 - filling/grading
 - road bed/RR track
 - dredging
 - other _____

8.0

33.0

Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal
- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)

- Check all disturbances observed

<ul style="list-style-type: none"> <input type="checkbox"/> mowing <input type="checkbox"/> grazing <input checked="" type="checkbox"/> clearcutting <input type="checkbox"/> selective cutting <input type="checkbox"/> woody debris removal <input type="checkbox"/> toxic pollutants 	<ul style="list-style-type: none"> <input type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment
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33.0

subtotal this page

Site: Wetland BN-21	Rater(s): JFW	Date: 2023-10-05
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33.0

subtotal first page

0.0	33.0
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-4.0	29.0
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

29.0	GRAND TOTAL (max 100 pts)
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Site: Wetland BN-22	Rater(s): JFW	Date: 2023-10-05
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1.0

1.0

Metric 1. Wetland Area (size).

- max 6 pts. subtotal
- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

7.0

8.0

Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal
- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

10.5

18.5

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- | | | | | | | | | | | | |
|---|---|--------------------------------|---|-------------------------------|---|-------------------------------|--|-------------------------------|-----------------------------------|---|--------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> None or none apparent (12) <input type="checkbox"/> Recovered (7) <input type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p style="text-align: center; font-weight: bold;">Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> ditch</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> tile</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> filling/grading</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> dike</td> <td style="padding: 2px;"><input type="checkbox"/> road bed/RR track</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> weir</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> stormwater input</td> <td style="padding: 2px;"><input type="checkbox"/> other _____</td> </tr> </table> | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading | <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | <input type="checkbox"/> weir | <input type="checkbox"/> dredging | <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | | | | | | | | | | |
| <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading | | | | | | | | | | |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | | | | | | | | | | |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging | | | | | | | | | | |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ | | | | | | | | | | |

7.0

25.5

Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal
- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- | | | | | | | | | | | | | | |
|--|--|---------------------------------|--|----------------------------------|---|--|--|--|-----------------------------------|---|----------------------------------|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input type="checkbox"/> Recovered (6) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p style="text-align: center; font-weight: bold;">Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> mowing</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> grazing</td> <td style="padding: 2px;"><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/> clearcutting</td> <td style="padding: 2px;"><input type="checkbox"/> sedimentation</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> selective cutting</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> woody debris removal</td> <td style="padding: 2px;"><input type="checkbox"/> farming</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> toxic pollutants</td> <td style="padding: 2px;"><input type="checkbox"/> nutrient enrichment</td> </tr> </table> | <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | | | | | | | | | | | | |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | | | | | | | | | | | | |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | | | | | | | | | | | | |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | | | | | | | | | | | | |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment | | | | | | | | | | | | |

25.5

subtotal this page

Site: Wetland BN-22	Rater(s): JFW	Date: 2023-10-05
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25.5

subtotal first page

0.0

25.5

Metric 5. Special Wetlands.

max 10 pts.

subtotal

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-4.0

21.5

Metric 6. Plant communities, interspersions, microtopography.

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

21.5

GRAND TOTAL (max 100 pts)

Site: Wetland BN-23	Rater(s): JFW	Date: 2023-10-05
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2.0

2.0

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

7.0

9.0

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12.0

21.0

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

8.5

29.5

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input checked="" type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

29.5

subtotal this page

Site: Wetland BN-23	Rater(s): JFW	Date: 2023-10-05
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29.5

subtotal first page

0.0

29.5

Metric 5. Special Wetlands.

max 10 pts.

subtotal

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-2.0

27.5

Metric 6. Plant communities, interspersions, microtopography.

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

27.5

GRAND TOTAL (max 100 pts)

Site: Wetland BN-24	Rater(s): MJA	Date: 2023-10-03
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2.0

2.0

Metric 1. Wetland Area (size).

- max 6 pts. subtotal
- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

8.0

10.0

Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal
- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

9.0

19.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- | | | | | | | | | | | | |
|---|---|--------------------------------|---|-------------------------------|--|-------------------------------|---|-------------------------------|-----------------------------------|---|--------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input type="checkbox"/> Recovered (7) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p style="text-align: center; font-weight: bold;">Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> ditch</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> tile</td> <td style="padding: 2px;"><input type="checkbox"/> filling/grading</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> dike</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> road bed/RR track</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> weir</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> stormwater input</td> <td style="padding: 2px;"><input type="checkbox"/> other _____</td> </tr> </table> | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading | <input type="checkbox"/> dike | <input checked="" type="checkbox"/> road bed/RR track | <input type="checkbox"/> weir | <input type="checkbox"/> dredging | <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | | | | | | | | | | |
| <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading | | | | | | | | | | |
| <input type="checkbox"/> dike | <input checked="" type="checkbox"/> road bed/RR track | | | | | | | | | | |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging | | | | | | | | | | |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ | | | | | | | | | | |

7.0

26.0

Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal
- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- | | | | | | | | | | | | | | |
|--|---|--|---|----------------------------------|---|---------------------------------------|--|--|-----------------------------------|---|----------------------------------|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input type="checkbox"/> Recovered (6) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p style="text-align: center; font-weight: bold;">Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input checked="" type="checkbox"/> mowing</td> <td style="width:50%; padding: 2px;"><input checked="" type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> grazing</td> <td style="padding: 2px;"><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> clearcutting</td> <td style="padding: 2px;"><input type="checkbox"/> sedimentation</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> selective cutting</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> woody debris removal</td> <td style="padding: 2px;"><input type="checkbox"/> farming</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> toxic pollutants</td> <td style="padding: 2px;"><input type="checkbox"/> nutrient enrichment</td> </tr> </table> | <input checked="" type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal | <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |
| <input checked="" type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal | | | | | | | | | | | | |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | | | | | | | | | | | | |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | | | | | | | | | | | | |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | | | | | | | | | | | | |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | | | | | | | | | | | | |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment | | | | | | | | | | | | |

26.0

subtotal this page

Site: Wetland BN-24	Rater(s): MJA	Date: 2023-10-03
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26.0

subtotal first page

0.0

26.0

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-2.0

24.0

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

24.0

GRAND TOTAL (max 100 pts)

Site: Wetland BN-25	Rater(s): MJA	Date: 2023-10-03
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3.0

3.0

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

8.0

11.0

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

19.0

30.0

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input checked="" type="checkbox"/> other <u>Local coal mining</u>

8.0

38.0

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

38.0

subtotal this page

Site: Wetland BN-25	Rater(s): MJA	Date: 2023-10-03
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38.0

subtotal first page

0.0	38.0
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max 10 pts.

subtotal

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

1.0	39.0
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 1 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 1 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 2 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

39.0	GRAND TOTAL (max 100 pts)
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Site: Wetland BN-26	Rater(s): MJA	Date: 2023-10-03
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1.0

1.0

Metric 1. Wetland Area (size).

- max 6 pts. subtotal
- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

4.0

5.0

Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal
- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

9.5

14.5

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- | | | | | | | | | | | | |
|---|--|--------------------------------|---|-------------------------------|--|-------------------------------|--|-------------------------------|-----------------------------------|---|---|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input type="checkbox"/> Recovered (7) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> ditch</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> tile</td> <td style="padding: 2px;"><input type="checkbox"/> filling/grading</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> dike</td> <td style="padding: 2px;"><input type="checkbox"/> road bed/RR track</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> weir</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> stormwater input</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> other Local coal mining</td> </tr> </table> | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading | <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | <input type="checkbox"/> weir | <input type="checkbox"/> dredging | <input type="checkbox"/> stormwater input | <input checked="" type="checkbox"/> other Local coal mining |
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | | | | | | | | | | |
| <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading | | | | | | | | | | |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | | | | | | | | | | |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging | | | | | | | | | | |
| <input type="checkbox"/> stormwater input | <input checked="" type="checkbox"/> other Local coal mining | | | | | | | | | | |

6.0

20.5

Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal
- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- | | | | | | | | | | | | | | |
|--|---|---------------------------------|---|----------------------------------|---|---------------------------------------|--|--|-----------------------------------|---|----------------------------------|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input type="checkbox"/> Recovered (6) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> mowing</td> <td style="width:50%; padding: 2px;"><input checked="" type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> grazing</td> <td style="padding: 2px;"><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> clearcutting</td> <td style="padding: 2px;"><input type="checkbox"/> sedimentation</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> selective cutting</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> woody debris removal</td> <td style="padding: 2px;"><input type="checkbox"/> farming</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> toxic pollutants</td> <td style="padding: 2px;"><input type="checkbox"/> nutrient enrichment</td> </tr> </table> | <input type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal | <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |
| <input type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal | | | | | | | | | | | | |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | | | | | | | | | | | | |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | | | | | | | | | | | | |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | | | | | | | | | | | | |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | | | | | | | | | | | | |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment | | | | | | | | | | | | |

20.5

subtotal this page

Site: Wetland BN-26	Rater(s): MJA	Date: 2023-10-03
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20.5

subtotal first page

0.0

20.5

max 10 pts.

subtotal

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

0.0

20.5

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

20.5

GRAND TOTAL (max 100 pts)

Site: Wetland BN-27	Rater(s): MJA	Date: 2023-10-03
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0.0

0.0

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

4.0

4.0

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

6.0

10.0

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed

<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input checked="" type="checkbox"/> other Local coal mining

6.0

16.0

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed

<input checked="" type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

16.0

subtotal this page

Site: Wetland BN-27	Rater(s): MJA	Date: 2023-10-03
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16.0

subtotal first page

0.0

16.0

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

0.0

16.0

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

16.0

GRAND TOTAL (max 100 pts)

Site: Wetland BN-28	Rater(s): MJA	Date: 2023-10-03
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1.0

1.0

Metric 1. Wetland Area (size).

- max 6 pts. subtotal
- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

4.0

5.0

Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal
- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11.0

16.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- | | | | | | | | | | | | |
|---|---|--------------------------------|---|-------------------------------|--|-------------------------------|--|-------------------------------|-----------------------------------|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input type="checkbox"/> Recovered (7) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> ditch</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> tile</td> <td style="padding: 2px;"><input type="checkbox"/> filling/grading</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> dike</td> <td style="padding: 2px;"><input type="checkbox"/> road bed/RR track</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> weir</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> stormwater input</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> other <u>Local coal mining</u></td> </tr> </table> | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading | <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | <input type="checkbox"/> weir | <input type="checkbox"/> dredging | <input type="checkbox"/> stormwater input | <input checked="" type="checkbox"/> other <u>Local coal mining</u> |
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | | | | | | | | | | |
| <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading | | | | | | | | | | |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | | | | | | | | | | |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging | | | | | | | | | | |
| <input type="checkbox"/> stormwater input | <input checked="" type="checkbox"/> other <u>Local coal mining</u> | | | | | | | | | | |

6.0

22.0

Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal
- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- | | | | | | | | | | | | | | |
|--|---|---------------------------------|---|----------------------------------|---|---------------------------------------|--|--|-----------------------------------|---|----------------------------------|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input type="checkbox"/> Recovered (6) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> mowing</td> <td style="width:50%; padding: 2px;"><input checked="" type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> grazing</td> <td style="padding: 2px;"><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> clearcutting</td> <td style="padding: 2px;"><input type="checkbox"/> sedimentation</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> selective cutting</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> woody debris removal</td> <td style="padding: 2px;"><input type="checkbox"/> farming</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> toxic pollutants</td> <td style="padding: 2px;"><input type="checkbox"/> nutrient enrichment</td> </tr> </table> | <input type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal | <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |
| <input type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal | | | | | | | | | | | | |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | | | | | | | | | | | | |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | | | | | | | | | | | | |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | | | | | | | | | | | | |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | | | | | | | | | | | | |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment | | | | | | | | | | | | |

22.0

subtotal this page

Site: Wetland BN-28	Rater(s): MJA	Date: 2023-10-03
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22.0

subtotal first page

0.0

22.0

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-2.0

20.0

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

20.0

GRAND TOTAL (max 100 pts)

Site: Wetland BN-29	Rater(s): MJA	Date: 2023-10-04
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1.0

1.0

Metric 1. Wetland Area (size).

- max 6 pts. subtotal
- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

4.0

5.0

Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal
- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12.0

17.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- | | | | | | | | | | | | |
|---|---|--------------------------------|---|-------------------------------|--|-------------------------------|--|-------------------------------|-----------------------------------|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input type="checkbox"/> Recovered (7) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> ditch</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> tile</td> <td style="padding: 2px;"><input type="checkbox"/> filling/grading</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> dike</td> <td style="padding: 2px;"><input type="checkbox"/> road bed/RR track</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> weir</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> stormwater input</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> other <u>Local coal mining</u></td> </tr> </table> | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading | <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | <input type="checkbox"/> weir | <input type="checkbox"/> dredging | <input type="checkbox"/> stormwater input | <input checked="" type="checkbox"/> other <u>Local coal mining</u> |
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | | | | | | | | | | |
| <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading | | | | | | | | | | |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | | | | | | | | | | |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging | | | | | | | | | | |
| <input type="checkbox"/> stormwater input | <input checked="" type="checkbox"/> other <u>Local coal mining</u> | | | | | | | | | | |

6.0

23.0

Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal
- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- | | | | | | | | | | | | | | |
|--|---|---------------------------------|---|----------------------------------|---|---------------------------------------|--|--|-----------------------------------|---|----------------------------------|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input type="checkbox"/> Recovered (6) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> mowing</td> <td style="width:50%; padding: 2px;"><input checked="" type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> grazing</td> <td style="padding: 2px;"><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> clearcutting</td> <td style="padding: 2px;"><input type="checkbox"/> sedimentation</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> selective cutting</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> woody debris removal</td> <td style="padding: 2px;"><input type="checkbox"/> farming</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> toxic pollutants</td> <td style="padding: 2px;"><input type="checkbox"/> nutrient enrichment</td> </tr> </table> | <input type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal | <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |
| <input type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal | | | | | | | | | | | | |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | | | | | | | | | | | | |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | | | | | | | | | | | | |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | | | | | | | | | | | | |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | | | | | | | | | | | | |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment | | | | | | | | | | | | |

23.0

subtotal this page

Site: Wetland BN-29	Rater(s): MJA	Date: 2023-10-04
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23.0

subtotal first page

0.0

23.0

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-3.0

20.0

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 1 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

20.0

GRAND TOTAL (max 100 pts)

Site: Wetland BN-30	Rater(s): MJA	Date: 2023-10-04
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1.0

1.0

Metric 1. Wetland Area (size).

