AMERICAN TRANSMISSION SYSTEMS, INCORPORATED A FIRSTENERGY COMPANY

LETTER OF NOTIFICATION

KIRBY-ROBERTS 138 kV TRANSMISSION LINE LOOP TO CRISSINGER SUBSTATION

OPSB CASE NO.: 19-0803-EL-BLN

April 15, 2019

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

LETTER OF NOTIFICATION KIRBY-ROBERTS 138 kV TRANSMISSION LINE LOOP TO CRISSINGER SUBSTATION PROJECT

The following information is being provided in accordance with the procedures in the 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: Name

Name of Project: Kirby-Roberts 138 kV Transmission Line Loop to

Crissinger Substation Project ("Project").

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

In this Project, American Transmission Systems, Incorporated ("ATSI"), a FirstEnergy company, is proposing to construct approximately 6,900 feet (1.31 miles) of new transmission line to loop the existing Kirby-Roberts 138 kV Transmission Line into the existing Crissinger Substation. In addition, the Project will expand the Crissinger Substation from a four (4) breaker ringbus configuration to a six (6) breaker ringbus

configuration requiring an approximately 11.8% expansion of the substation.

The existing Kirby-Roberts 138 kV Transmission Line will be looped into the Crissinger Substation creating two new transmission lines, the Crissinger-Kirby 138 kV Transmission Line and the Crissinger-Roberts #2 138 kV Transmission Line. The new transmission line will begin at existing Structure 3014. The existing Kirby-Roberts 138 kV Transmission Line attaches to this structure along with the existing Crissinger-Tangy 138 kV Transmission Line. This Project will remove the existing spans on the Kirby-Roberts 138 kV Transmission Line between existing Structure 11732 and Structure 5031. Once removed, a new mid-span structure and conductor will be placed between the

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existing structure 11732 and proposed structure 11734, and new conductor will be placed between proposed structure 11734 and existing structure 5031.

The new Crissinger-Kirby 138 kV Transmission Line will connect from Structure 11732, which is to be reinforced with new guying, to a new single circuit wood pole Structure 11733. This transmission line will then join the new Crissinger-Roberts #2 138 kV Transmission Line on a double circuit wood pole Structure 11734 and continue east for approximately 5,490 feet (1.04 miles) to Structure 11755 where the Crissinger-Roberts #2 138 kV Transmission Line crosses underneath the Crissinger-Kirby 138 kV Transmission Line. From here the Crissinger-Roberts #2 138 kV Transmission Line continues east for an additional 440 feet (0.08 miles) until it reaches Crissinger Substation. The Crissinger-Kirby 138 kV Transmission Line continues northeast and then south for approximately 610 feet (0.12 miles) until it reaches Crissinger Substation.

Crissinger Substation will be expanded by approximately 11.8% of the existing area to accommodate the expansion of the ring bus. The existing fenced area is approximately 74,860 square feet. Approximately 8,861 square feet of new fenced area will be added to the substation. Approximately 78 linear feet of new fence will be added.

The general location of the Project is shown in Exhibit 1, a partial copy of the United States Geologic Survey, Marion County OH, Quad Map, ID number 40083-E2. Exhibit 2 is a partial copy of Bing aerial imagery. The Project is located near Crissinger Substation at 1734 Crissinger Rd, Marion, OH 43302. The general layout is shown in Exhibit 3. The Project is located in Pleasant Township, Green Camp Township, and Marion Township, Marion County, Ohio.

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 (1)(b) of the Application Requirement Matrix for Electric Power Transmission Lines, Appendix A of OAC Rule 4906-1-01. This item states:

(1) New construction, extension, or relocation of single or multiple circuit electric power transmission line(s), or upgrading existing transmission or distribution line(s) for operating at a higher transmission voltage, as follows:

(b) Line(s) greater than 0.2 miles in length but not greater than two miles in length.

The proposed Project is within the requirements of Item (1)(b) as it involves constructing approximately 1.31 miles of new transmission line. The substation expansion is jurisdictional under Item (4)(a) which states:

(4) Constructing additions to existing electric power transmission stations or converting distribution stations to transmission stations where:

(a) There is a twenty percent or less of the fenced area.

The Proposed substation expansion will require an expansion of approximately 11.8% of the fenced area. This meets the requirements of a Construction Notice filing if it were to be filed separately. It is included with the transmission line portion of the work here since the two projects have the same need and will begin construction at approximately the same time.

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

The proposed Project includes the expansion of the Crissinger 138 kV Substation in Marion, Ohio to allow for the utilization of existing open bay positions to add two breakers to expand the substation from a four-breaker ring bus to a six-breaker ring bus. The Project also includes the looping of the existing Kirby – Roberts 138 kV Line into Crissinger substation by adding approximately 1.2 miles of double circuit from the existing Kirby – Roberts 138 kV Line to Crissinger Substation. Currently the Kirby-

Roberts 138kV Transmission Line bypasses the Crissinger Substation. After the Project is complete, the 138 kV line exits out of the Crissinger substation will be:

- Crissinger Roberts #1
- Crissinger Roberts #2
- Crissinger Tangy
- Crissinger Kirby
- Crissinger Transformer #1
- Crissinger Transformer #2.

The expansion of the Crissinger Substation will provide an additional 138 kV source to the planning area and provide additional reliability and improved operational flexibility under system restoration and maintenance conditions. It will reduce the amount of local load loss in the area (approximately 99 MWs and 5,000 customers) and mitigate the potential local voltage collapse on the 34.5 kV sub-transmission system for the loss of the Crissinger-Roberts 138 kV line followed by the loss of the Crissinger-Tangy 138 kV line followed by the loss of the Crissinger-Roberts 138 kV line.

The loss of two 138 kV transmission lines, which is a defined as a NERC P6 (N-1-1) system contingency, can happen with the scheduled or unscheduled outage of the Crissinger-Roberts 138 kV line followed by an unforeseen or unplanned outage of the Crissinger-Tangy 138 kV line due to a storm or other unplanned event. This system contingency is also valid for the scheduled or unscheduled outage of the Crissinger-Tangy 138 kV line followed by the unforeseen or unplanned outage of the Crissinger-Roberts 138 kV line. The Project is designed to mitigate the impact of these defined system contingencies by providing an additional 138 kV source into the planning area and maintaining service to the 5,000 customers and approximately 99 MWs of load in the event of these contingences.

Over the past five years, the Crissinger-Roberts 138 kV line has experienced one sustained outage (1h 37m) and three momentary outages, and the Crissinger-Tangy 138 kV line has experienced two sustained outages (average duration 4.5m) and one momentary outage.

The alternative considered for this Project was to add another capacitor bank at Crissinger 138 kV substation. It was not selected because it was not a strong enough source to support the potential voltage drop and local voltage collapse on the 34.5 kV sub-transmission system under contingency conditions.

The Crissinger 138 kV Ring Bus Expansion Project was presented to PJM during the western sub-regional TEAC meeting on 08/31/2018 and was assigned the Supplemental RTEP number s1696. The slide from the PJM meeting this was presented at is included as Exhibit 4. The scheduled in-service date is 12/31/2019. This Project will be included in the 2019 Long Term Forecast Report.

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. 2018 Long-Term Forecast Report. This map was submitted to the PUCO in Case No. 18-0449-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 Kirby-Roberts 138 kV Transmission Line and Crissinger Substation. The project area is located approximately 4 ³/₁₀ inches (11" x 17" printed version) from the left edge of the map and approximately 6 inches (11" x 17" printed version) from the top of the map. The general location and layout of the project area is shown in Exhibit 1 and 2.

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

Alternatives to the proposed Project included the following:

No Action – Continued operation of the system as currently configured does not reduce the risk of the loss of approximately 99 MW of load and corresponding loss of service to approximately 5,000 customers of FirstEnergy under contingency scenarios.

- Alterative to the ring bus expansion An alternative to the ring bus expansion considered for the project was to add another capacitor bank at Crissinger 138 kV substation. It was not selected because it was not a strong enough source to support the potential voltage drop and local voltage collapse on the 34.5 kV subtransmission system.
- Alternative transmission line design:

One alternative design of the transmission line extension that was considered was the conversion of the existing 6-wire configuration on the Crissinger-Tangy 138 kV Transmission Line to a 3-wire configuration to accommodate the new Crissinger-Kirby 138 kV Transmission Line. Under this alternative, the new Crissinger-Kirby 138 kV Transmission Line would have been on the north side of the existing towers and the Crissinger-Tangy 138 kV Transmission Line would have been on the south side of the towers. The new Crissinger-Roberts No. 2 138 kV Transmission Line would have followed the proposed double circuit path north of the existing centerline in a single circuit configuration.

This design was determined to be infeasible given the proposed configuration of Crissinger Substation for the Kirby and Tangy 138 kV Transmission Lines, which could not be switched without causing both proposed 138 kV circuits to cross outside of Crissinger Substation. To achieve this, two 3-pole structures with guying would be required in a span of approximately 480 feet. Furthermore, by converting the existing towers to double circuit operation with two 3-wire configurations, larger conductor would be required to satisfy current FirstEnergy protection specifications. A reconductor may have also resulted in the further need to reinforce or replace several, if not all, of the towers to account for any additional loading. Given the complications associated with this alternative, coupled with the need for and availability of the expanded right-of way to install the new line extension, the proposed solution is considered the best available option for the Project.

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 Transmission Line Project as necessary. ATSI will maintain a copy of this Letter of Notification on FirstEnergy's website. Letters will be sent to affected property owners at least 7 days before construction begins on the Project informing them of the Project's start and a proposed timeframe of construction and restoration activities.

ATSI will publish notice of the Project in the Marion Star. Additionally, letters will be sent to affected property owners when this Letter of Notification application is submitted to the Board informing them of the Project.

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

The construction schedule for this Project is expected to begin as early as May 13, 2019 and completed by December 31, 2019.

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

Exhibit 1 depicts the general location of the Project. This Exhibit provides a partial copy of the United States Geological Survey, Marion County OH, quadrangle map (Quad Order ID 40083-E2). Exhibit 2 provides a partial copy of Bing aerial imagery of the Project Area.

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

The Project is located on new and existing right-of-way and new right-of-way is required for the Project. The existing right-of-way is 100 feet wide. The new right-of-way will include an expansion of the existing right-of-way by 30 feet to the north. Table 1 contains a list of property owners effected by the project.

Table 1: Property Owner List

Parcel Number	Property Owner	Property Address	Easement Status
100040000400	Ohio Department of Natural Resources	2045 Morse Rd, Bldg C4, Columbus, OH 43229	New Easement Being Obtained
250110000400	Ohio Department of Natural Resources	2045 Morse Rd, Bldg C4, Columbus, OH 43229	Easement Obtained
250110000100	Pheasants Forever Inc.	1783 Buerkle Circle, St Paul, MN 55110	New Easement Being Obtained
250830600300	Ohio Edison	800 Cabin Hill Dr, Greensburg, PA 15601	Easement Obtained
250830600200	Ohio Edison	800 Cabin Hill Dr, Greensburg, PA 15601	Easement Obtained
170080004700	Beaver David D Etal	359 W Newmans Cardington Rd, Prospect, OH 43342	Easement Obtained
170080004600	Pheasants Forever Inc.	1783 Buerkle Circle, St Paul, MN 55110	Easement Obtained
170080004500	Clabaugh Lynn M Etal	Marion Green Camp Rd, Marion, OH 43302	Easement Obtained

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:

Transmission Line: Crissinger-Tangy

Voltage: 138 kV

Conductors: 6-Wire 336 kcmil 26/7 ACSR

Static Wire: 7#8 Alumoweld

Insulators: Polymer

Transmission Line: Crissinger-Kirby

Voltage: 138 kV

Conductors: 795 kcmil 26/7 ACSR

Static Wire: 3#6 Alumoweld

Insulators: Polymer

Transmission Line: Crissinger-Roberts #2

Voltage: 138 kV

Conductors: 795 kcmil 26/7 ACSR

Static Wire: 3#6 Alumoweld

Insulators: Polymer

ROW Width: 100 feet of existing

30 feet of new

Land Requirements: N/A

Structure Types: Exhibit 5: Vertical Double Circuit Horizontal Post Wood Pole

Structure. Nineteen (19) structures are needed.

Exhibit 6: Vertical Stacked Double Circuit Horizontal Post Wood

Pole Structure. One (1) structure is needed.

Exhibit 7: Deadend Vertical Single Circuit Wood Pole Structure.

One (1) structure is needed.

Exhibit 8: Custom Double Circuit Tangent Wood Pole Crossing

Structure. One (1) structure is needed.

Exhibit 9: Custom Double Circuit Tangent Wood Pole Crossing

Structure. One (1) structure is needed.

Exhibit 10: Single Circuit Suspension Wood Pole Structure. One

(1) structure is needed.

Exhibit 11: Single Circuit Braced Post Steel Pole Structure. Two

(2) structures are needed.

Exhibit 12: Single Circuit Wood Pole Structure Horizontal Post

Delta Single Pole. One (1) structure is needed.

The substation expansion construction will have the following characteristics:

Bus work: 100 feet of new aluminum bus added

200 feet of existing aluminum bus is removed

Breakers: 4 138 kV, 3000 A SF6 Breakers

Switches: 9 138 kV, 2000A Disconnect Switches

Wave Trap: 2 138 kV, 2000A CCVTs: 6 138 kV CCVTs

Fence: 78 linear feet of fence is added

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

The closest occupied residence or institution is approximately 115 feet from the proposed 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 total estimated capital cost for the proposed project is approximately \$7,647,700. This includes approximately \$2,801,100 for transmission line portion and approximately \$4,846,600 for the substation portion.

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

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

The Project is located in Pleasant Township, Green Camp Township, and Marion Township, Marion County, Ohio. The main land use around the Project is agricultural.

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

Agricultural land does exist within the Project's disturbance area. Most of the agricultural land is in row crops located within the right-of-way. Three (3) of the four (4) parcels are rented fields and the proposed Project will not conflict with their continued use. A list of all agricultural land and acreage including agricultural district land is given in Table 2.

Table 2: Agricultural Lands within the Project's Disturbance Area

Parcel Number	Property Owner	Acreage	Agricultural District	Agricultural District Expiration
250110000100	Pheasants Forever Inc.	9	No	N/A
250830600300	Ohio Edison	24.8	No	N/A
250830600200	Ohio Edison	18.6	No	N/A
170080004500	Clabaugh Lynn M Etal	55.6	Yes	2024

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

As part of the investigation, a search of Ohio Historic Preservation Office ("OHPO") online database was conducted to identify the existence of any significant archeological or cultural resource sites within 0.5 miles of the Project Area. The results of the search are shown in Exhibit 13. The specific location of any archeological resource is excluded from the map and are instead listed in Table 3.

The OHPO database includes all Ohio listings on the National Register of Historic Places ("NRHP"), including districts, sites, building, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. The results of the search indicate that no listed NRHP sites and no NRHP eligible sites were identified within 0.5 miles of the Project potential disturbance area.

The OHPO database also includes listing of the Ohio Archaeological Inventory ("OAI"), the Ohio Historic Inventory ("OHI"), previous cultural resource surveys, and the Ohio Genealogical Society ("OGS") cemetery inventory. Three (3) OAI listed archeological resources have been previously inventoried within 0.5 miles of the Project area and are shown in Table 3. No OHI listed structural resources are located within 0.5 miles of the Project area. Four (4) previous cultural resource surveys were conducted within 0.5

miles of the Project area and are listed in Table 4. One (1) OSG cemetery is located within 0.5 miles of the Project area and is identified in Table 5.

Table 3. List of OAI Listed Archeological Resources

OAI Number	Affiliation	Description	County	Quad Name
MN0061	Prehistoric	Unknown Prehistoric	Marion	Marion West
MN0062	Prehistoric	Unknown Prehistoric	Marion	Marion West
MN0063	Prehistoric	Unknown Prehistoric	Marion	Marion West

Table 4. List of Previous Cultural & Historic Resource Survey

Year	Name	County	Municipality
1995	Phase I Archaeological Survey for Ohio Edison Company's Proposed Kirby-Roberts 138 kV Transmission Line in Marion and Union Counties, Ohio	Marion	Pleasant Township
2012	Phase I Cultural Resource Management Survey of a Proposed 9 ha (22.4a.) Wetland Restoration Project in Green Camp and Pleasant Townships, Marion County, Ohio	Marion	Green Camp Township & Pleasant Township
2018	Additional Phase I Archaeological Investigations for the Approximately 39.9 km (24.8 mi) Harpster-South Morral 69 kV Rebuild Project in Pitt Township, Wyandot County and Waldo/Pleasant/Big Island/Salt Rock Townships, Marion County, Ohio	Marion	Pleasant Township
2018	Additional Phase I Archaeological Investigations for the Approximately 39.9 km (24.8 mi) Harpster-South Morral 69 kV Rebuild Project in Pitt Township, Wyandot County and Waldo/Pleasant/Big Island/Salt Rock Townships, Marion County, Ohio	Marion	Pleasant Township

Table 5. List of OGS cemeteries

OGS ID	Name	County	Location
7384	Cusick	Marion	Not Confident

The closest OAI is located approximately 0.20 miles away. The closest Phase 1 survey is located along the new transmission line centerline near Crissinger Substation and near the existing Kirby-Roberts 138 kV Transmission Line. Based upon the results of the OHPO online database there are no cultural resources within the Project's area and no impacts are expected.

Although, the OSG cemetery location is rated "not confident", notes in the OHPO database indicate that is located within 400 feet of the intersection of Crissinger Road and Bellefontaine Avenue. This would place the cemetery approximately 0.45 miles away from the Project area. Consequently, no impacts are expected.

4906-6-05 (B)(10)(d): Local, State, and Federal Requirements

Table 6 shows the list of government agency requirements and the filing status at the time of filing.

Table 6. List of Government Agency Requirements to be Secured Prior to Construction

Agency	Permit Requirement	Status
Ohio EPA	General NPDES Construction Strom Water Permit	Will be Filed

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

ATSI contracted AECOM to submit a request to the Ohio Department of Natural Resources ("ODNR") Office of Real Estate to conduct an Environmental Review As part of the Environmental Review, the ODNR Office of Real Estate 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 Office of Real Estate's response on March 25, 2019 indicated that four (4) federally and state endangered species, one (1) federally threatened and state endangered species, one (1) federal candidate and state endangered species, two (2) state endangered species, and one (1) state threatened species are within the range of the identified Project area. The ODNR also indicated there are records of the Bald Eagle (*Haliaeetus leucocephalus*) within the one mile of the Project area. A copy of ODNR's Office of Real Estate's response is included as Exhibit 14.

ATSI contracted AECOM to submit a request to the US Fish and Wildlife Service ("USFWS") for an Ecological Review, 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 15. The USFW's response on March 1, 2019 indicated that they have records of one (1) federally endangered and (1) federally threatened species. A list of all endangered, threatened, and rare species, as identified by ODNR and USFWS, is provided in Table 7.

Table 7: List of Endangered, Threatened, and Rare Species				
Common Name	Scientific Name	Federal Listed Status	State Listed Status	Affected Habitat
Indiana Bat	Myotis sodalis	Endangered	Endangered	Trees & Forest
Northern Long-Ear Bat	Myotis septentrionalis	Threatened	Threatened	Trees & Forest
Clubshell	Pleurobema clava	Endangered	Endangered	In-Water, Streams
Rayed Bean	Villosa fabalis	Endangered	Endangered	In-Water, Streams
Snuffbox	Epioblasma triquetra	Endangered	Endangered	In-Water, Streams

Table 7: List of Endangered, Threatened, and Rare Species				
Common Name	Scientific Name	Federal Listed Status	State Listed Status	Affected Habitat
Rabbitsfoot	Quadrula cylindrica cylindrica	Candidate	Endangered	In-Water, Streams
Pondhorn	Uniomerus tetralasmus	N/A	Threatened	In-Water, Streams
Eastern Massasauga	Sistrurus catenatus	Threatened	Endangered	Wetlands
American Bittern	Botaurus lentiginosus	N/A	Endangered	Wetlands
King Rail	Rallus elegans	N/A	Endangered	Grass & Marsh
Bald Eagle	Haliaeetus leucocephalus	Protected	Protected	Trees

The response from ODNR and USFWS indicated Project is within the range of the federally and state endangered Indiana Bat (Myotis sodalis) and the federally threatened Northern Long-Eared Bat (Myotis septentrionalis). Tree clearing is needed along a portion of the right-of-way. Tree clearing will be completed between October 1st and March 31st to avoid affecting any potential bat habitat. If this schedule cannot be achieved and the clearing of trees outside of this window is deemed necessary, ATSI will conduct a bat survey this summer and subsequent consultation with ODNR and USFWS will be completed prior to clearing.