- max 6 pts. subtotal
- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

4.0

5.0

Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal
- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

10.0

15.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- | | | | | | | | | | | | |
|---|--|--------------------------------|---|-------------------------------|--|-------------------------------|--|-------------------------------|-----------------------------------|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input type="checkbox"/> Recovered (7) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;"><input type="checkbox"/> ditch</td> <td style="width: 50%; padding: 2px;"><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> tile</td> <td style="padding: 2px;"><input type="checkbox"/> filling/grading</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> dike</td> <td style="padding: 2px;"><input type="checkbox"/> road bed/RR track</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> weir</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> stormwater input</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> other <u>Local coal mining</u></td> </tr> </table> | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading | <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | <input type="checkbox"/> weir | <input type="checkbox"/> dredging | <input type="checkbox"/> stormwater input | <input checked="" type="checkbox"/> other <u>Local coal mining</u> |
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | | | | | | | | | | |
| <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading | | | | | | | | | | |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | | | | | | | | | | |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging | | | | | | | | | | |
| <input type="checkbox"/> stormwater input | <input checked="" type="checkbox"/> other <u>Local coal mining</u> | | | | | | | | | | |

6.0

21.0

Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal
- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- | | | | | | | | | | | | | | |
|--|--|---------------------------------|---|----------------------------------|---|---------------------------------------|--|--|-----------------------------------|---|----------------------------------|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input type="checkbox"/> Recovered (6) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;"><input type="checkbox"/> mowing</td> <td style="width: 50%; padding: 2px;"><input checked="" type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> grazing</td> <td style="padding: 2px;"><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> clearcutting</td> <td style="padding: 2px;"><input type="checkbox"/> sedimentation</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> selective cutting</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> woody debris removal</td> <td style="padding: 2px;"><input type="checkbox"/> farming</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> toxic pollutants</td> <td style="padding: 2px;"><input type="checkbox"/> nutrient enrichment</td> </tr> </table> | <input type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal | <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |
| <input type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal | | | | | | | | | | | | |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | | | | | | | | | | | | |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | | | | | | | | | | | | |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | | | | | | | | | | | | |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | | | | | | | | | | | | |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment | | | | | | | | | | | | |

21.0

subtotal this page

Site: Wetland BN-30	Rater(s): MJA	Date: 2023-10-04
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21.0

subtotal first page

0.0	21.0
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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

1.0	22.0
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- X Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- X Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 1 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

22.0	GRAND TOTAL (max 100 pts)
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Site: Wetland BN-31	Rater(s): MJA	Date: 2023-10-04
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2.0

2.0

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

7.0

9.0

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

17.0

26.0

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input checked="" type="checkbox"/> other <u>Local coal mining</u>

7.0

33.0

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

33.0

subtotal this page

Site: Wetland BN-31	Rater(s): MJA	Date: 2023-10-04
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33.0

subtotal first page

0.0	33.0
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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-1.0	32.0
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- X Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- X Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 1 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

32.0	GRAND TOTAL (max 100 pts)
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Site: Wetland BN-32	Rater(s): MJA	Date: 2023-10-04
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0.0

0.0

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

5.0

5.0

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

9.5

14.5

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> stormwater input	<input checked="" type="checkbox"/> other T-line structure nearby

6.0

20.5

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

20.5

subtotal this page

Site: Wetland BN-32	Rater(s): MJA	Date: 2023-10-04
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20.5

subtotal first page

0.0

20.5

Metric 5. Special Wetlands.

max 10 pts.

subtotal

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

0.0

20.5

Metric 6. Plant communities, interspersions, microtopography.

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- X Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- X Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 1 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

20.5 **GRAND TOTAL (max 100 pts)**

Site: Wetland BN-33	Rater(s): MJA	Date: 2023-10-04
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0.0

0.0

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

1.0

1.0

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

6.5

7.5

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input checked="" type="checkbox"/> other T-line structure nearby

5.0

12.5

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

12.5

subtotal this page

Site: Wetland BN-33	Rater(s): MJA	Date: 2023-10-04
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12.5

subtotal first page

0.0

12.5

Metric 5. Special Wetlands.

max 10 pts.

subtotal

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2.0

14.5

Metric 6. Plant communities, interspersions, microtopography.

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

14.5

GRAND TOTAL (max 100 pts)

Appendix D
Designated Use Stream Photographs

Stream ID: Stream BN-01

Stream Name: Clear Fork

Designation: Warm Water Habitat



Upstream



Downstream

Stream ID: Stream BN-08

Stream Name: Standingstone Fork

Designation: Warm Water Habitat



Upstream



Downstream

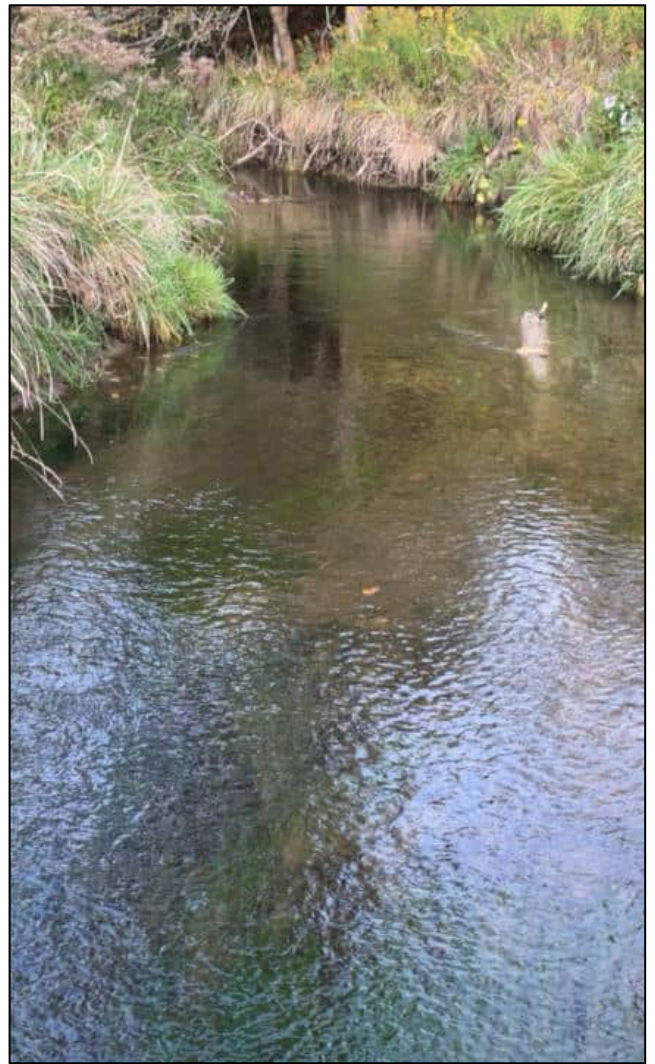
Stream ID: Stream BN-16

Stream Name: Brushy Fork

Designation: Warm Water Habitat



Upstream



Downstream

Appendix E
QHEI Stream Data Forms

Stream & Location: Stream BN-25 Buckeye Power-Nottingham RM: Date: 10/5/23

S-MJA-100523-04 Scorers Full Name & Affiliation: MJA Jacobs

River Code: STORET #: Lat./Long.: 40.21212 / -81.05757 Office verified location

1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present. Check ONE (Or 2 & average). BEST TYPES: BLDR /SLABS [10], BOULDER [9], COBBLE [8], GRAVEL [7], SAND [6], BEDROCK [5]. OTHER TYPES: HARDPAN [4], DETRITUS [3], MUCK [2], SILT [2], ARTIFICIAL [0]. ORIGIN: LIMESTONE [1], TILLS [1], WETLANDS [0], SANDSTONE [0], RIP/RAP [0], LACUSTURINE [0], SHALE [-1], COAL FINES [-2]. QUALITY: HEAVY [-2], MODERATE [-1], NORMAL [0], FREE [1], EXTENSIVE [-2], MODERATE [-1], NORMAL [0], NONE [1]. NUMBER OF BEST TYPES: 4 or more [2] sludge from point-sources, 3 or less [0]. Comments: Substrate Maximum 20. Score: 7.5

2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts. AMOUNT: EXTENSIVE >75% [11], MODERATE 25-75% [7], SPARSE 5-<25% [3], NEARLY ABSENT <5% [1]. Comments: Abundant overhanging reed canary grass. Cover Maximum 20. Score: 13.0

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average). SINUOSITY: HIGH [4], MODERATE [3], LOW [2], NONE [1]. DEVELOPMENT: EXCELLENT [7], GOOD [5], FAIR [3], POOR [1]. CHANNELIZATION: NONE [6], RECOVERED [4], RECOVERING [3], RECENT OR NO RECOVERY [1]. STABILITY: HIGH [3], MODERATE [2], LOW [1]. Comments: Channel Maximum 20. Score: 10.0

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average). RIPARIAN WIDTH: WIDE > 50m [4], MODERATE 10-50m [3], NARROW 5-10m [2], VERY NARROW < 5m [1], NONE [0]. FLOOD PLAIN QUALITY: FOREST, SWAMP [3], SHRUB OR OLD FIELD [2], RESIDENTIAL, PARK, NEW FIELD [1], FENCED PASTURE [1], OPEN PASTURE, ROWCROP [0]. CONSERVATION TILLAGE [1], URBAN OR INDUSTRIAL [0], MINING / CONSTRUCTION [0]. Comments: Stream flows through palustrine emergent wetland. Riparian Maximum 10. Score: 10.0

5] POOL / GLIDE AND RIFFLE / RUN QUALITY MAXIMUM DEPTH: > 1m [6], 0.7-<1m [4], 0.4-<0.7m [2], 0.2-<0.4m [1], < 0.2m [0]. CHANNEL WIDTH: POOL WIDTH > RIFFLE WIDTH [2], POOL WIDTH = RIFFLE WIDTH [1], POOL WIDTH < RIFFLE WIDTH [0]. CURRENT VELOCITY: TORRENTIAL [-1], VERY FAST [1], FAST [1], MODERATE [1], SLOW [1], INTERSTITIAL [-1], INTERMITTENT [-2], EDDIES [1]. Recreation Potential: Primary Contact, Secondary Contact. Comments: Pool / Current Maximum 12. Score: 5.0

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average). RIFFLE DEPTH: BEST AREAS > 10cm [2], BEST AREAS 5-10cm [1], BEST AREAS < 5cm [metric=0]. RUN DEPTH: MAXIMUM > 50cm [2], MAXIMUM < 50cm [1]. RIFFLE / RUN SUBSTRATE: STABLE (e.g., Cobble, Boulder) [2], MOD. STABLE (e.g., Large Gravel) [1], UNSTABLE (e.g., Fine Gravel, Sand) [0]. RIFFLE / RUN EMBEDDEDNESS: NONE [2], LOW [1], MODERATE [0], EXTENSIVE [-1]. Comments: Riffle / Run Maximum 8. Score: 3.0

6] GRADIENT (80.0 ft/mi) DRAINAGE AREA (1.14 mi^2) VERY LOW - LOW [2-4], MODERATE [6-10], HIGH - VERY HIGH [10-6]. %POOL: 15, %GLIDE: 20, %RUN: 50, %RIFFLE: 15. Gradient Maximum 10. Score: 4.0

A) SAMPLED REACH

Check ALL that apply

METHOD	STAGE
<input type="checkbox"/> BOAT	1st -sample pass- 2nd
<input type="checkbox"/> WADE	<input type="checkbox"/> HIGH <input type="checkbox"/>
<input type="checkbox"/> L. LINE	<input type="checkbox"/> UP <input type="checkbox"/>
<input type="checkbox"/> OTHER	<input type="checkbox"/> NORMAL <input type="checkbox"/>
	<input type="checkbox"/> LOW <input type="checkbox"/>
	<input type="checkbox"/> DRY <input type="checkbox"/>

DISTANCE

0.5 Km
 0.2 Km
 0.15 Km
 0.12 Km
 OTHER

_____ meters

CANOPY

> 85%- OPEN
 55%-<85%
 30%-<55%
 10%-<30%
 <10%- CLOSED

CLARITY

1st --sample pass-- 2nd

< 20 cm

20-<40 cm

40-70 cm

> 70 cm/ CTB

SECCHI DEPTH

1st _____ cm

pass

2nd _____ cm

C) RECREATION

AREA DEPTH

POOL: >100ft² >3ft

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.
 Stream flows from pond in former coal mining area. Surrounding wetland highly invaded by reed canary grass.