The response from ODNR indicated that the mussel species listed in the Project area include clubshell (*Pleurobema clava*), rayed bean (*Villosa fabalis*), snuffbox (*Epioblasma triquertra*), rabbitsfoot (*Quadrula cylindrical cylindrical*), and pondhorn (*Uniomerus tetralasmus*) and the ODNR recommend that no in-water work should occur in perennial streams from April 15 to June 30. Based on the recent wetland delineation and stream assessment, only one perennial stream (Stream CK-03) was identified within the Project area. ATSI is not planning on crossing this stream and therefore no adverse affects to these species are anticipated.

The response from ODNR indicated that the Project is within the range of the American bittern (*Botaurus lentiginosus*). This species requires large undisturbed wetlands with small pools and dense vegetation including bogs, large wet meadows, and dense shrubby swamps. ODNR recommends avoiding impacts to this species habitat during the period of May 1 to July 31. The results of the wetland delineation and stream assessment identified a total of six wetland habitats including four palustrine emergent wetland (PEM), one palustrine scrub-shrub wetland (PSS), and one PSS/palustrine forested wetland (PFO) complex. The three of the four PEM wetlands are recently or previously disturbed by agricultural activities and would likely not be able to support a population of these species. The remaining PEM wetland is a small wetland area located along the edge of the survey area that will not be impacted by the Project. Even though, the PSS and PSS/PFO wetland complexes have dense woody vegetation, the hydrologic component of these wetlands are not inundated and would unlikely be able to provide the necessary habitat components for this species.

The response from ODNR indicated that the Project is within the range of the King Rail (*Rallus elegans*). This species nest in deep bowls constructed of grass within marshes dominated by cattails and other tall emergent vegetation, preferably in wetlands larger than 50 acres. However, this species has also nested in buttonbush swamps, wet meadows, marshy pools in swamp forest, and brushy tangles in swamp meadows. The king rail prefers permanently flooded wetlands where water depths are less than six inches. The ODNR recommends avoiding impacts to this species habitat between May 1 to August 1. The results of the wetland delineation and stream assessment report did not identify any inundated wetland areas or wetlands greater than 50 acres in size that would be able to provide the necessary habitat components for this species.

The response from ODNR indicated that the Project is within the range of the Bald Eagle (*Haliaeetus leucocephalus*). This species nest in trees close to large bodies of water. The closest recorded sighting of an eagle to the Project was in 2017, approximately 0.6 miles to the west in the Big Island Wildlife Area. No large bodies of water are located closer to

the Project area, and no eagles or potential nests were observed during the March 18, 2019 wetland and stream delineation survey. Therefore, no adverse effect to this species is anticipated.

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

ATSI contracted AECOM to submit to the Ohio Department of Natural Resources ("ODNR") Office of Real Estate to conduct an Environmental Review. The ODNR Office of Real Estate researched 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 Office of Real Estate's response on March 25, 2019 indicated that they have two (2) records of these types of areas within one (1) mile of the identified Project area. These areas are the Big Island Wildlife Area and the Trella Romine Prairie Area

The Big Island Wildlife Area at its closest point is located approximately 1000 feet away from the Project. The Trella Romine Prairie at its closest point is located approximately 0.7 miles away from the Project. Due to the distance away from the Project area there are no anticipated impacts to either of these Wildlife areas

ATSI contracted AECOM to conduct a wetland and stream assessment of the Project area. The AECOM investigation focused on an approximately 8-acre study area around the proposed Project centerline, access roads, and additional workspace areas. During the study, AECOM identified seven (7) wetland areas totaling 1.15 acres, two (2) intermittent streams totaling 968 linear feet, and one (1) perennial stream totaling 269 linear feet. No Ponds were located within the surveyed area. A copy of the wetland and stream assessment report is provided in Exhibit 16.

No impacts to wetlands or streams will be necessary to complete the Project. All proposed access roads for Project are planned to utilize construction matting or other best

management practices to minimize temporary earth disturbance. A map of the proposed

access roads is provided in Exhibit 17.

The Project work limits do encroach on a regulated flood plain based on a review of

online FEMA Flood Insurance Rate Mapping. The Project will not fill any area within the

floodplain but will install 3 wood pole structures. Exhibit 17 depicts the location of the

regulated flood plains in relation to the Project Area.

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 National Electric Safety Code 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 in Pleasant Township, Green Camp Township, and

Marion Township, Marion County, Ohio.

Marion County

Commissioner Kerr Murray Marion County Commissioners 222 West Center Street

Marion, OH 43302

Commissioner Andy Appelfeller Marion County Commissioners 222 West Center Street

Marion, OH 43302

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American Transmission Systems, Incorporated Kirby-Roberts 138 kV Transmission Line Loop to Crissinger Substation Project

Commissioner Ken Stiverson Marion County Commissioners 222 West Center Street Marion, OH 43302

Mr. Bradley K. Irons, P.E., P.S. Marion County Engineer 222 West Center Street Marion, OH 43302 Ms. Evelyn Warr-Cummings, Director Marion County Planning Commission 222 West Center Street, 2nd Floor Marion, OH 43302

Pleasant Township

Mr. David Schrote Pleasant Township Trustee 1252 E Marion-Cardington Rd. Marion, OH 43302

Mr. Steve Lust Pleasant Township Trustee 2650 W Newsman Cardington Rd. Prospect, OH 43342 Mr. Wayne Creasap Pleasant Township Trustee 2876 Smeltzer Rd. Marion, OH 43302

Mr. Lavon Verity Pleasant Township Fiscal Officer 1035 Owens Road West Marion, OH 43302

Green Camp Township

Mr. Steve Ruth Green Camp Township Trustee 4245 Berry Rd Marion, OH 43302

Ms. Virginia Ralph Green Camp Township Trustee P.O. Box 114 Green Camp, OH 43322 Mr. Thomas McBeth Green Camp Township Trustee P.O. Box 219 Green Camp, OH 43322

Ms. Mary McBeth Green Camp Township Fiscal Officer P. O. Box 219 Green Camp, OH 43322

Marion Township

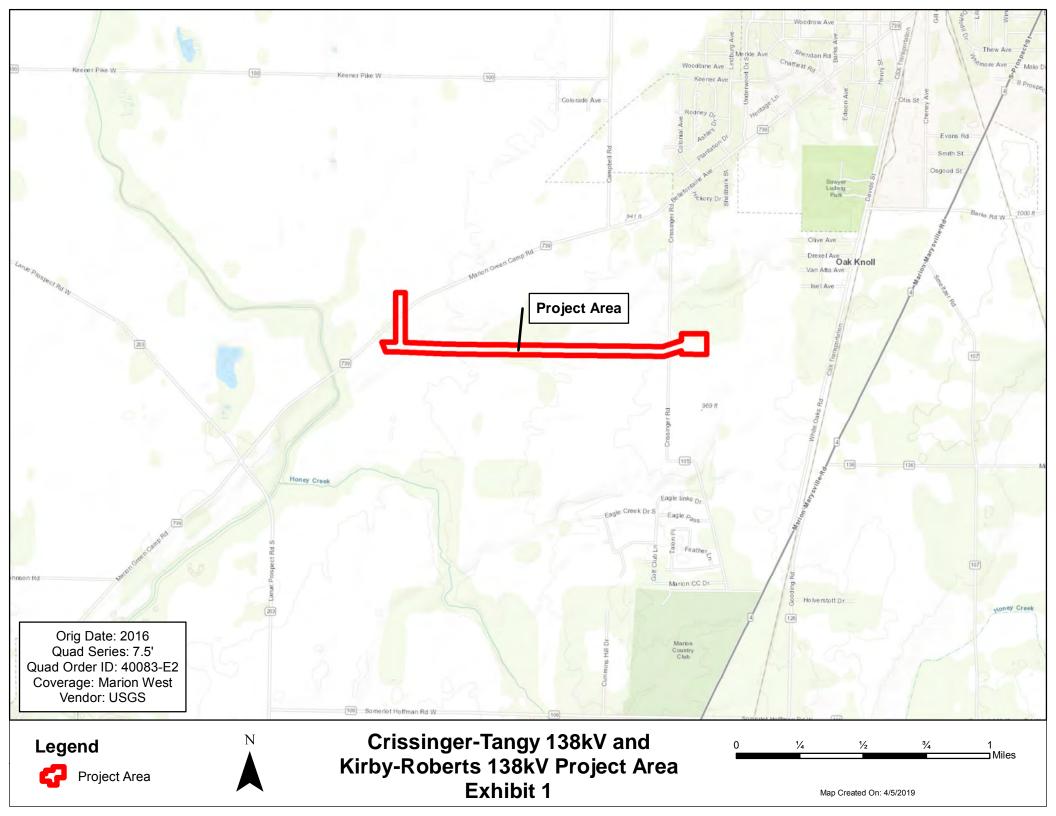
Mr. Larry Ballinger Marion Township Trustee 1228 E. Fairground St Marion, OH 43302 Ms. Karen McCleary Marion Township Trustee 1228 E. Fairground St Marion, OH 43302 Mr. Lynn Thomas Marion Township Trustee 1228 E. Fairground St Marion, OH 43302 Ms. Sheila Perin Marion Township Fiscal Officer 1228 E. Fairground St Marion, OH 43302

Library

Mr. Gary Branson Marion Public Library 445 E Church St Marion, OH 43302

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).

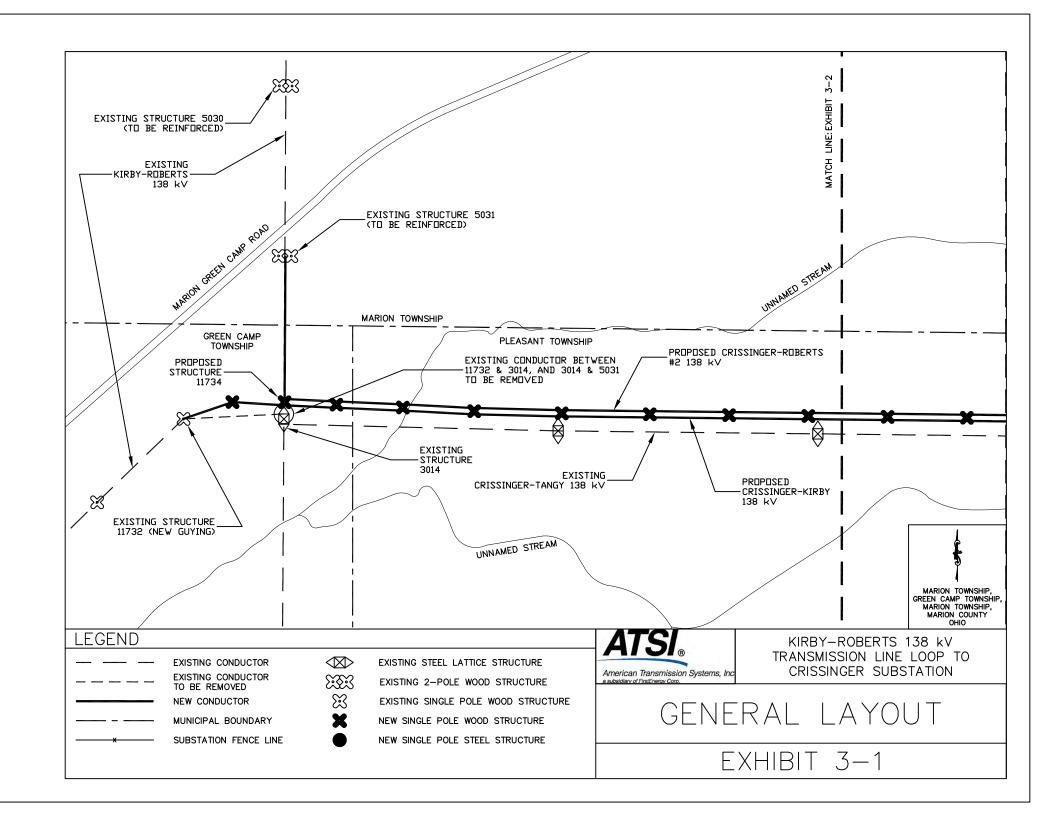


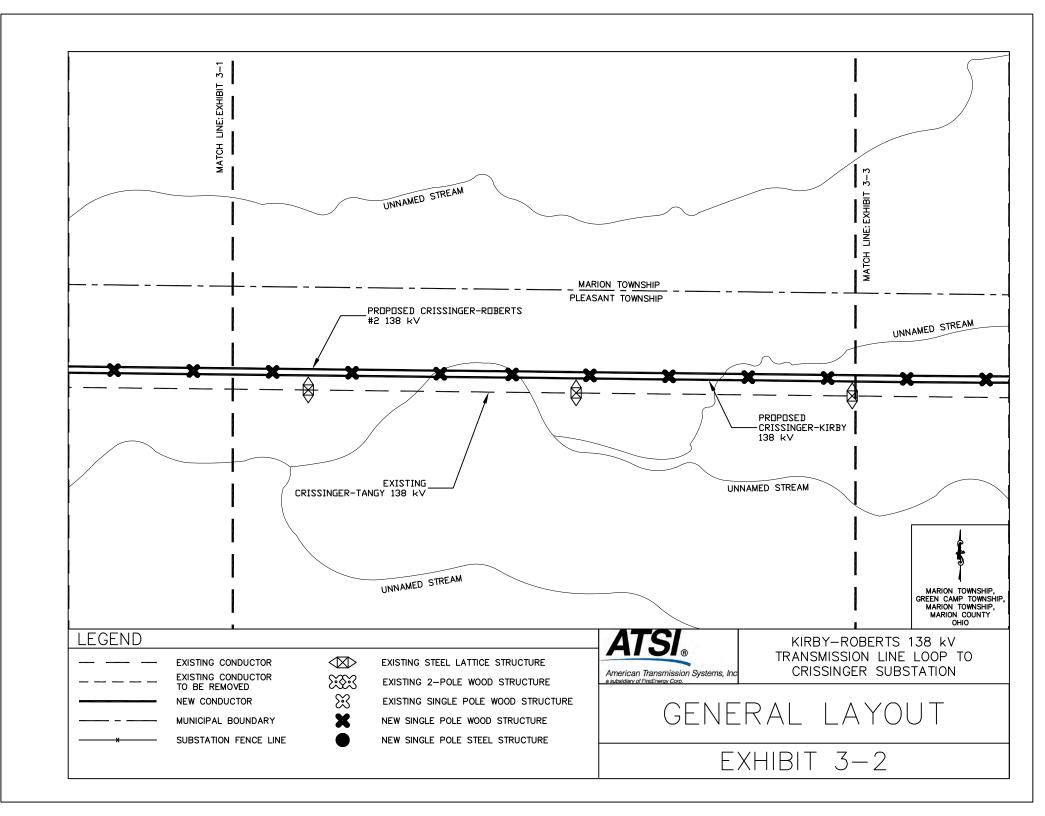


Project Area



Crissinger-Tangy 138kV and Kirby-Roberts 138kV Project Area Exhibit 2





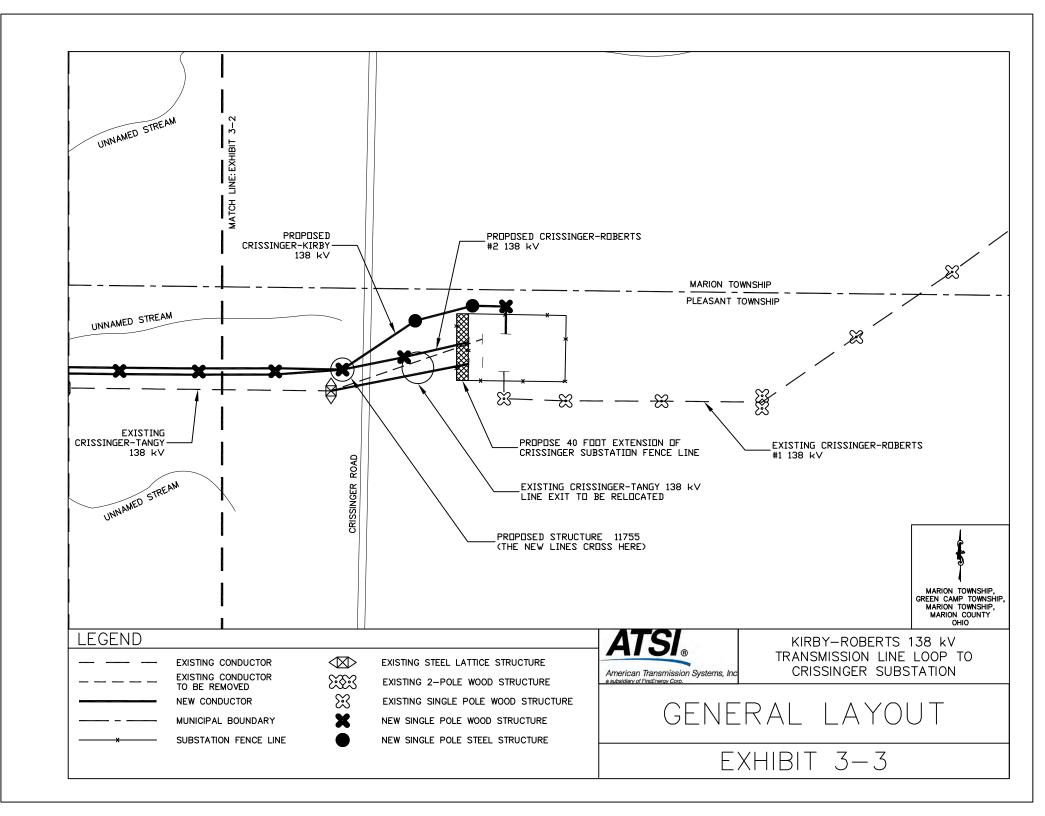




EXHIBIT 4

ATSI Transmission Zone: Supplemental Crissinger 138 kV Ring Bus Expansion

Previously Presented: 8/31/2018 SRRTEP

Problem Statement (Scope and Need/Drivers):

Operational Flexibility and Efficiency

- Improve operational flexibility during maintenance and restoration efforts
- Reduce amount of potential local load loss (Approximately 99 MWs) under contingency conditions
- Mitigate non-planning criteria voltage concerns on the < 100 kV system under contingency (P6) conditions.
- Loss of Crissinger-Roberts 138 kV and Crissinger-Tangy 138 kV Lines
- Results in potential local voltage collapse on the 34.5 kV sub-transmission system.