B) AESTHETICS

NUISANCE ALGAE

INVASIVE MACROPHYTES

EXCESS TURBIDITY

DISCOLORATION

FOAM / SCUM

OIL SHEEN

TRASH / LITTER

NUISANCE ODOR

SLUDGE DEPOSITS

CSOs/SSOs/OUTFALLS

D) MAINTENANCE

PUBLIC / PRIVATE / BOTH / NA

ACTIVE / HISTORIC / BOTH / NA

YOUNG - SUCCESSION - OLD

SPRAY / SNAG / REMOVED

MODIFIED / DIPPED OUT / NA

LEVEED / ONE SIDED

RELOCATED / CUTOFFS

MOVING - BEDLOAD - STABLE

ARMoured / SLUMPS

ISLANDS / SCOURED

IMPOUNDED / DESICCATED

FLOOD CONTROL / DRAINAGE

Circle some & COMMENT

E) ISSUES

WWTP / CSO / NPDES / INDUSTRY

HARDENED / URBAN / DIRT&GRIME

CONTAMINATED / LANDFILL

BMPs - CONSTRUCTION - SEDIMENT

LOGGING / IRRIGATION / COOLING

BANK / EROSION / SURFACE

FALSE BANK / MANURE / LAGOON

WASH H2O / TILE / H2O TABLE

ACID / MINE / QUARRY / FLOW

NATURAL / WETLAND / STAGNANT

PARK / GOLF / LAWN / HOME

ATMOSPHERE / DATA PAUCITY

F) MEASUREMENTS

\bar{x} width 3

\bar{x} depth

max. depth 18

\bar{x} bankfull width 6

bankfull \bar{x} depth

W/D ratio

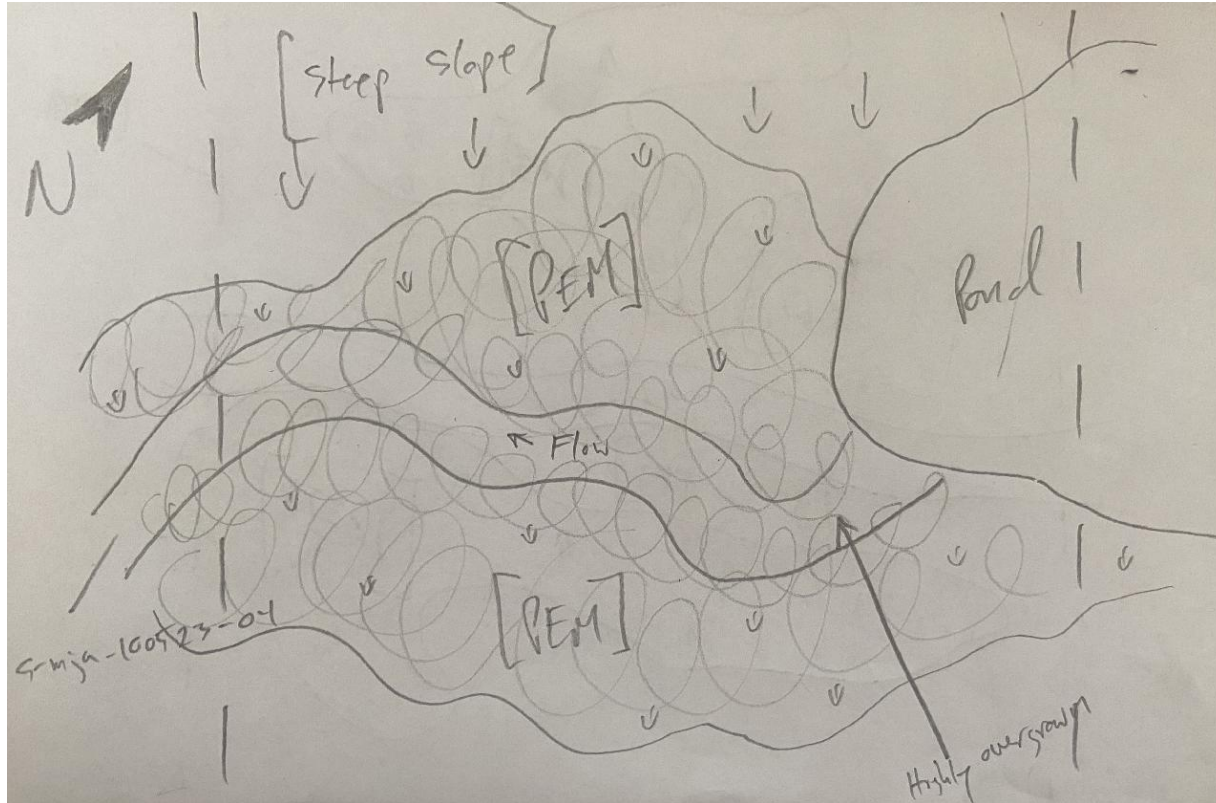
bankfull max. depth

floodprone x² width

entrench. ratio

Legacy Tree:

Stream Drawing: Stream BN-25





Upstream



Downstream



Substrate

Stream & Location: Stream BN-26 Buckeye Power-Nottingham RM: Date: 10/3/23

S-MJA-100323-01 Scorers Full Name & Affiliation: MJA Jacobs

River Code: 0504-0001-1402 STORET #: Lat./Long.: 40.20516 -81.05074 Office verified location

1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present Check ONE (Or 2 & average)

Substrate assessment section with categories: BEST TYPES, OTHER TYPES, ORIGIN, and QUALITY. Includes checkboxes for various substrate types and a score of 0.0.

Beaver dams responsible for slow flow and build up of silt in channel.

2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts

Instream Cover assessment section with categories: UNDERCAT BANKS, POOLS > 70cm, OXBOWS, BACKWATERS, etc. Includes checkboxes and a score of 16.0.

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average)

Channel Morphology assessment section with categories: SINUOSITY, DEVELOPMENT, CHANNELIZATION, and STABILITY. Includes checkboxes and a score of 7.0.

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average)

Bank Erosion and Riparian Zone assessment section with categories: EROSION, RIPARIAN WIDTH, FLOOD PLAIN QUALITY, and CONSERVATION TILLAGE. Includes checkboxes and a score of 5.5.

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

Pool / Glide and Riffle / Run Quality assessment section with categories: MAXIMUM DEPTH, CHANNEL WIDTH, CURRENT VELOCITY, and Recreation Potential. Includes checkboxes and a score of 10.0.

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average).

Riffle / Run Quality assessment section with categories: RIFFLE DEPTH, RUN DEPTH, RIFFLE / RUN SUBSTRATE, and RIFFLE / RUN EMBEDDEDNESS. Includes checkboxes and a score of 0.0.

6] GRADIENT (84.1 ft/mi) DRAINAGE AREA (2.16 mi^2) %POOL: 30 %GLIDE: 60 %RUN: 5 %RIFFLE: 5 Gradient Maximum 10 Score: 4.0

A) SAMPLED REACH

Check ALL that apply

METHOD

BOAT 1st-sample pass- 2nd

WADE HIGH

L. LINE UP

OTHER NORMAL

LOW

DRY

DISTANCE

0.5 Km

0.2 Km

0.15 Km

0.12 Km

OTHER

_____ meters

CANOPY

> 85%- OPEN

55%-<85%

30%-<55%

10%-<30%

<10%- CLOSED

CLARITY

1st --sample pass-- 2nd

< 20 cm

20-<40 cm

40-70 cm

> 70 cm/ CTB

SECCHI DEPTH

1st _____ cm

pass

2nd _____ cm

C) RECREATION

AREA DEPTH

POOL: >100ft² >3ft

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

Beaver activity in stream and surrounding wetland. Beaver dam on downstream end of sampled stream reach responsible for slow flow and for the build up of silt and muck in the stream channel.

B) AESTHETICS

NUISANCE ALGAE

INVASIVE MACROPHYTES

EXCESS TURBIDITY

DISCOLORATION

FOAM / SCUM

OIL SHEEN

TRASH / LITTER

NUISANCE ODOR

SLUDGE DEPOSITS

CSOs/SSOs/OUTFALLS

D) MAINTENANCE

PUBLIC / PRIVATE / BOTH / NA

ACTIVE / HISTORIC / BOTH / NA

YOUNG - SUCCESSION - OLD

SPRAY / SNAG / REMOVED

MODIFIED / DIPPED OUT / NA

LEVEED / ONE SIDED

RELOCATED / CUTOFFS

MOVING - BEDLOAD - STABLE

ARMoured / SLUMPS

ISLANDS / SCOURED

IMPOUNDED / DESICCATED

FLOOD CONTROL / DRAINAGE

Circle some & COMMENT

E) ISSUES

WWTP / CSO / NPDES / INDUSTRY

HARDENED / URBAN / DIRT&GRIME

CONTAMINATED / LANDFILL

BMPs - CONSTRUCTION - SEDIMENT

LOGGING / IRRIGATION / COOLING

BANK / EROSION / SURFACE

FALSE BANK / MANURE / LAGOON

WASH H2O / TILE / H2O TABLE

ACID / MINE / QUARRY / FLOW

NATURAL / WETLAND / STAGNANT

PARK / GOLF / LAWN / HOME

ATMOSPHERE / DATA PAUCITY

F) MEASUREMENTS

\bar{x} width 8

\bar{x} depth

max. depth ³⁶

\bar{x} bankfull width 8

bankfull \bar{x} depth

W/D ratio

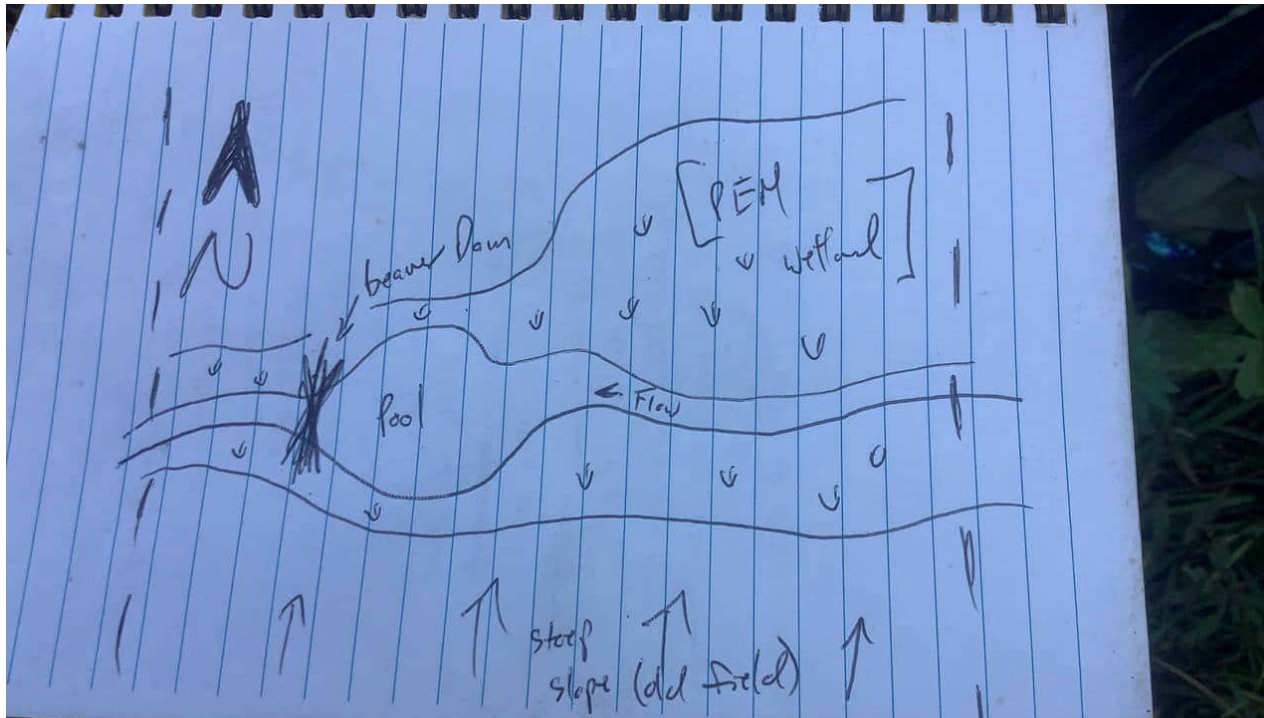
bankfull max. depth

floodprone x^2 width

entrench. ratio

Legacy Tree:

Stream Drawing: Stream BN-26





Upstream



Downstream



Substrate

Appendix F
HHEI Stream Data Forms



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

36

SITE NAME/LOCATION Stream BN-02 Buckeye Power-Nottingham
 SITE NUMBER S-JFW-100223-03 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.01
 LENGTH OF STREAM REACH (ft) 140 LAT 40.31851 LONG -81.06570 RIVER MILE _____
 DATE 10/02/2023 SCORER JFW COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> SILT [3 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td><u>10</u></td> </tr> <tr> <td><input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td><u>30</u></td> <td><input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td><u>50</u></td> </tr> <tr> <td><input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td><u>10</u></td> <td><input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>30</u> (A) 12 (B) 4</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 4</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> SILT [3 pt]	_____	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>10</u>	<input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>30</u>	<input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>50</u>	<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>10</u>	<input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">16</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
<input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> SILT [3 pt]	_____																										
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>10</u>																										
<input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____																										
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>30</u>	<input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>50</u>																										
<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>10</u>	<input type="checkbox"/> MUCK [0 pts]	_____																										
<input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____																										
<p>2. Maximum Pool Depth (Measure the <u>maximum</u> pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check <i>ONLY</i> one box):</p> <table style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td><input type="checkbox"/> > 30 centimeters [20 pts]</td> <td><input checked="" type="checkbox"/> 5 cm - 10 cm [15 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 22.5 - 30 cm [30 pts]</td> <td><input type="checkbox"/> < 5 cm [5pts]</td> </tr> <tr> <td><input type="checkbox"/> > 10 - 22.5 cm [25 pts]</td> <td><input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]</td> </tr> </tbody> </table> <p>COMMENTS _____ MAXIMUM POOL DEPTH (inches): 3.0</p>	<input type="checkbox"/> > 30 centimeters [20 pts]	<input checked="" type="checkbox"/> 5 cm - 10 cm [15 pts]	<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5pts]	<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]	<p>Pool Depth Max = 30</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">15</div>																						
<input type="checkbox"/> > 30 centimeters [20 pts]	<input checked="" type="checkbox"/> 5 cm - 10 cm [15 pts]																												
<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5pts]																												
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]																												
<p>3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check <i>ONLY</i> one box):</p> <table style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td><input type="checkbox"/> > 4.0 meters (> 13') [30 pts]</td> <td><input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]</td> <td><input checked="" type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]</td> <td></td> </tr> </tbody> </table> <p>COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 2.0</p>	<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input checked="" type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]	<input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		<p>Bankfull Width Max=30</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">5</div>																						
<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]																												
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input checked="" type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]																												
<input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]																													

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wide >10m		Mature Forest, Wetland		Conservation Tillage	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moderate 5-10m		Immature Forest, Shrub or Old Field		Urban or Industrial	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Narrow <5m		Residential, Park, New Field		Open Pasture, Row Crop	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None		Fenced Pasture		Mining or Construction	

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Clear Fork Distance from Evaluated Stream 0.73 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Jewett NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Archer