Selected Solution:

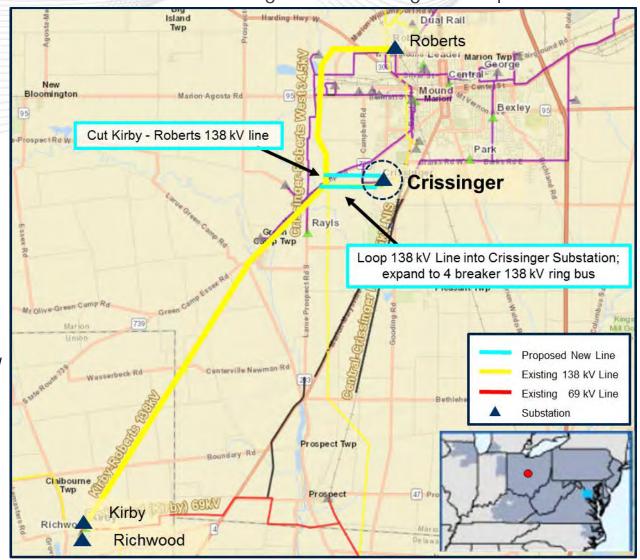
Crissinger 138 kV Ring Bus Expansion (S1696)

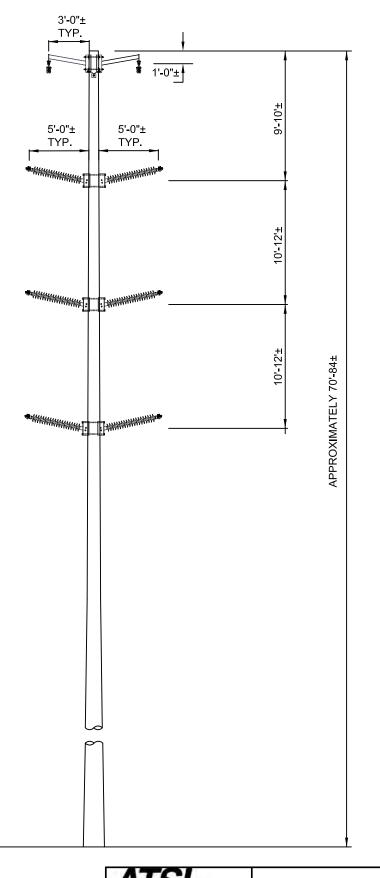
- Expand existing Crissinger substation from a four (4) breaker to a six (6) breaker 138 kV ring bus.
- Cut and extend the Kirby-Roberts 138 kV line to Crissinger substation. (Approximately 1.0 mile)
- Reconfigure Crissinger substation to include terminals for:
 Crissinger Kirby 138 kV Line and Crissinger Roberts #1 138 kV Line
 Crissinger Roberts #2 138 kV Line and Crissinger Tangy 138 kV Line

Estimated Project Cost: \$5.8 M

Projected IS Date: 12/31/2019

Status: Engineering





GROUND LINE

ATSI®

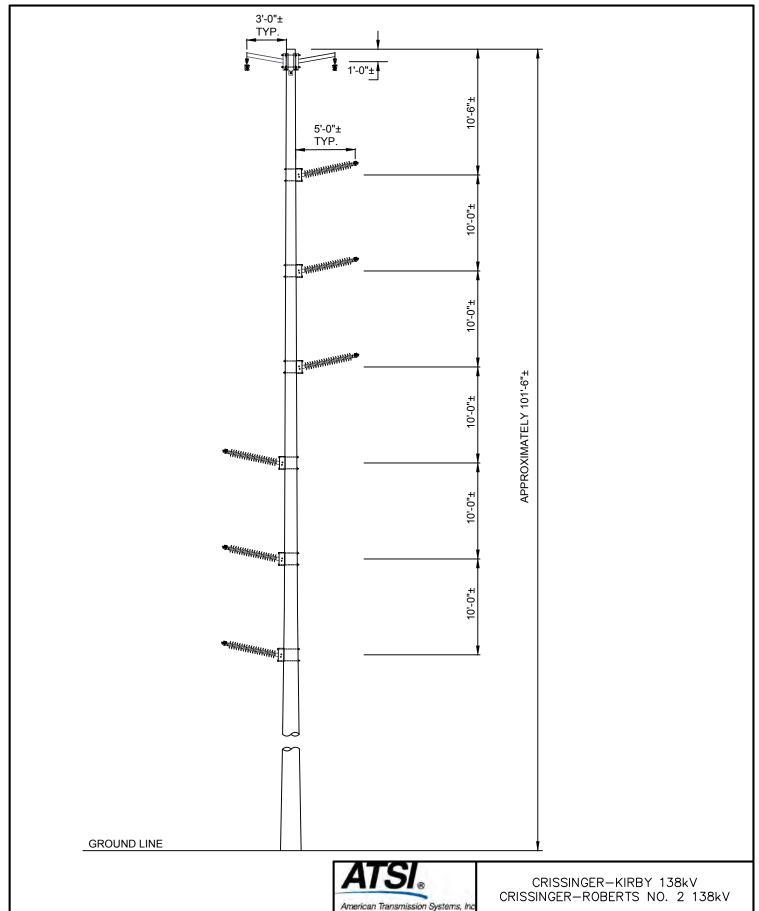
American Transmission Systems, Inc.
a subsidiary of First Frency Corp.

CRISSINGER-KIRBY 138kV CRISSINGER-ROBERTS NO. 2 138kV

VERTICAL DOUBLE CIRCUIT HORIZONTAL POST WOOD POLE STRUCTURE

EXHIBIT 5

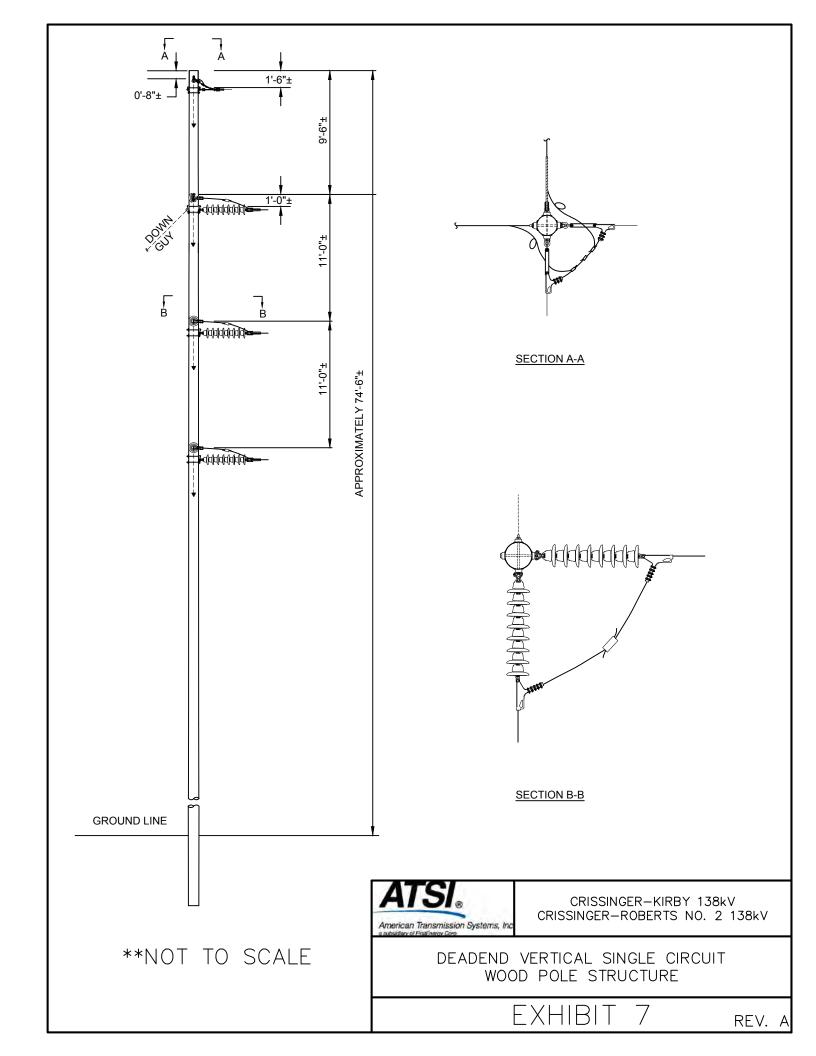
REV. B

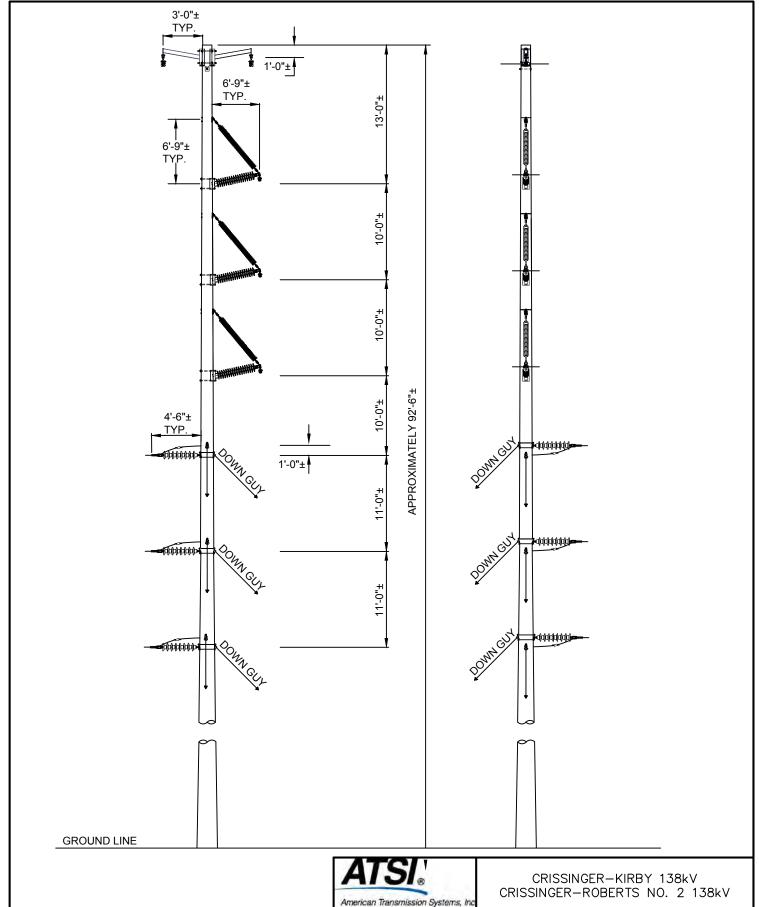


American Transmission Systems, Inc.

VERTICAL STACKED DOUBLE CIRCUIT HORIZONTAL POST WOOD POLE STRUCTURE

REV.

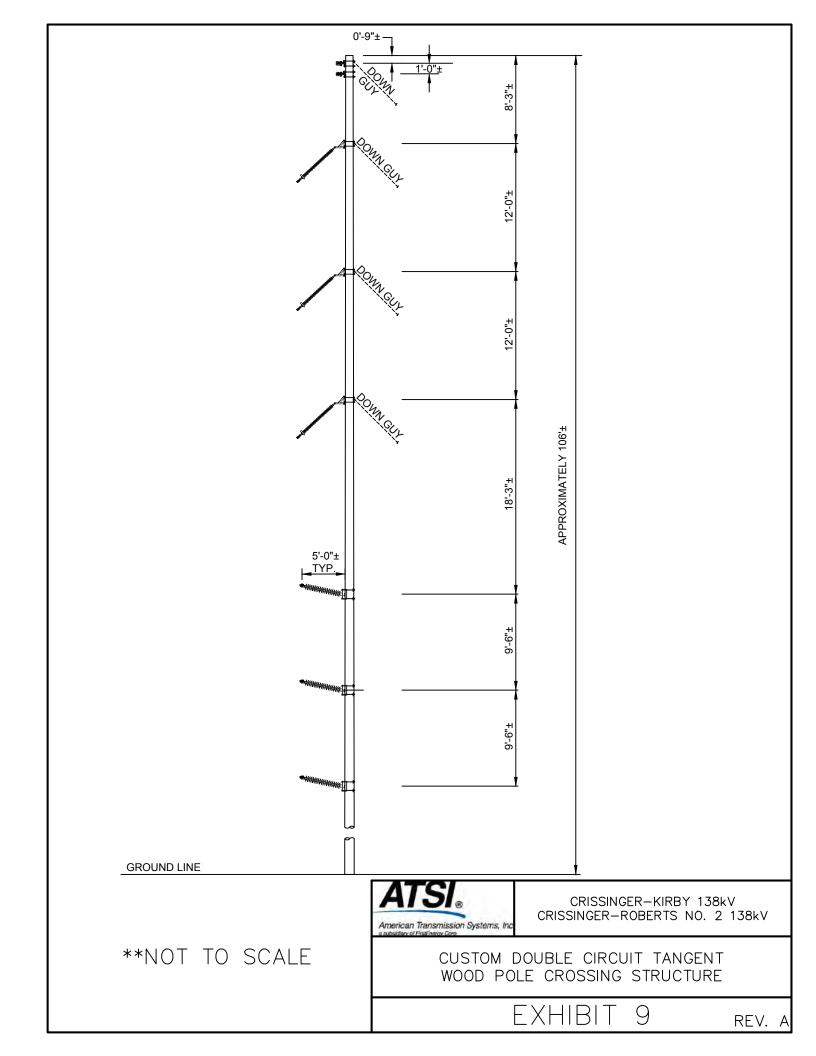


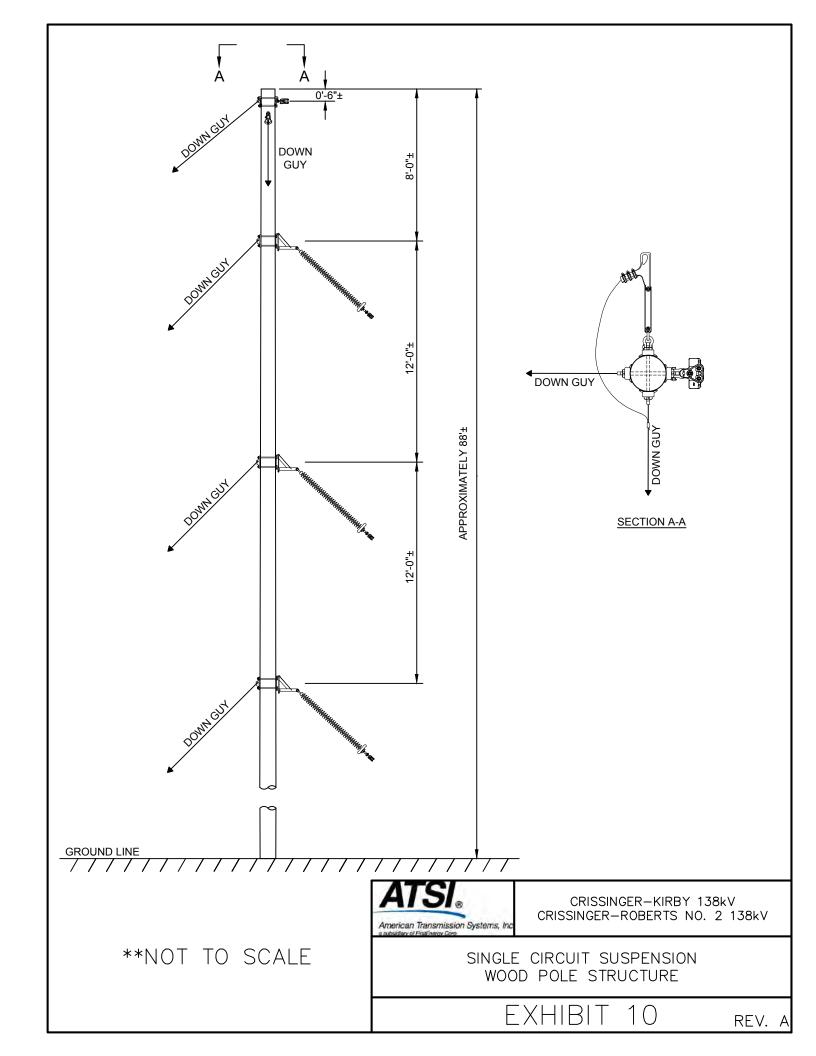


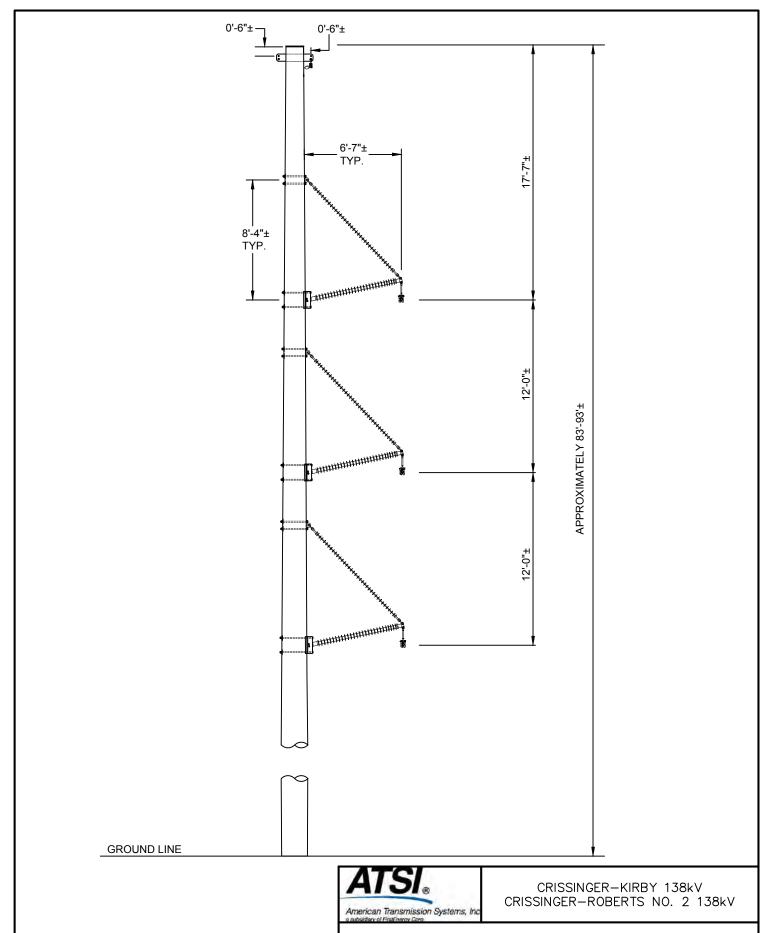
American Transmission Systems, Inc.

CUSTOM DOUBLE CIRCUIT TANGENT WOOD POLE CROSSING STRUCTURE

REV.



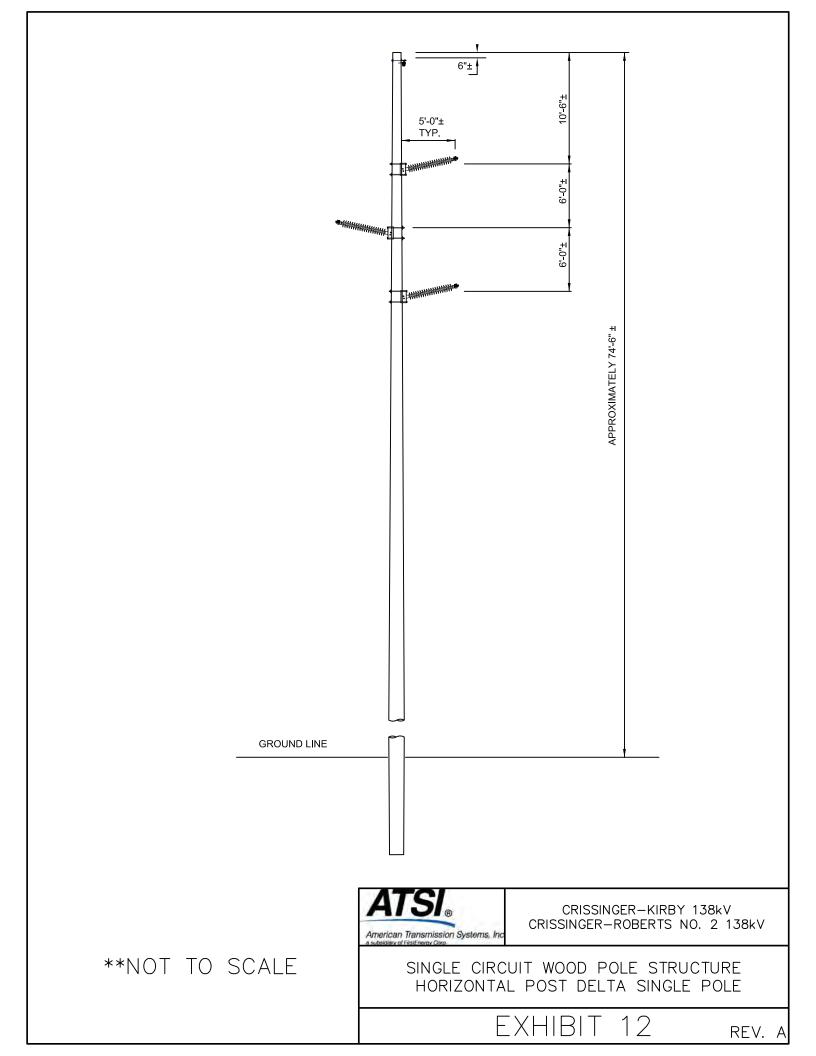




SINGLE CIRCUIT BRACED POST STEEL POLE STRUCTURE

EXHIBIT 11

REV. A







Legend

NR Listings







National Historic Landmark



- NR Determinations of Eligibi
- Historic Structures
- Historic Bridges
- Historic Tax Credit Projects **OGS** Cemeteries







- **UTM Zone Split**
- NR Boundaries
- Phase1
- Phase2
- Phase3
- Historic Previously Surveyed

0.61 Miles

1: 24,000

Copyright/Disclaimer

This map is a user generated static output from an Internet mapping site and is for generalThis map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

[Datum]

Projection: WGS_1984_Web_Mercator_Auxiliary _Sphere







Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR

MARY MERTZ, DIRECTOR

Office of Real Estate
Paul R. Baldridge, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6649
Fax: (614) 267-4764

March 25, 2019

Brian Miller AECOM 525 Vine Street

Cincinnati, Ohio 45202

Re: 19-165; Crissinger-Kirby 138 kV Loop and Crissinger Substation Expansion

Project: The proposed project consists of the installation of 1.1 miles of new 138 kV transmission loop line and the expansion of the Crissinger Substation.