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/29/23 Quantity: 0.32

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) No If not, explain: _____

Reach is within maintained ROW

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

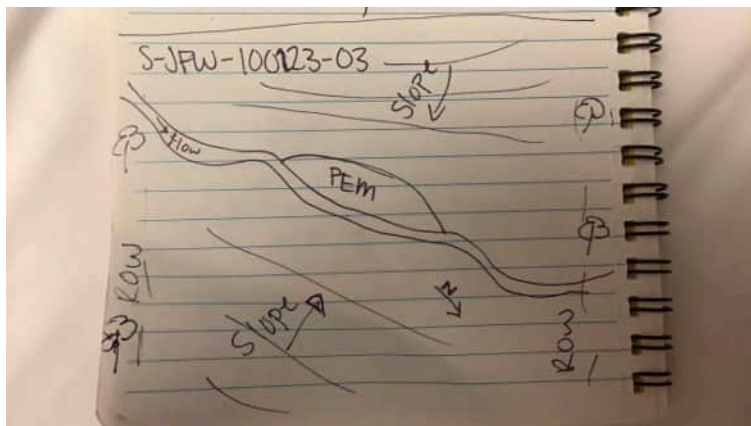
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Ephemeral stream in valley bottom flowing through transmission line ROW with PEM wetland on portion of banks



Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

11

SITE NAME/LOCATION Stream BN-03 Buckeye Power-Nottingham
 SITE NUMBER S-JFW-100223-02 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.01
 LENGTH OF STREAM REACH (ft) 156 LAT 40.31638 LONG -81.06583 RIVER MILE _____
 DATE 10/02/2023 SCORER JFW COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">TYPE</th> <th style="width:35%;">PERCENT</th> <th style="width:15%;">TYPE</th> <th style="width:35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td><u>50</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td><u>10</u></td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td><u>40</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>10</u> (A) 3 (B) 3</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 3</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	_____	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>50</u>	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>10</u>	<input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>40</u>	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">6</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input checked="" type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Clear Fork Distance from Evaluated Stream 0.91 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Jewett NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Archer

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/29/23 Quantity: 0.32

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) No If not, explain: _____

Maintained ROW

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

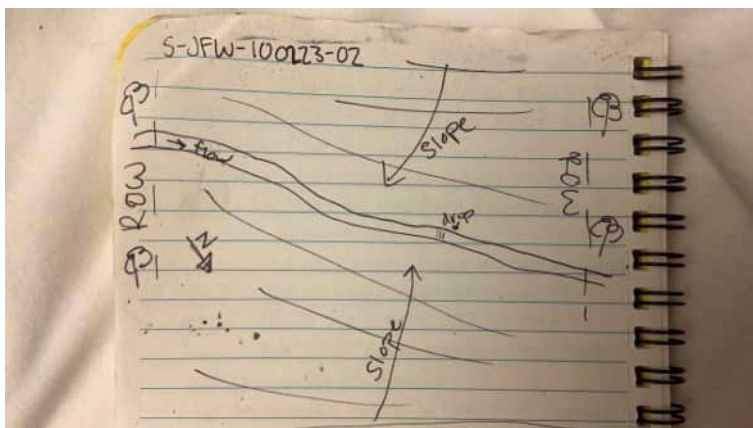
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Ephemeral poorly defined stream through transmission line ROW



Downstream



Upstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

10

SITE NAME/LOCATION Stream BN-04 Buckeye Power-Nottingham
 SITE NUMBER S-JFW-100323-01 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.01
 LENGTH OF STREAM REACH (ft) 150 LAT 40.30535 LONG -81.06622 RIVER MILE _____
 DATE 10/03/2023 SCORER JFW COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">TYPE</th> <th style="width:35%;">PERCENT</th> <th style="width:15%;">TYPE</th> <th style="width:35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td><u>60</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td><u>40</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 3 (B) 2</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 2</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	_____	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>60</u>	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>40</u>	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">5</div> <p>A + B</p>
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH		FLOODPLAIN QUALITY (Most Predominant per Bank)							
L	R	(Per Bank)		L	R	L	R		
<input type="checkbox"/>	<input type="checkbox"/>	Wide >10m		<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Narrow <5m		<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input checked="" type="checkbox"/>	<input type="checkbox"/>	None		<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input checked="" type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat (0.5 ft/100 ft)	<input type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate (2 ft/100 ft)	<input checked="" type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe (10 ft/100 ft)
---	---	---	--	--

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Standingstone Fork Distance from Evaluated Stream 0.88 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Jewett NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Archer

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/29/23 Quantity: 0.32

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) No If not, explain: _____

Reach is in maintained t-line ROW

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

Salamanders Observed? (Y/N) No Species observed (if known): _____

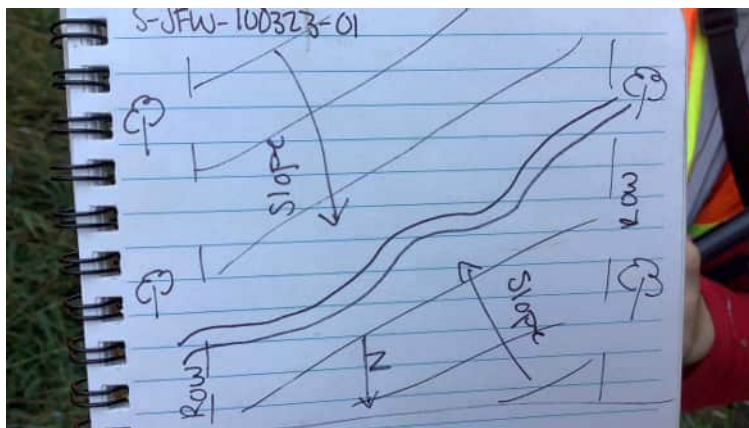
Aquatic Macroinvertebrates Observed? (Y/N) No Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

Ephemeral stream in valley bottom flowing through transmission line ROW



FLOW



Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

10

SITE NAME/LOCATION Stream BN-05 Buckeye Power-Nottingham
 SITE NUMBER S-JFW-100323-02 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.01
 LENGTH OF STREAM REACH (ft) 30 LAT 40.30393 LONG -81.06640 RIVER MILE _____
 DATE 10/03/2023 SCORER JFW COMMENTS Culvert present

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> SILT [3 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td><u>20</u></td> </tr> <tr> <td><input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td><u>80</u></td> </tr> <tr> <td><input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>_____</td> <td><input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 3 (B) 2</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 2</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> SILT [3 pt]	_____	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>20</u>	<input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>80</u>	<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	_____	<input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; font-size: 24px; font-weight: bold; margin: 10px auto;">5</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wide >10m		Mature Forest, Wetland		Conservation Tillage	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moderate 5-10m		Immature Forest, Shrub or Old Field		Urban or Industrial	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Narrow <5m		Residential, Park, New Field		Open Pasture, Row Crop	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None		Fenced Pasture		Mining or Construction	

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input checked="" type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Standingstone Fork Distance from Evaluated Stream 0.8 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Jewett NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Archer

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/29/23 Quantity: 0.32

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) No If not, explain: _____

Stream continues outside maintained t-line ROW

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

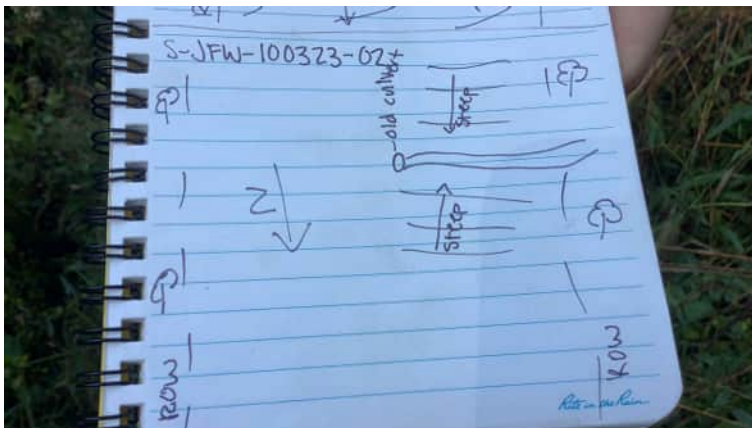
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Ephemeral stream in valley bottom that begins at a very old non-functioning culvert in a t-line ROW



Downstream



Upstream



Substrate
Culvert present



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

19

SITE NAME/LOCATION Stream BN-06 Buckeye Power-Nottingham
 SITE NUMBER S-JFW-100323-06 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.04
 LENGTH OF STREAM REACH (ft) 51 LAT 40.30020 LONG -81.06655 RIVER MILE _____
 DATE 10/03/2023 SCORER JFW COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">TYPE</th> <th style="text-align: center;">PERCENT</th> <th style="text-align: left;">TYPE</th> <th style="text-align: center;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td style="text-align: center;">_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]</td> <td style="text-align: center;">40</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td style="text-align: center;">_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td style="text-align: center;">40</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td style="text-align: center;">_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td style="text-align: center;">_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td style="text-align: center;">_____</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td style="text-align: center;">20</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td style="text-align: center;">_____</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td style="text-align: center;">_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td style="text-align: center;">_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td style="text-align: center;">_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 6 (B) 3</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 6 TOTAL NUMBER OF SUBSTRATE TYPES: 3</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]	40	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	40	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	20	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">9</div> <p>A + B</p>
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R	L	R
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input checked="" type="checkbox"/> Flat (0.5 ft/100 ft)	<input type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate (2 ft/100 ft)	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe (10 ft/100 ft)
--	---	---	---	--

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Standingstone Fork Distance from Evaluated Stream 0.54 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Jewett NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Archer

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/28/23 Quantity: 0.32

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

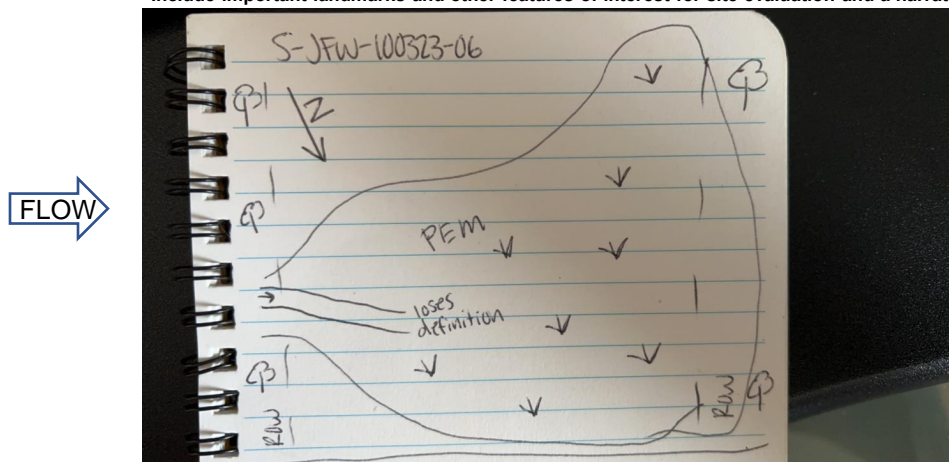
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Ephemeral stream that loses definition as it flows into PEM wetland



Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

25

SITE NAME/LOCATION Stream BN-07 Buckeye Power-Nottingham
 SITE NUMBER S-JFW-100323-03 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.28
 LENGTH OF STREAM REACH (ft) 26 LAT 40.29512 LONG -81.06874 RIVER MILE _____
 DATE 10/03/2023 SCORER JFW COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">TYPE</th> <th style="width:35%;">PERCENT</th> <th style="width:15%;">TYPE</th> <th style="width:35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td><u>70</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td><u>30</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 3 (B) 2</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 2</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	<u>70</u>	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>30</u>	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">5</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH		FLOODPLAIN QUALITY (Most Predominant per Bank)							
L	R	(Per Bank)		L	R	L	R		
<input type="checkbox"/>	<input type="checkbox"/>	Wide >10m		<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Narrow <5m		<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	None		<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input checked="" type="checkbox"/> Flat (0.5 ft/100 ft)	<input type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate (2 ft/100 ft)	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe (10 ft/100 ft)
--	---	---	---	--

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Standingstone Fork Distance from Evaluated Stream 0.00 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Jewett NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Cadiz

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/29/23 Quantity: 0.32

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 90.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

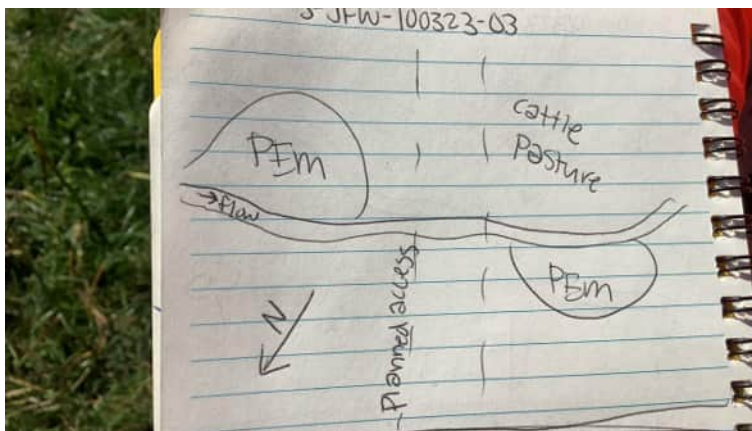
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Intermittent channelized stream flowing through a cattle pasture



Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

16

SITE NAME/LOCATION Stream BN-09 Buckeye Power-Nottingham
 SITE NUMBER S-JFW-100423-01 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.12
 LENGTH OF STREAM REACH (ft) 200 LAT 40.28777 LONG -81.06828 RIVER MILE _____
 DATE 10/04/2023 SCORER JFW COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">TYPE</th> <th style="width:35%;">PERCENT</th> <th style="width:15%;">TYPE</th> <th style="width:35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td><u>15</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td><u>70</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td><u>15</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 3 (B) 3</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 3</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	<u>15</u>	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>70</u>	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>15</u>	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">6</div> <p>A + B</p>
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH		FLOODPLAIN QUALITY (Most Predominant per Bank)							
L	R	(Per Bank)		L	R	L	R		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Wide >10m		<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m		<input type="checkbox"/>	<input type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Narrow <5m		<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	None		<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input checked="" type="checkbox"/> Flat (0.5 ft/100 ft)	<input type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate (2 ft/100 ft)	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe (10 ft/100 ft)
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ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Standingstone Fork Distance from Evaluated Stream 0.31 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Jewett NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Cadiz

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/29/23 Quantity: 0.32
 Photo-documentation Notes: _____
 Elevated Turbidity? (Y/N): No Canopy (% open): 100.0
 Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____
 Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____
 Is the sampling reach representative of the stream (Y/N) Yes If not, explain: _____

 Additional comments/description of pollution impacts: _____

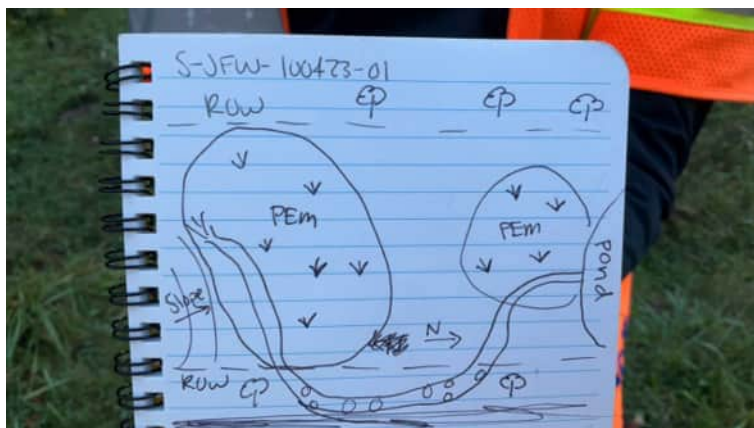
BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____
 Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____
 Salamanders Observed? (Y/N) No Species observed (if known): _____
 Aquatic Macroinvertebrates Observed? (Y/N) No Species observed (if known): _____
 Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Ephemeral stream surrounded by PEM wetland that flows into man-made pond



Downstream



Upstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

31

SITE NAME/LOCATION Stream BN-10 Buckeye Power-Nottingham
 SITE NUMBER S-JFW-100323-04 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.33
 LENGTH OF STREAM REACH (ft) 156 LAT 40.27698 LONG -81.06959 RIVER MILE _____
 DATE 10/03/2023 SCORER JFW COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 20%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 20%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>30</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>70</td> </tr> <tr> <td><input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 9 (B) 2</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 9 TOTAL NUMBER OF SUBSTRATE TYPES: 2</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	30	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	70	<input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 10px auto;">11</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wide >10m		Mature Forest, Wetland		Conservation Tillage	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moderate 5-10m		Immature Forest, Shrub or Old Field		Urban or Industrial	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Narrow <5m		Residential, Park, New Field		Open Pasture, Row Crop	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None		Fenced Pasture		Mining or Construction	

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Lees Run Distance from Evaluated Stream 0.08 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Jewett NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Cadiz

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/29/23 Quantity: 0.32

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 80.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

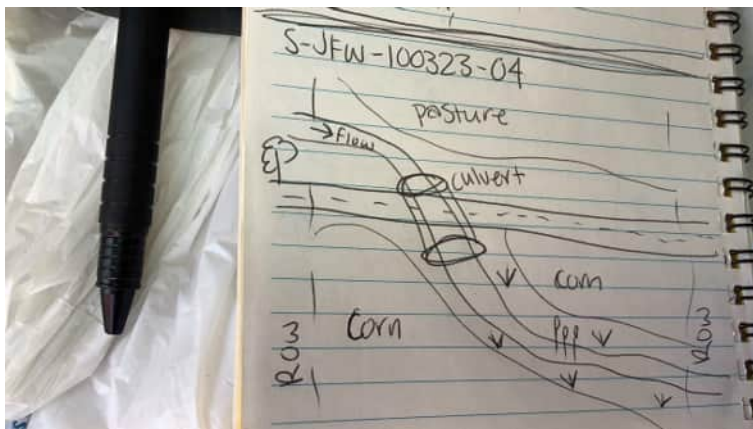
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Intermittent channelized stream flowing between ag fields and culverted under a road



Downstream



Upstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

15

SITE NAME/LOCATION Stream BN-11 Buckeye Power-Nottingham
 SITE NUMBER S-JFW-100423-06 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.01
 LENGTH OF STREAM REACH (ft) 159 LAT 40.27488 LONG -81.06969 RIVER MILE _____
 DATE 10/04/2023 SCORER JFW COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:10%;">TYPE</th> <th style="width:40%;">PERCENT</th> <th style="width:10%;">TYPE</th> <th style="width:40%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]</td> <td><u>20</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td><u>80</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 3 (B) 2</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 2</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]	<u>20</u>	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>80</u>	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">5</div> <p>A + B</p>
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat (0.5 ft/100 ft)	<input type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate (2 ft/100 ft)	<input type="checkbox"/> Moderate to Severe	<input checked="" type="checkbox"/> Severe (10 ft/100 ft)
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ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Lees Run Distance from Evaluated Stream 0.26 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Jewett NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Cadiz

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/29/23 Quantity: 0.32

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

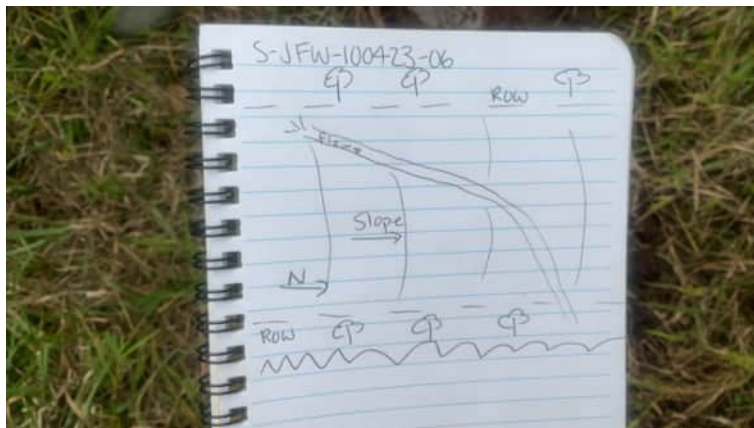
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Intermittent iron-rich hillside seep flowing through transmission line ROW





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

35

SITE NAME/LOCATION Stream BN-12 Buckeye Power-Nottingham
 SITE NUMBER S-JFW-100423-05 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.04
 LENGTH OF STREAM REACH (ft) 184 LAT 40.26895 LONG -81.07002 RIVER MILE _____
 DATE 10/04/2023 SCORER JFW COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td><u>70</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td><u>30</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 3 (B) 2</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 2</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	_____	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>70</u>	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>30</u>	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px; font-weight: bold;">5</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wide >10m		Mature Forest, Wetland		Conservation Tillage	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moderate 5-10m		Immature Forest, Shrub or Old Field		Urban or Industrial	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Narrow <5m		Residential, Park, New Field		Open Pasture, Row Crop	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None		Fenced Pasture		Mining or Construction	

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input type="checkbox"/> Stream Flowing	<input checked="" type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Lees Run Distance from Evaluated Stream 1.15 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Jewett NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Cadiz

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/29/23 Quantity: 0.32

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) No If not, explain: _____

Reach is in maintained t-line ROW

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

Salamanders Observed? (Y/N) No Species observed (if known): _____

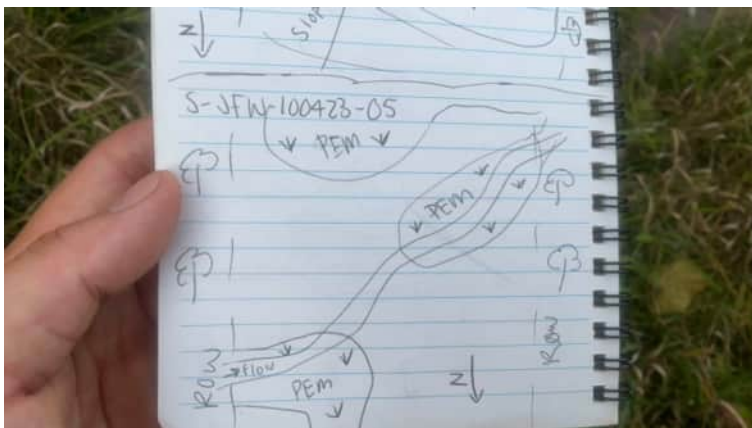
Aquatic Macroinvertebrates Observed? (Y/N) Yes Species observed (if known): Crayfish

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

Ephemeral stream on slope with portions of PEM wetland on banks





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

15

SITE NAME/LOCATION Stream BN-13 Buckeye Power-Nottingham
 SITE NUMBER S-JFW-100423-04 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.01
 LENGTH OF STREAM REACH (ft) 55 LAT 40.26798 LONG -81.06991 RIVER MILE _____
 DATE 10/04/2023 SCORER JFW COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">TYPE</th> <th style="width:35%;">PERCENT</th> <th style="width:15%;">TYPE</th> <th style="width:35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td><u>60</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td><u>40</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 3 (B) 2</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 2</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	_____	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>60</u>	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>40</u>	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">5</div> <p>A + B</p>
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wide >10m		Mature Forest, Wetland		Conservation Tillage	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moderate 5-10m		Immature Forest, Shrub or Old Field		Urban or Industrial	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Narrow <5m		Residential, Park, New Field		Open Pasture, Row Crop	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None		Fenced Pasture		Mining or Construction	

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Lees Run Distance from Evaluated Stream 1.13 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Jewett NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Cadiz

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/29/23 Quantity: 0.32

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) No If not, explain: _____

Reach is in maintained t-line ROW

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

Salamanders Observed? (Y/N) No Species observed (if known): _____

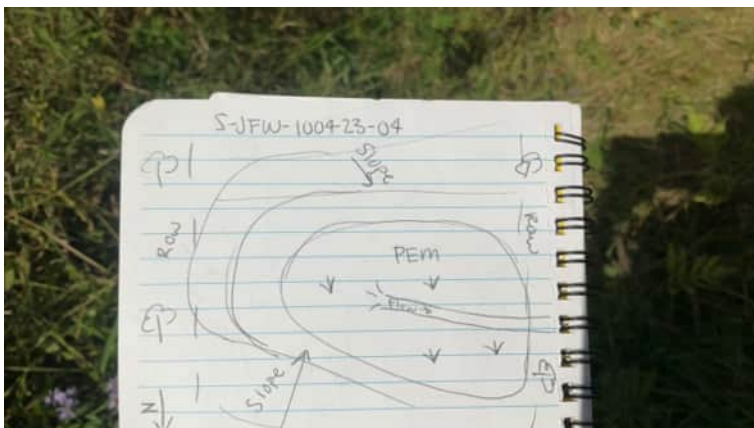
Aquatic Macroinvertebrates Observed? (Y/N) No Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

Ephemeral stream in valley bottom that gains definition in PEM wetland and flows out of the t-line ROW





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

27

SITE NAME/LOCATION Stream BN-14 Buckeye Power-Nottingham
 SITE NUMBER S-JFW-100423-03 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.09
 LENGTH OF STREAM REACH (ft) 114 LAT 40.26255 LONG -81.07005 RIVER MILE _____
 DATE 10/04/2023 SCORER JFW COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:10%;">TYPE</th> <th style="width:40%;">PERCENT</th> <th style="width:10%;">TYPE</th> <th style="width:40%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]</td> <td><u>40</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td><u>20</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td><u>10</u></td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td><u>30</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>10</u> (A) 3 (B) 4</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 4</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]	<u>40</u>	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>20</u>	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>10</u>	<input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>30</u>	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">7</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]	<u>40</u>																										
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	(Per Bank)		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>
				Conservation Tillage	
				Urban or Industrial	
				Open Pasture, Row Crop	
				Mining or Construction	

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Lees Run Distance from Evaluated Stream 0.92 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Jewett NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Cadiz

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/29/23 Quantity: 0.32

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

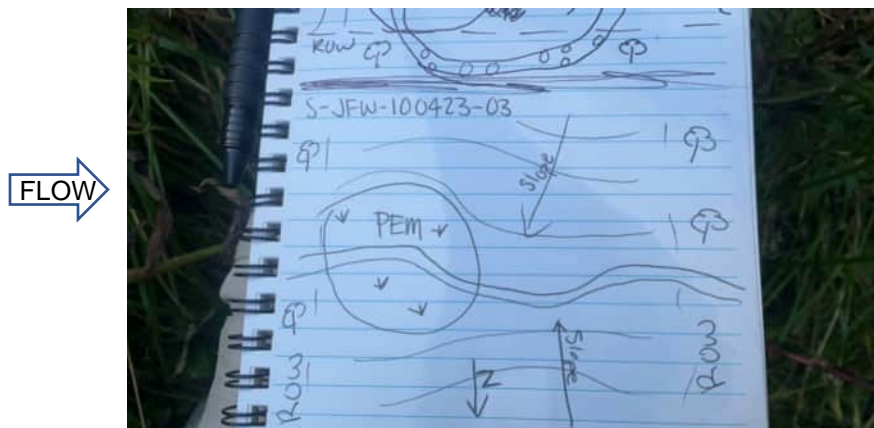
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Ephemeral stream in valley bottom flowing through transmission line ROW with PEM wetland on portion of banks



Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

26

SITE NAME/LOCATION Stream BN-15 Buckeye Power-Nottingham
 SITE NUMBER S-JFW-100623-01 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.2
 LENGTH OF STREAM REACH (ft) 200 LAT 40.25021 LONG -81.07051 RIVER MILE _____
 DATE 10/06/2023 SCORER JFW COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:10%;">TYPE</th> <th style="width:40%;">PERCENT</th> <th style="width:10%;">TYPE</th> <th style="width:40%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]</td> <td><u>60</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td><u>30</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td><u>10</u></td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 3 (B) 3</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 3</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]	<u>60</u>	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>30</u>	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>10</u>	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">6</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Brushy Fork Distance from Evaluated Stream 0.43 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Jewett NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Cadiz

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 10/6/23 Quantity: 0.16

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) Yes Species observed (if known): _____

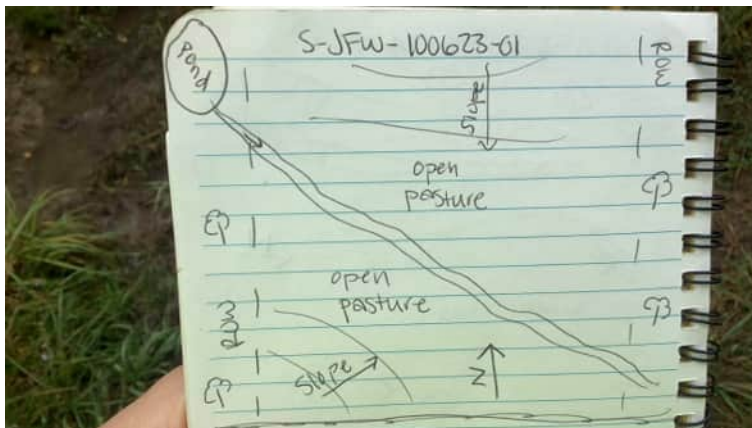
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Intermittent stream sourced from a pond that flows through a cattle pasture