Location: The proposed project is located in Green Camp Township, Marion County, 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 records at or within a one-mile radius of the project area:

Bald eagle (*Haliaeetus leucocephalus*), Federal species of concern Big Island Wildlife Area – ODNR Division of Wildlife Trella Romine Prairie – Appalachia Ohio Alliance

The review was performed on the project area you specified in your request as well as an additional one-mile radius. Records searched date from 1980. This information is provided to inform you of features present within your project area and vicinity.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Although all types of plant communities have been surveyed, we only maintain records on the highest quality areas.



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 project is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species. The following species of trees have relatively high value as potential Indiana bat roost trees to include: shagbark hickory (Carya ovata), shellbark hickory (Carya laciniosa), bitternut hickory (Carya cordiformis), black ash (Fraxinus nigra), green ash (Fraxinus pennsylvanica), white ash (Fraxinus americana), shingle oak (Quercus imbricaria), northern red oak (*Quercus rubra*), slippery elm (*Ulmus rubra*), American elm (*Ulmus* americana), eastern cottonwood (Populus deltoides), silver maple (Acer saccharinum), sassafras (Sassafras albidum), post oak (Quercus stellata), and white oak (Quercus alba). Indiana bat roost trees consists of trees that include dead and dying trees with exfoliating bark, crevices, or cavities in upland areas or riparian corridors and living trees with exfoliating bark, cavities, or hollow areas formed from broken branches or tops. However, Indiana bats are also dependent on the forest structure surrounding roost trees. If suitable habitat occurs within the project area, the DOW recommends trees be conserved. If suitable habitat occurs within the project area and trees must be cut, the DOW recommends cutting occur between October 1 and March 31. If suitable trees must be cut during the summer months, the DOW recommends a net survey be conducted between June 1 and August 15, prior to any cutting. Net surveys should incorporate either nine net nights per square 0.5 kilometer of project area, or four net nights per kilometer for linear projects. If no tree removal is proposed, this project is not likely to impact this species.

The DOW recommends no in-water work in perennial streams from April 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is 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 clubshell (*Pleurobema clava*), a state endangered and federally endangered mussel, the rayed bean (*Villosa fabalis*), a state endangered and federally endangered mussel, the snuffbox (*Epioblasma triquetra*), a state endangered and federally endangered mussel, the rabbitsfoot (*Quadrula cylindrica cylindrica*), a state endangered and federal candidate mussel, and the pondhorn (*Uniomerus tetralasmus*), a state threatened mussel. Due to the location, and that there is no in-water work proposed in a stream of sufficient size, this project is not likely to impact these species.

The project is within the range of the eastern massasauga (*Sistrurus catenatus*), a state endangered and federally threatened snake species. The eastern massasauga uses a range of habitats including wet prairies, fens, and other wetlands, as well as drier upland habitat. Due to the location, the type of habitat present at the project site and within the vicinity of the project area, this project is not likely to impact this species.

The project is within the range of the American bittern (*Botaurus lentiginosus*), a state endangered bird. Nesting bitterns prefer large undisturbed wetlands that have scattered small pools amongst dense vegetation. They occasionally occupy bogs, large wet meadows, and dense shrubby swamps. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 to July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.



The project is within the range of the king rail (*Rallus elegans*), a state endangered bird. Nests for this species are deep bowls constructed out of grass and usually hidden very well in marsh vegetation. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 to August 1. If no wetland habitat will be impacted, the 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 U.S. 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. Your local floodplain administrator contact information can be found at the website below.

http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List_8_16.pdf

ODNR appreciates the opportunity to provide these comments. Please contact Sarah Tebbe, Environmental Specialist, at (614) 265-6397 or Sarah.Tebbe@dnr.state.oh.us if you have questions about these comments or need additional information.

John Kessler Environmental Services Administrator



Ruggiero, Augustine (Henslee, Dianna L)

Subject:

Crissinger-Kirby 138 kV Loop and Crissinger Substation Expansion, Marion County

From: susan zimmermann@fws.gov [mailto:susan zimmermann@fws.gov] On Behalf Of Ohio, FW3

Sent: Friday, March 01, 2019 8:52 AM

To: Miller, Brian

Cc: nathan.reardon@dnr.state.oh.us; kate.parsons@dnr.state.oh.us

Subject: Crissinger-Kirby 138 kV Loop and Crissinger Substation Expansion, Marion County



UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. Fish and Wildlife Service
Ecological Services Office
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / Fax (614) 416-8994



TAILS# 03E15000-2019-TA-0758

Dear Mr. Miller,

We have received your recent correspondence requesting information about the subject proposal. There are no federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area. The following comments and recommendations will assist you in fulfilling the requirements for consultation under section 7 of the Endangered Species Act of 1973, as amended (ESA).

The U.S. Fish and Wildlife Service (Service) recommends that proposed developments avoid and minimize water quality impacts and impacts to high quality fish and wildlife habitat (e.g., forests, streams, wetlands). Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the 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. All disturbed areas should be mulched and revegetated with native plant species. Prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

FEDERALLY LISTED SPECIES COMMENTS: All projects in the State of Ohio lie within the range of the federally endangered **Indiana bat** (Myotis sodalis) and the federally threatened **northern long-eared** bat (Myotis septentrionalis). In Ohio, presence of the Indiana bat and northern long-eared bat is assumed 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 travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥ 3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) 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 and abandoned mines.

EXHIBIT 15

Due to your proposal to conduct summer clearing, we recommend that a summer survey be conducted to determine presence or probable absence of Indiana bats at the project site. The summer survey must be conducted by an approved surveyor (list attached) and be designed and conducted in coordination with the Endangered Species Coordinator for this office. In Ohio, summer mist net surveys must be conducted between June 1 and August 15. We recommend that any Indiana bats and northern long-eared bats captured, especially reproductively active females and juveniles, be monitored through radio-tracking to determine roost locations.

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 also warranted. Portal surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Endangered Species Coordinator for this office.

Survey results should be coordinated with this office prior to initiation of any work. Based on the results of the survey(s), we will evaluate potential impacts to the Indiana bat from the proposed project. If a summer survey documents probable absence of Indiana bats, the 4(d) rule for the northern long-eared bat could be applied (see http://www.fws.gov/midwest/endangered/mammals/nleb/index.html).

If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), 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 that 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.

Due to the project type, size, and location, we do not anticipate adverse effects to any other federally endangered, threatened, proposed, or candidate species. Should the project design change, or during the term of this action, 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, consultation with the Service should be initiated to assess any potential impacts.

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 ESA, and are consistent with the intent of the National Environmental Policy Act of 1969 and the Service's Mitigation Policy. This letter provides technical assistance only and does not serve as a completed section 7 consultation document. We recommend that the project be coordinated with the Ohio Department of Natural Resources due to the potential for the project to affect state listed species and/or state lands. Contact John Kessler, Environmental Services Administrator, at (614) 265-6621 or at john.kessler@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,

Patrice M. Ashfield Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW Kate Parsons, ODNR-DOW Attachment: Surveyors List

EXHIBIT 15

Kirby-Roberts 138 kV Transmission Line Loop to Crissinger Substation Project Case Number 19-0803-EL-BLN

Exhibit 16 Wetland Delineation and Stream Assessment Report

CRISSINGER-KIRBY 138 kV TRANSMISSION LINE LOOP AND CRISSINGER SUBSTATION EXPANSION PROJECT

WETLAND DELINEATION AND STREAM ASSESSMENT REPORT

Prepared for: American Transmission Systems, Inc. a FirstEnergy Company 76 South Main Street Akron, Ohio 44308





525 Vine Street, Suite 1800 Cincinnati, Ohio 45202

March 2019

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FIGURES

Number

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2A - 2C	Soil Map Unit and National Wetland Inventory Maps
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APPENDICES

Appendix

- A U.S. Army Corps of Engineers Wetland and Upland Forms
- B OEPA Wetland ORAM Forms
- C OEPA HHEI Stream Forms
- D Representative Streams and Wetlands Photographs



LIST OF ACRONYMS and ABBREVIATIONS

ATSI American Transmission Systems, Inc.

DBH Diameter at Breast Height

°F Degree Fahrenheit

FAC Facultative

FACU Facultative upland FACW Facultative wetland

GPS Global Positioning System

HHEI Headwater Habitat Evaluation Index

IBI Index of Biotic Integrity

KV Kilovolts

NRCS Natural Resources Conservation Service

NWI National Wetlands Inventory

NWP Nationwide Permit

OAC Ohio Administrative Code

OBL Obligate wetland

OEPA Ohio Environmental Protection Agency

OHWM Ordinary high water mark

ORAM Ohio Rapid Assessment Method

PAB Palustrine Aquatic Bed
PEM Palustrine Emergent
PML Palustrine Moss-Lichen
PFO Palustrine Forested

PHWH Primary Headwater Habitat
PSS Palustrine Scrub/Shrub

PUB Palustrine Unconsolidated Bottom
PUS Palustrine Unconsolidated Shore

PRB Palustrine Rock Bottom

QHEI Qualitative Habitat Evaluation Index

ROW Right-of-way

UPL Upland

U.S. United States

USACE United States Army Corps of Engineers
USDA United States Department of Agriculture
USFWS United States Fish and Wildlife Service

USGS United States Geological Survey

WWH Warmwater Habitat





1.0 INTRODUCTION

American Transmission Systems, Inc. (ATSI), a FirstEnergy Company (FirstEnergy), is proposing to construct a new1.1-mile, 138kV transmission line and to expand the limits of an existing substation as part of the Crissinger-Kirby 138 kV Transmission Line Loop and Crissinger Substation Expansion (Project) in Pleasant Township, Marion County, Ohio. The Project can be located on the United States Geological Survey (USGS) Marion West, Ohio 7.5-minute series topographical quadrangles (National Geographic Society, 2013) (Figure 1). The Project will begin at the Crissinger Substation and runs generally west, terminating at structure 11731 (approximately 220 feet southeast of Marion-Green Camp Road) in Green Camp Township, Marion County, Ohio). The approximate coordinates for the western terminus of the Project are 40.5563, -83.1582, and the eastern terminus is 40.5546, -83.183. The limit of the Project investigation is defined by the survey boundary (Figures 2A-2C and Figure 3A-3C).