Downstream



Upstream
Cattle crossing



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

17

SITE NAME/LOCATION Stream BN-17 Buckeye Power-Nottingham
 SITE NUMBER S-JFW-100523-01 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.09
 LENGTH OF STREAM REACH (ft) 44 LAT 40.24000 LONG -81.07121 RIVER MILE _____
 DATE 10/05/2023 SCORER JFW COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 25%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 25%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td><u>20</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td><u>10</u></td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td><u>60</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td><u>10</u></td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>10</u> (A) 3 (B) 4</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 4</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	<u>20</u>	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>10</u>	<input type="checkbox"/> <input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>60</u>	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>10</u>	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px; font-weight: bold;">7</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat (0.5 ft/100 ft)	<input checked="" type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate (2 ft/100 ft)	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe (10 ft/100 ft)
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ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Brushy Fork Distance from Evaluated Stream 0.17 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Flushing NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Cadiz

MISCELLANEOUS

Base Flow Conditions? (Y/N): No Date of last precipitation: 9/29/23 Quantity: 0.32

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

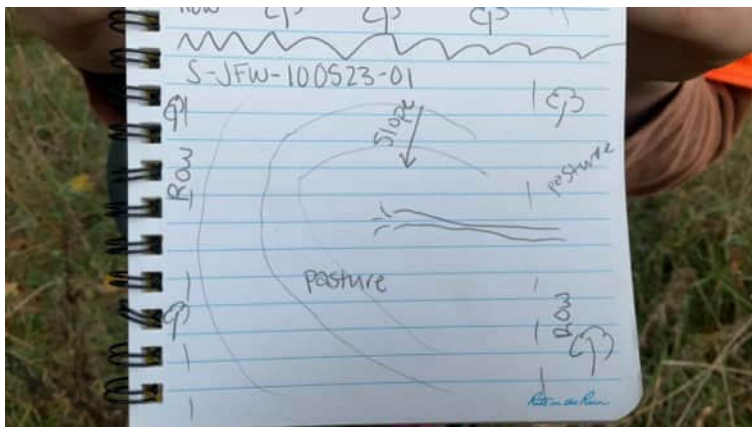
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Ephemeral stream in pasture with severe impacts from cattle, gains definition in transmission line ROW



Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

11

SITE NAME/LOCATION Stream BN-18 Buckeye Power-Nottingham
 SITE NUMBER S-JFW-100523-02 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.01
 LENGTH OF STREAM REACH (ft) 22 LAT 40.23908 LONG -81.07122 RIVER MILE _____
 DATE 10/05/2023 SCORER JFW COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">TYPE</th> <th style="width:35%;">PERCENT</th> <th style="width:15%;">TYPE</th> <th style="width:35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td><u>50</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td><u>20</u></td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td><u>30</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>20</u> (A) 3 (B) 3</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 3</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	_____	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>50</u>	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>20</u>	<input type="checkbox"/> <input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>30</u>	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">6</div> <p>A + B</p>
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input checked="" type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input checked="" type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat (0.5 ft/100 ft)	<input checked="" type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate (2 ft/100 ft)	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe (10 ft/100 ft)
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ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: South Fork Brushy Fork Distance from Evaluated Stream 0.19 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Flushing NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Cadiz

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/29/23 Quantity: 0.32

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 60.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

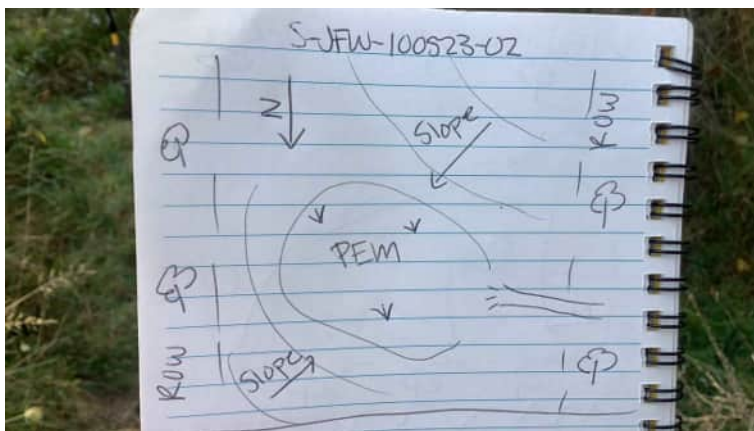
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Ephemeral stream just downslope of PEM wetland, gains definition just inside transmission line ROW and flows out



Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

32

SITE NAME/LOCATION Stream BN-19 Buckeye Power-Nottingham
 SITE NUMBER S-JFW-100523-03 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.01
 LENGTH OF STREAM REACH (ft) 200 LAT 40.23046 LONG -81.06735 RIVER MILE _____
 DATE 10/05/2023 SCORER JFW COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">TYPE</th> <th style="width:35%;">PERCENT</th> <th style="width:15%;">TYPE</th> <th style="width:35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> SILT [3 pt]</td> <td>10</td> </tr> <tr> <td><input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>70</td> </tr> <tr> <td><input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>20</td> <td><input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 9 (B) 3</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 9 TOTAL NUMBER OF SUBSTRATE TYPES: 3</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> SILT [3 pt]	10	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	70	<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	20	<input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">12</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
<input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> SILT [3 pt]	10																										
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: South Fork Brushy Fork Distance from Evaluated Stream 0.53 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Flushing NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Cadiz

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/29/23 Quantity: 0.32

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 80.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

Salamanders Observed? (Y/N) No Species observed (if known): _____

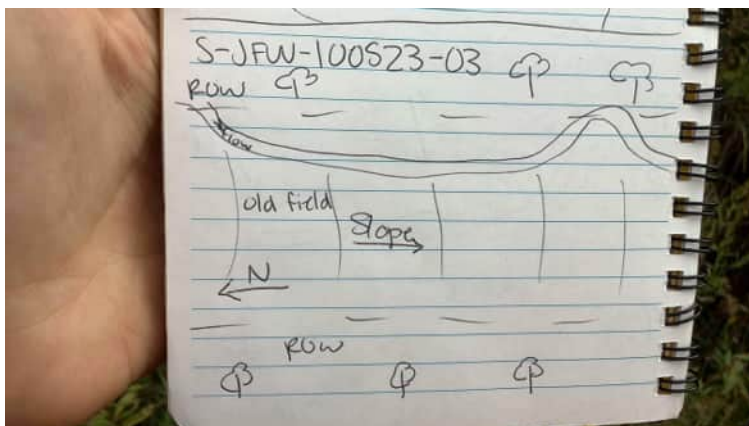
Aquatic Macroinvertebrates Observed? (Y/N) No Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

Intermittent stream flowing down a slope on the edge of a transmission line ROW





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

26

SITE NAME/LOCATION Stream BN-20 Buckeye Power-Nottingham
 SITE NUMBER S-MJA-100523-02 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.7
 LENGTH OF STREAM REACH (ft) 200 LAT 40.22914 LONG -81.06708 RIVER MILE _____
 DATE 10/05/2023 SCORER MJA COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">TYPE</th> <th style="width:35%;">PERCENT</th> <th style="width:15%;">TYPE</th> <th style="width:35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td><u>30</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td><u>50</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td><u>20</u></td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 3 (B) 3</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 3</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	<u>30</u>	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>50</u>	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>20</u>	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">6</div> <p>A + B</p>
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH		FLOODPLAIN QUALITY (Most Predominant per Bank)							
L	R	L	R	L	R				
<input type="checkbox"/>	<input type="checkbox"/>	Wide >10m		<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Narrow <5m		<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	None		<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS Palustrine emergent wetland also abuts stream.

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: South Fork Brushy Fork Distance from Evaluated Stream 0.39 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Flushing NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Cadiz

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/29/23 Quantity: 0.32

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

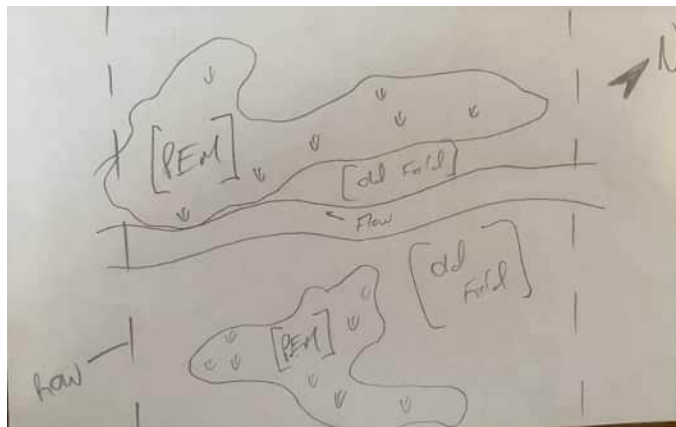
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Intermittent stream flowing west adjacent to PEM wetland in maintained powerline easement.



Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

16

SITE NAME/LOCATION Stream BN-21 Buckeye Power-Nottingham
 SITE NUMBER S-JFW-100523-04 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.01
 LENGTH OF STREAM REACH (ft) 200 LAT 40.22391 LONG -81.06414 RIVER MILE _____
 DATE 10/05/2023 SCORER JFW COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:10%;">TYPE</th> <th style="width:40%;">PERCENT</th> <th style="width:10%;">TYPE</th> <th style="width:40%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]</td> <td>30</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>50</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>20</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 3 (B) 3</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 3</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]	30	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	50	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	20	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">6</div> <p>A + B</p>
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input type="checkbox"/> Stream Flowing	<input checked="" type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input checked="" type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat (0.5 ft/100 ft)	<input type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate (2 ft/100 ft)	<input checked="" type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe (10 ft/100 ft)
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ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: South Fork Brushy Fork Distance from Evaluated Stream 0.46 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Flushing NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Athens

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/29/23 Quantity: 0.32

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 60.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

Salamanders Observed? (Y/N) No Species observed (if known): _____

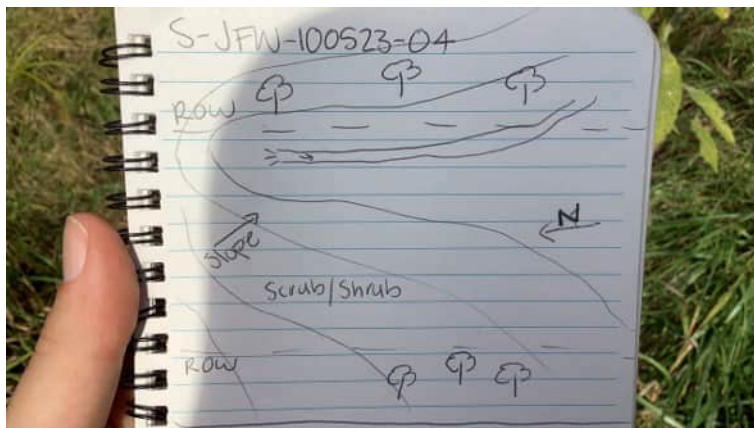
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Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

Ephemeral stream flowing down a slope within a transmission line ROW





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

16

SITE NAME/LOCATION Stream BN-22 Buckeye Power-Nottingham
 SITE NUMBER S-MJA-100523-03 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.45
 LENGTH OF STREAM REACH (ft) 148 LAT 40.22102 LONG -81.06333 RIVER MILE _____
 DATE 10/05/2023 SCORER MJA COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:10%;">TYPE</th> <th style="width:40%;">PERCENT</th> <th style="width:10%;">TYPE</th> <th style="width:40%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]</td> <td>50</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>30</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>20</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 3 (B) 3</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 3</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]	50	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	30	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	20	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">6</div> <p>A + B</p>
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS Stream also flows through palustrine emergent wetland.

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS Stream estimated ephemeral based on size of channel and watershed.

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input checked="" type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: South Fork Brushy Fork Distance from Evaluated Stream 0.23 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Flushing NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Athens

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/29/23 Quantity: 0.32

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): _____

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Ephemeral stream flowing from hillside seep in maintained powerline easement. Flows through PEM wetland and south into intermittent stream.



Downstream



Upstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

39

SITE NAME/LOCATION Stream BN-23 Buckeye Power-Nottingham
 SITE NUMBER S-JFW-100523-05 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.45
 LENGTH OF STREAM REACH (ft) 200 LAT 40.22102 LONG -81.06332 RIVER MILE _____
 DATE 10/05/2023 SCORER JFW COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">TYPE</th> <th style="text-align: left;">PERCENT</th> <th style="text-align: left;">TYPE</th> <th style="text-align: left;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td><u>50</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td><u>30</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td><u>20</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 6 (B) 3</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 6 TOTAL NUMBER OF SUBSTRATE TYPES: 3</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	<u>50</u>	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>30</u>	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>20</u>	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">9</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	<u>50</u>																										
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: South Fork Brushy Fork Distance from Evaluated Stream 0.21 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Flushing NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Athens

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/29/23 Quantity: 0.32

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 80.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Intermittent stream flowing through PEM wetland and transmission line ROW, with an ephemeral stream tributary within sampled reach



Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

15

SITE NAME/LOCATION Stream BN-24 Buckeye Power-Nottingham
 SITE NUMBER S-JFW-100523-06 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.05
 LENGTH OF STREAM REACH (ft) 114 LAT 40.21742 LONG -81.06115 RIVER MILE _____
 DATE 10/05/2023 SCORER JFW COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:10%;">TYPE</th> <th style="width:40%;">PERCENT</th> <th style="width:10%;">TYPE</th> <th style="width:40%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]</td> <td><u>30</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td><u>70</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 3 (B) 2</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 2</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]	<u>30</u>	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>70</u>	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">5</div> <p>A + B</p>
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input type="checkbox"/> Stream Flowing	<input checked="" type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: South Fork Brushy Fork Distance from Evaluated Stream 0.20 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Flushing NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Athens

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/29/23 Quantity: 0.32

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

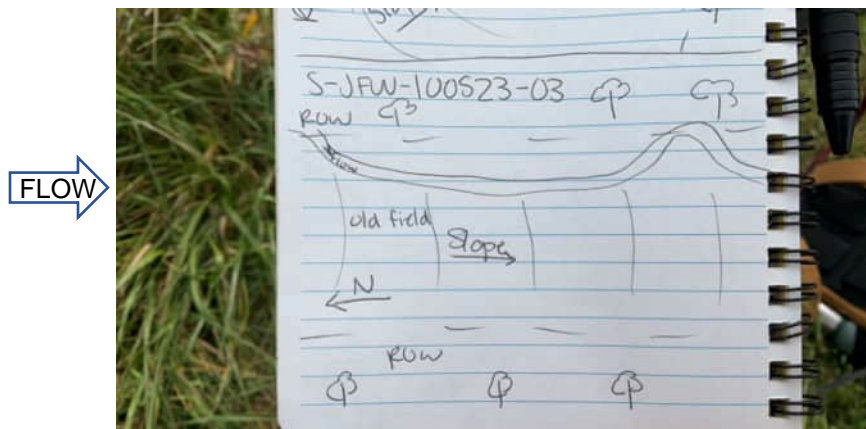
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Ephemeral stream that begins on a slope in a transmission line ROW and flows through a culvert into a PEM wetland



Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

24

SITE NAME/LOCATION Stream BN-27 Buckeye Power-Nottingham
 SITE NUMBER S-MJA-100323-02 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.01
 LENGTH OF STREAM REACH (ft) _____ LAT 40.20517 LONG -81.04935 RIVER MILE _____
 DATE 10/03/2023 SCORER MJA COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td><u>10</u></td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td><u>20</u></td> </tr> <tr> <td><input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td><u>25</u></td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td><u>45</u></td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p style="text-align: center;">Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>10</u></p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: (A) 15 TOTAL NUMBER OF SUBSTRATE TYPES: (B) 4</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	_____	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>10</u>	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>20</u>	<input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>25</u>	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	<u>45</u>	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 10px; width: 60px; margin: 0 auto; font-size: 24px; font-weight: bold;">19</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R	L	R
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Wide >10m		Mature Forest, Wetland		Conservation Tillage
<input type="checkbox"/>	Moderate 5-10m	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			Immature Forest, Shrub or Old Field		Urban or Industrial
<input checked="" type="checkbox"/>	Narrow <5m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			Residential, Park, New Field		Open Pasture, Row Crop
<input type="checkbox"/>	None	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			Fenced Pasture		Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input checked="" type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: South Fork Brushy Fork Distance from Evaluated Stream 0.21 miles
 CWH Name: _____ Distance from Evaluated Stream _____
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MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Flushing NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Athens

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/29/23 Quantity: 0.32

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 20.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Ephemeral stream flowing north along east boundary of powerline easement.



Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

6

SITE NAME/LOCATION Stream BN-28 Buckeye Power-Nottingham
 SITE NUMBER S-MJA-100323-03 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.06
 LENGTH OF STREAM REACH (ft) _____ LAT 40.20028 LONG -81.04577 RIVER MILE _____
 DATE 10/03/2023 SCORER MJA COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">TYPE</th> <th style="width:35%;">PERCENT</th> <th style="width:15%;">TYPE</th> <th style="width:35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>100</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 0 (B) 1</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 0 TOTAL NUMBER OF SUBSTRATE TYPES: 1</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	_____	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	100	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p style="text-align: center;">HHEI Metric Points</p> <p style="text-align: center;">Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; text-align: center; width: 40px; margin: 0 auto;">1</div> <p style="text-align: center;">A + B</p>
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	(Per Bank)		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input checked="" type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: South Fork Brushy Fork Distance from Evaluated Stream 0.21 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Flushing NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Athens

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/29/23 Quantity: 0.32

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

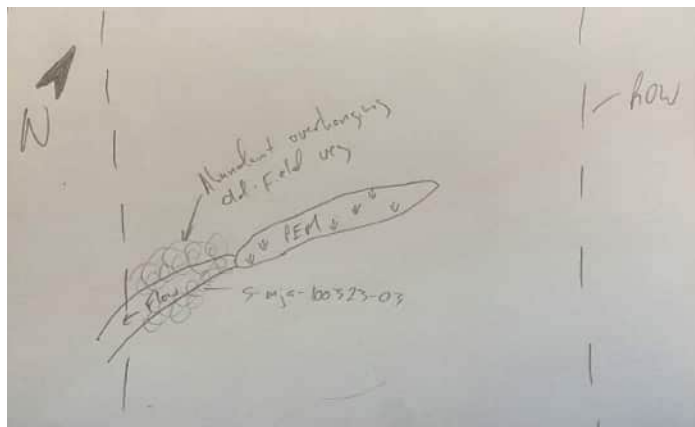
Salamanders Observed? (Y/N) No Species observed (if known): _____

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Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Ephemeral stream flowing west from PEM wetland in maintained powerline easement.



Downstream



Substrate



Upstream



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

22

SITE NAME/LOCATION Stream BN-29 Buckeye Power-Nottingham
 SITE NUMBER S-MJA-100423-01 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.01
 LENGTH OF STREAM REACH (ft) _____ LAT 40.19877 LONG -81.04313 RIVER MILE _____
 DATE 10/04/2023 SCORER MJA COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">TYPE</th> <th style="width:25%;">PERCENT</th> <th style="width:15%;">TYPE</th> <th style="width:25%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> SILT [3 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td><u>60</u></td> </tr> <tr> <td><input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td><u>30</u></td> <td><input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td><u>10</u></td> <td><input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 9 (B) 3</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 9 TOTAL NUMBER OF SUBSTRATE TYPES: 3</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> SILT [3 pt]	_____	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>60</u>	<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>30</u>	<input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> SAND (<2 mm) [6 pts]	<u>10</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">12</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
<input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> SILT [3 pt]	_____																										
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input type="checkbox"/> Stream Flowing	<input checked="" type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS Small puddles observed. Estimated ephemeral due to channel size.

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat (0.5 ft/100 ft)	<input type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate (2 ft/100 ft)	<input type="checkbox"/> Moderate to Severe	<input checked="" type="checkbox"/> Severe (10 ft/100 ft)
---	---	---	---	---

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: South Fork Brushy Fork Distance from Evaluated Stream 0.46 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Flushing NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Athens

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/29/23 Quantity: 0.32

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 50.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

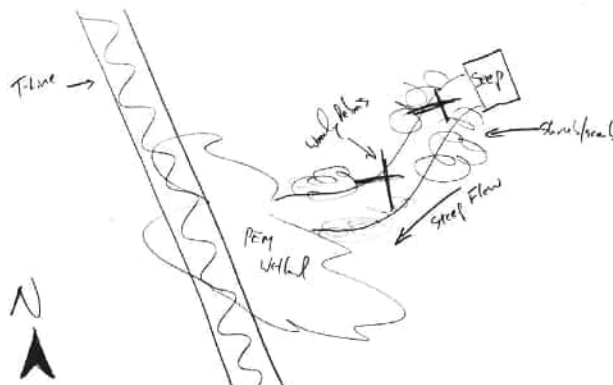
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Small ephemeral stream flowing into PEM wetland in maintained powerline easement.



Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

33

SITE NAME/LOCATION Stream BN-30 Buckeye Power-Nottingham
 SITE NUMBER S-MJA-100423-02 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.8
 LENGTH OF STREAM REACH (ft) _____ LAT 40.19775 LONG -81.04155 RIVER MILE _____
 DATE 10/04/2023 SCORER MJA COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">TYPE</th> <th style="width:35%;">PERCENT</th> <th style="width:15%;">TYPE</th> <th style="width:35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> SILT [3 pt]</td> <td><u>20</u></td> </tr> <tr> <td><input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td><u>40</u></td> </tr> <tr> <td><input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td><u>30</u></td> <td><input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td><u>10</u></td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 9 (B) 4</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 9 TOTAL NUMBER OF SUBSTRATE TYPES: 4</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> SILT [3 pt]	<u>20</u>	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>40</u>	<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>30</u>	<input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	<u>10</u>	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">13</div> <p>A + B</p>
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wide >10m		Mature Forest, Wetland		Conservation Tillage	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moderate 5-10m		Immature Forest, Shrub or Old Field		Urban or Industrial	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Narrow <5m		Residential, Park, New Field		Open Pasture, Row Crop	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None		Fenced Pasture		Mining or Construction	

COMMENTS Stream also flows through palustrine emergent wetland.

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS Stream estimated intermittent due to size of channel and watershed.

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: South Fork Brushy Fork Distance from Evaluated Stream 0.06 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Flushing NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Athens

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/29/23 Quantity: 0.32

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

Sulfur odor

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

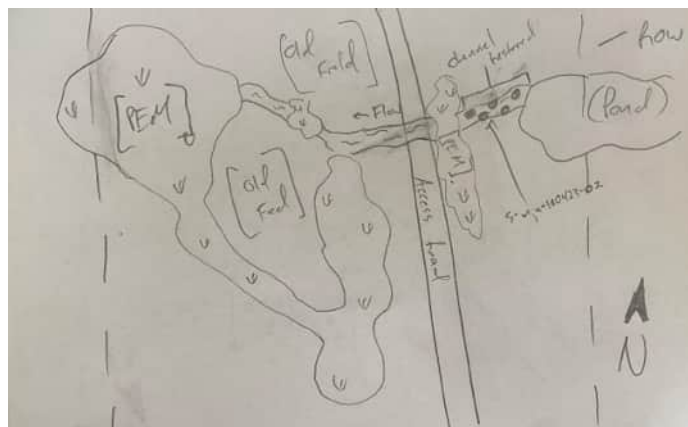
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Intermittent stream flowing from reclaimed coal mine pond, over access road, & through wetland. Channel restored between pond & access road.



Upstream



Channel very disturbed from through traffic at access crossing.



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

50

SITE NAME/LOCATION Stream BN-31 Buckeye Power-Nottingham
 SITE NUMBER S-MJA-100423-03 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.18
 LENGTH OF STREAM REACH (ft) _____ LAT 40.19645 LONG -81.04038 RIVER MILE _____
 DATE 10/04/2023 SCORER MJA COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:10%;">TYPE</th> <th style="width:40%;">PERCENT</th> <th style="width:10%;">TYPE</th> <th style="width:40%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]</td> <td>80</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>2</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>15</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>3</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>2</u> (A) 6 (B) 4</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 6 TOTAL NUMBER OF SUBSTRATE TYPES: 4</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]	80	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	2	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	15	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	3	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">10</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R	L	R
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Wide >10m		Mature Forest, Wetland		Conservation Tillage
<input checked="" type="checkbox"/>	Moderate 5-10m	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			Immature Forest, Shrub or Old Field		Urban or Industrial
<input type="checkbox"/>	Narrow <5m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			Residential, Park, New Field		Open Pasture, Row Crop
<input type="checkbox"/>	None	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			Fenced Pasture		Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input checked="" type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: South Fork Brushy Fork Distance from Evaluated Stream 0.00 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Flushing NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Athens

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/29/23 Quantity: 0.32
 Photo-documentation Notes: _____
 Elevated Turbidity? (Y/N): No Canopy (% open): 40.0
 Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____
 Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____
 Is the sampling reach representative of the stream (Y/N) Yes If not, explain: _____

 Additional comments/description of pollution impacts: _____

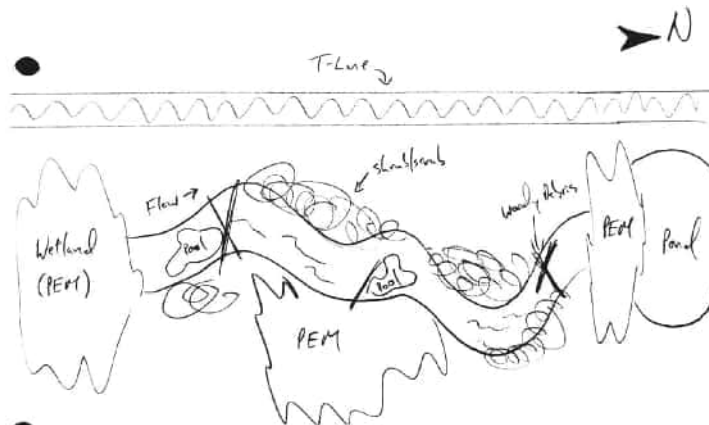
BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____
 Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____
 Salamanders Observed? (Y/N) No Species observed (if known): _____
 Aquatic Macroinvertebrates Observed? (Y/N) No Species observed (if known): _____
 Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Perennial stream flowing along east edge of maintained powerline easement. Flows through patches of emergent wetland before emptying into pond.



Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

22

SITE NAME/LOCATION Stream BN-32 Buckeye Power-Nottingham
 SITE NUMBER S-MJA-100423-04 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.01
 LENGTH OF STREAM REACH (ft) _____ LAT 40.19375 LONG -81.03622 RIVER MILE _____
 DATE 10/04/2023 SCORER MJA COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td><u>50</u></td> </tr> <tr> <td><input type="checkbox"/> <input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td><u>40</u></td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td><u>10</u></td> </tr> </tbody> </table> <p style="text-align: center;">Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u></p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: (A) 9 TOTAL NUMBER OF SUBSTRATE TYPES: (B) 3</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	_____	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>50</u>	<input type="checkbox"/> <input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>40</u>	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	<u>10</u>	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; font-size: 24px; font-weight: bold; margin: 10px auto;">12</div> <p>A + B</p>
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS Also flows through a palustrine emergent wetland.

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input type="checkbox"/> Stream Flowing	<input checked="" type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: South Fork Brushy Fork Distance from Evaluated Stream 1.2 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Flushing NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Athens

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/29/23 Quantity: 0.32

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

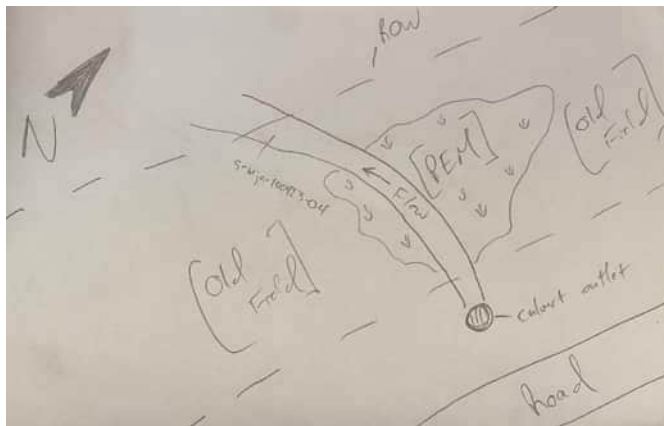
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Constructed intermittent stream channel flowing from roadside culvert and through PEM wetland.



Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

46

SITE NAME/LOCATION Stream BN-33 Buckeye Power-Nottingham
 SITE NUMBER S-MJA-100423-05 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.01
 LENGTH OF STREAM REACH (ft) _____ LAT 40.19605 LONG -81.03596 RIVER MILE _____
 DATE 10/04/2023 SCORER MJA COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> BLDR SLABS [16 pts]</td> <td style="text-align: center;">30</td> <td><input type="checkbox"/> SILT [3 pt]</td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td></td> <td><input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td></td> </tr> <tr> <td><input type="checkbox"/> BEDROCK [16 pts]</td> <td></td> <td><input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td style="text-align: center;">50</td> <td><input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td></td> </tr> <tr> <td><input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td style="text-align: center;">20</td> <td><input type="checkbox"/> MUCK [0 pts]</td> <td></td> </tr> <tr> <td><input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td></td> <td><input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td></td> </tr> </tbody> </table> <p style="text-align: center;">Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>80</u></p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: (A) 28 TOTAL NUMBER OF SUBSTRATE TYPES: (B) 3</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> BLDR SLABS [16 pts]	30	<input type="checkbox"/> SILT [3 pt]		<input checked="" type="checkbox"/> BOULDER (>256 mm) [16 pts]		<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]		<input type="checkbox"/> BEDROCK [16 pts]		<input type="checkbox"/> FINE DETRITUS [3 pts]		<input checked="" type="checkbox"/> COBBLE (65-256 mm) [12 pts]	50	<input type="checkbox"/> CLAY or HARDPAN [0 pt]		<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	20	<input type="checkbox"/> MUCK [0 pts]		<input type="checkbox"/> SAND (<2 mm) [6 pts]		<input type="checkbox"/> ARTIFICIAL [3 pts]		<p style="text-align: center; font-weight: bold;">HHEI Metric Points</p> <p style="text-align: center;">Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; text-align: center; font-size: 1.5em; font-weight: bold;">31</div> <p style="text-align: center;">A + B</p>
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<p>2. Maximum Pool Depth (Measure the <u>maximum</u> pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check <i>ONLY</i> one box):</p> <table style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td><input type="checkbox"/> > 30 centimeters [20 pts]</td> <td><input type="checkbox"/> 5 cm - 10 cm [15 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 22.5 - 30 cm [30 pts]</td> <td><input type="checkbox"/> < 5 cm [5pts]</td> </tr> <tr> <td><input type="checkbox"/> > 10 - 22.5 cm [25 pts]</td> <td><input checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]</td> </tr> </tbody> </table> <p>COMMENTS _____ MAXIMUM POOL DEPTH (inches): 0.0</p>	<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> 5 cm - 10 cm [15 pts]	<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5pts]	<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]	<p style="text-align: center;">Pool Depth Max = 30</p> <div style="border: 1px solid black; padding: 5px; text-align: center; font-size: 1.5em; font-weight: bold;">0</div>																						
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<p>3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check <i>ONLY</i> one box):</p> <table style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td><input type="checkbox"/> > 4.0 meters (> 13') [30 pts]</td> <td><input checked="" type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]</td> <td><input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]</td> <td></td> </tr> </tbody> </table> <p>COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 4.0</p>	<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input checked="" type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]	<input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		<p style="text-align: center;">Bankfull Width Max=30</p> <div style="border: 1px solid black; padding: 5px; text-align: center; font-size: 1.5em; font-weight: bold;">15</div>																						
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH		FLOODPLAIN QUALITY (Most Predominant per Bank)									
L	R	(Per Bank)		L	R	L	R				
<input type="checkbox"/>	<input type="checkbox"/>	Wide >10m		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Narrow <5m		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	None		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input checked="" type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: South Fork Brushy Fork Distance from Evaluated Stream 1.2 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Flushing NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Harrison Township/City: Athens

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/29/23 Quantity: 0.32

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

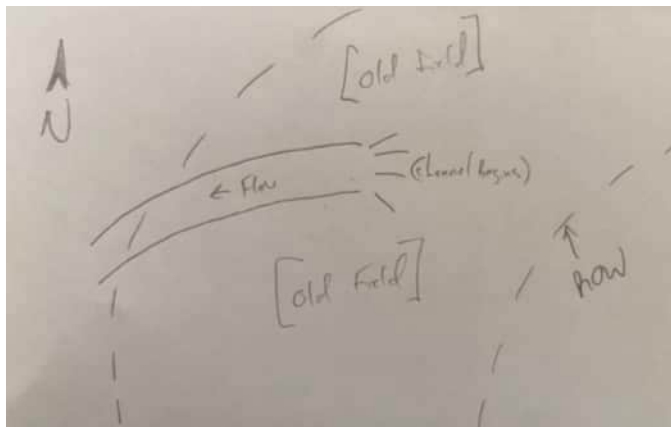
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Ephemeral stream beginning in maintained powerline easement and flowing west.



Upstream



Downstream



Substrate

Appendix G
Jacobs Open Water/Pond Data Forms

POND DATA SHEET

FEATURE ID Pond BN-01	ASSOCIATED FEATURES:
SURVEY TYPE: Wetland and waterbodies delineation	
DATE: 10/02/2023	CLIENT/PROJECT NAME: FirstEnergy Buckeye Power-Nottingham
INVESTIGATORS: JFW	ROUTE:
STATE/COUNTY: OH Harrison	IS THIS A MAPPED NWI FEATURE?: yes PUBG

WATERBODY CHARACTERISTICS

WATERBODY TYPE:	Pond
AVG. DEPTH:	3'
AVG. WIDTH (WATER SURFACE):	50'
APPROXIMATE SIZE:	0.5 acre

QUALITATIVE ATTRIBUTES

AVERAGE WATER APPEARANCE:	Turbid green
PRIMARY SUBSTRATE (IF OBSERVED):	Not observed
POTENTIAL HABITAT FOR:	Fish, frogs, insects
SURROUNDING LAND USE:	Mowed
WETLAND FRINGE (IF PRESENT):	PEM

COMMENTS



NE



W



Substrate

POND DATA SHEET

FEATURE ID Pond BN-02		ASSOCIATED FEATURES:	
SURVEY TYPE: Wetland and waterbodies delineation			
DATE: 10/03/2023	CLIENT/PROJECT NAME: FirstEnergy Buckeye Power-Nottingham		
INVESTIGATORS: JFW		ROUTE:	
STATE/COUNTY: OH Harrison		IS THIS A MAPPED NWI FEATURE?: yes PUBGx	
WATERBODY CHARACTERISTICS			
WATERBODY TYPE:	Old quarry or mine pond		
AVG. DEPTH:	6'		
AVG. WIDTH (WATER SURFACE):	120'		
APPROXIMATE SIZE:	2 acres		
QUALITATIVE ATTRIBUTES			
AVERAGE WATER APPEARANCE:	Murky green		
PRIMARY SUBSTRATE (IF OBSERVED):	Not observed		
POTENTIAL HABITAT FOR:	Fish, insects, turtles, frogs		
SURROUNDING LAND USE:	Forested, scrub shrub, old field		
WETLAND FRINGE (IF PRESENT):	PEM outside survey area		
COMMENTS			



SE



NE



Substrate

POND DATA SHEET

FEATURE ID Pond BN-03	ASSOCIATED FEATURES:
SURVEY TYPE: Wetland and waterbodies delineation	
DATE: 10/04/2023	CLIENT/PROJECT NAME: FirstEnergy Buckeye Power-Nottingham
INVESTIGATORS: JFW	ROUTE:
STATE/COUNTY: OH Harrison	IS THIS A MAPPED NWI FEATURE?: yes PUBG

WATERBODY CHARACTERISTICS

WATERBODY TYPE:	Pond
AVG. DEPTH:	4'
AVG. WIDTH (WATER SURFACE):	200'
APPROXIMATE SIZE:	0.74 ac

QUALITATIVE ATTRIBUTES

AVERAGE WATER APPEARANCE:	Murky slightly turbid
PRIMARY SUBSTRATE (IF OBSERVED):	Clay/Silt
POTENTIAL HABITAT FOR:	Amphibians
SURROUNDING LAND USE:	Open pasture
WETLAND FRINGE (IF PRESENT):	PEM

COMMENTS



S



Catch Basin/Outlet



S
Outlet



S

POND DATA SHEET

FEATURE ID Pond BN-04		ASSOCIATED FEATURES:	
SURVEY TYPE: Wetland and waterbodies delineation			
DATE: 10/04/2023	CLIENT/PROJECT NAME: FirstEnergy		Buckeye Power-Nottingham
INVESTIGATORS: JFW		ROUTE:	
STATE/COUNTY: OH Harrison		IS THIS A MAPPED NWI FEATURE?: yes PUBGx	
WATERBODY CHARACTERISTICS			
WATERBODY TYPE:	Mine/quarry pond		
AVG. DEPTH:	4'		
AVG. WIDTH (WATER SURFACE):	40'		
APPROXIMATE SIZE:	0.2 acre		
QUALITATIVE ATTRIBUTES			
AVERAGE WATER APPEARANCE:	Murky, filmy		
PRIMARY SUBSTRATE (IF OBSERVED):	Not observed		
POTENTIAL HABITAT FOR:	Insects		
SURROUNDING LAND USE:	Mowed		
WETLAND FRINGE (IF PRESENT):	Cattails within OHWM		
COMMENTS			



SE



W

POND DATA SHEET

FEATURE ID Pond BN-05	ASSOCIATED FEATURES:
SURVEY TYPE: Wetland and waterbodies delineation	
DATE: 10/06/2023	CLIENT/PROJECT NAME: FirstEnergy Buckeye Power-Nottingham
INVESTIGATORS: JFW	ROUTE:
STATE/COUNTY: OH Harrison	IS THIS A MAPPED NWI FEATURE?: yes PUBGx
WATERBODY CHARACTERISTICS	
WATERBODY TYPE:	Pond/Man Made
AVG. DEPTH:	6'
AVG. WIDTH (WATER SURFACE):	240'
APPROXIMATE SIZE:	0.14 ac
QUALITATIVE ATTRIBUTES	
AVERAGE WATER APPEARANCE:	Murkish and turbid. Post rain event.
PRIMARY SUBSTRATE (IF OBSERVED):	Silty Clay
POTENTIAL HABITAT FOR:	Amphibians and avian species and fish
SURROUNDING LAND USE:	Pasture
WETLAND FRINGE (IF PRESENT):	None
COMMENTS	
Outlet structure located in western portion of the pond; adjacent to an access road	



W



N



S



E

POND DATA SHEET

FEATURE ID Pond BN-06	ASSOCIATED FEATURES:
SURVEY TYPE: Wetland and waterbodies delineation	
DATE: 10/05/2023	CLIENT/PROJECT NAME: FirstEnergy Buckeye Power-Nottingham
INVESTIGATORS: MJA	ROUTE:
STATE/COUNTY: OH Harrison	IS THIS A MAPPED NWI FEATURE?: yes PUBG

WATERBODY CHARACTERISTICS

WATERBODY TYPE:	Pond
AVG. DEPTH:	>3 ft
AVG. WIDTH (WATER SURFACE):	160'
APPROXIMATE SIZE:	2.5 acres

QUALITATIVE ATTRIBUTES

AVERAGE WATER APPEARANCE:	Murky, high algae
PRIMARY SUBSTRATE (IF OBSERVED):	Silt with some boulders
POTENTIAL HABITAT FOR:	Fish, amphibians
SURROUNDING LAND USE:	Forested, cleared ROW
WETLAND FRINGE (IF PRESENT):	PEM

COMMENTS



NE



N



Substrate

POND DATA SHEET

FEATURE ID Pond BN-07	ASSOCIATED FEATURES:
SURVEY TYPE: Wetland and waterbodies delineation	
DATE: 10/04/2023	CLIENT/PROJECT NAME: FirstEnergy Buckeye Power-Nottingham
INVESTIGATORS: MJA	ROUTE:
STATE/COUNTY: OH Harrison	IS THIS A MAPPED NWI FEATURE?: yes PUBG

WATERBODY CHARACTERISTICS

WATERBODY TYPE:	Pond
AVG. DEPTH:	3'
AVG. WIDTH (WATER SURFACE):	80'
APPROXIMATE SIZE:	1.9 acres

QUALITATIVE ATTRIBUTES

AVERAGE WATER APPEARANCE:	Clear
PRIMARY SUBSTRATE (IF OBSERVED):	Silt
POTENTIAL HABITAT FOR:	Bass observed
SURROUNDING LAND USE:	Forested
WETLAND FRINGE (IF PRESENT):	None

COMMENTS

Sulfur odor



N



E



S



Substrate

POND DATA SHEET

FEATURE ID Pond BN-08		ASSOCIATED FEATURES:	
SURVEY TYPE: Wetland and waterbodies delineation			
DATE: 10/04/2023	CLIENT/PROJECT NAME: FirstEnergy		Buckeye Power-Nottingham
INVESTIGATORS: MJA		ROUTE:	
STATE/COUNTY: OH Harrison		IS THIS A MAPPED NWI FEATURE?: yes PUBGx	
WATERBODY CHARACTERISTICS			
WATERBODY TYPE:	Old quarry test pit		
AVG. DEPTH:	6'		
AVG. WIDTH (WATER SURFACE):	100'		
APPROXIMATE SIZE:	0.5 acre		
QUALITATIVE ATTRIBUTES			
AVERAGE WATER APPEARANCE:	High algae, murky		
PRIMARY SUBSTRATE (IF OBSERVED):	Silt, detritus		
POTENTIAL HABITAT FOR:	Bass observed		
SURROUNDING LAND USE:	Forested, cleared ROW		
WETLAND FRINGE (IF PRESENT):	PEM		
COMMENTS			



W



SE



Substrate