Land uses crossed by the Project were assigned a general classification based upon the principal land characteristics of the location as observed through aerial photography review and observations during the field surveys. General land use types in the vicinity of the proposed Project include: fallow fields, agricultural land, forested land, and parallels a maintained transmission line right-of-way (ROW). Agricultural land is the dominant land use in the vicinity of the Project.

The Project area drains into unnamed tributaries (UNTs) of Little Scioto River, which eventually flow into the Little Scioto River. Little Scioto River and its unnamed tributaries are located within the Scioto River drainage basin. Little Scioto River has an Ohio Administrative Code (OAC) Chapter 3745-1 aquatic life habitat use designation of Modified Warmwater Habitat (MWH) (State of Ohio 2018). The UNTs to Little Scioto River do not have an existing state designations and a biological assessment has been completed for these resources.

As per the Section 401 Water Quality Certification (WQC) for Nationwide Permit and Stream Eligibility Web Map website (Ohio Environmental Protection Agency (OEPA)), the Project is located within an Eligible area and impacts to streams, if required, could be authorized by the United States Army Corps of Engineers (USACE) under the Nationwide Permit Conditions.

The watershed identified in the Project area is Honey-Creek-Little Scioto River (Hydrologic Unit Code (HUC): 050600010406). According to the OEPA 2014 Ohio Integrated Water Quality Monitoring and Assessment Scioto River (Upper) Watershed Report, the Honey Creek-Little Scioto River Watershed is listed as aquatic life, recreation, and fish tissue impaired. This watershed has been severely impacted by creosote contamination from industry in the City of Marion via loading from North Rock Swale Ditch. Additional sources of impairments include channelization, agriculture, contaminated sediment, livestock, septic sewers, and combined sewer overflow (OEPA 2018).





2.0 METHODOLOGY

Prior to conducting field surveys, digital and published county Natural Resources Conservation Service (NRCS) soil surveys, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps, and U.S. Geological Survey (USGS) 7.5-minute topographic maps were reviewed as an exercise to identify the occurrence and location of potential wetland areas (Figures 2A-2C). The purpose of the field survey was to assess whether wetlands and other "waters of the U.S." are present within the Project's survey boundary, which consisted of a 120-foot wide survey boundary centered along the purposed transmission route and identified work limits beyond the survey boundary such as access roads, work pads, and laydown yards (Figures 3A-3C).

AECOM ecologists walked the Project survey boundary, access roads, and work areas to conduct a wetland delineation and stream assessment. Initial field investigations were conducted on March 18 and 19, 2019. During the field survey, the physical boundaries of observed water features, if identified, were recorded using sub-decimeter capable Trimble Global Positioning System (GPS) units. The GPS data was imported into ArcMap GIS software, where the data was then reviewed and edited for accuracy.

2.1 WETLAND DELINEATION

The Project survey boundary was evaluated according to the procedures outlined in the USACE 1987 Wetland Delineation Manual (1987 Manual) (Environmental Laboratory, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (Regional Supplement) (USACE 2010). The Regional Supplement was released in August 2010 by the USACE to address regional wetland characteristics and improve the accuracy and efficiency of wetland delineation procedures. The 1987 Manual and Regional Supplement define wetlands as areas that have positive evidence of three environmental parameters: hydric soils, wetland hydrology, and hydrophytic vegetation. Wetland boundaries are placed where one or more of these parameters give way to upland characteristics.

Since quantitative data were not available for any of the identified wetlands, AECOM utilized the routine delineation method described in *the 1987 Manual and Regional Supplement* that consisted of a pedestrian site reconnaissance, including identifying the vegetation communities, soils identification, a geomorphologic assessment of hydrology, and notation of disturbance. The methodology used to examine each parameter is described in the following sections.

Land uses observed within the Project survey boundary were assigned a general classification based upon the principal land characteristics of the location as observed through aerial photography review and observations during the field surveys.





2.1.1 Soils

Soils were examined for hydric soil characteristics using a spade shovel to extract soil samples. A *Munsell Soil Color Chart* (Kollmorgen Corporation 2010) was used to identify the hue, value, and chroma of the matrix and mottles 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 considered to be hydric soils.

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 (°F) 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 *Regional Supplement* also states that if onsite data gathering is not practical, the growing season can be approximated by the number of days between the average (five years out of ten, or 50 percent probability) date of the last and first 28°F air temperature in the spring and fall, respectively. The National Weather Service WETS data obtained from the NRCS National Water and Climate Center reveals for Marion County that in an average year, this period lasts from April 16 to October 28, or about 195 days. In the Project area, five percent of the growing season equates to approximately ten days (USDA-NRCS 2019).

The soils and ground surface were examined for evidence of wetland hydrology in lieu of detailed hydrological data. This is an acceptable approach according to the *1987 Manual* and *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, micro-topographic relief, and a positive Facultative (FAC)-neutral test (USACE 2012).

2.1.3 Vegetation

Dominant vegetation was visually assessed for each stratum (tree, sapling/shrub, herb and woody vine) and an indicator status of obligate wetland (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), and/or upland (UPL) was assigned to each plant species based on the U.S. Army Corps of Engineers 2016 National Wetland Plant List: Midwest Region (Lichvar et al. 2016),



A=COM

Wetland Delineation And Stream Assessment Report

which encompasses the area of the Project. An area is determined to have hydrophytic vegetation when, under normal circumstances, 50 percent or more of the composition of the dominant species are OBL, FACW and/or FAC species. Vegetation of an area was determined to be non-hydrophytic when more than 50 percent of the composition of the dominant species was FACU and/or UPL species. In addition to the dominance test, the FAC-Neutral test and prevalence tests are used to determine if a wetland has a predominance of hydrophytic vegetation. Recent USACE guidance indicates that to the extent possible, the hydrophytic vegetation decision should be based on the plant community that is normally present during the wet portion of the growing season in a normal rainfall year (USACE 2012).

2.1.4 Wetland Classifications

Wetlands were classified based on the naming convention found in *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979). If wetlands were identified within the survey boundary; they would typically be classified as freshwater, palustrine systems, which include non-tidal wetlands dominated by trees, shrubs, emergents, mosses, or lichens. The common palustrine wetland classification types are as follows:

- **PEM** Palustrine emergent wetlands are characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants.
- *PSS* Palustrine scrub/shrub wetlands are characterized by woody vegetation that is less than three inches diameter at breast height (DBH), and greater than 3.28 feet tall. The woody angiosperms (i.e., small trees or shrubs) in this broad leaved deciduous community have relatively wide, flat leaves that are shed annually during the cold or dry season.
- **PFO** Palustrine forested wetlands are characterized by woody vegetation that is three inches or more DBH, regardless of total height. These wetlands generally include an overstory of broad-leaved and needle-leaved trees, an understory or young saplings and shrubs, and an herbaceous layer.
- *PUB* Palustrine unconsolidated bottom wetlands includes all open water wetlands and deepwater habitats with at least 25 percent cover of particles smaller than stones, and a vegetative cover less than 30 percent. Palustrine open water wetlands are characterized by the lack of large stable surfaces for plant and animal attachment.
- *PAB* Palustrine aquatic bed wetlands are characterized by plants that grow principally on or below the surface of the water for most of the growing season in most years. These plants are best developed in relatively permanent water or under conditions of repeated flooding.





- *PML* Palustrine moss-lichen wetlands includes areas where mosses or lichens cover at least 30 percent of substrates other than rock and where emergents, shrubs, or trees alone or in combination cover less than 30 percent.
- **PUS** Palustrine unconsolidated shore wetlands are characterized by substrates lacking vegetation except for pioneer plants that become established during brief periods when growing conditions are favorable. Unconsolidated shore wetlands have less than 30% areal coverage of vegetation and less than 75 percent areal cover of stones, boulders or bedrock.
- **PRB** Palustrine rock bottom wetlands includes all wetlands and deepwater habitats with substrates having an aerial cover of stones, boulders, or bedrock 75 percent or greater and vegetative cover of less than 30 percent. Rock bottom wetlands and deepwater habitats are characterized by substrates predominantly made up of stones, boulders, or bedrock.

For some wetlands, multiple Cowardin classifications may be present where more than one classification's vegetation is dominant (vegetation covers 30 percent or more of the substrate). Where multiple Cowardin classifications are present, the Cowardin classification of the plants that constitute the uppermost layer of vegetation is listed.

2.1.5 Ohio Rapid Assessment Method v. 5.0

The Ohio Environmental Protection Agency (OEPA) *Ohio Rapid Assessment Method for Wetlands* v. 5.0 (*ORAM*) was developed to determine the relative ecological quality and level of disturbance of a particular wetland in order to meet requirements under Section 401 of the Clean Water Act. Wetlands are scored on the basis of hydrology, upland buffer, habitat alteration, special wetland communities, and vegetation communities. Each of these subject areas is further divided into subcategories under *ORAM* 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).

Category 1 Wetlands

Category 1 wetlands support minimal wildlife habitat, hydrological and recreational functions, and do not provide for or contain critical habitats for threatened or endangered species. In addition, Category 1 wetlands are often hydrologically isolated and have some or all of the following characteristics: low species diversity, no significant habitat or wildlife use, limited potential to achieve wetland functions, and/or a predominance of non-native species. These limited quality wetlands are considered to be a resource that has been severely degraded or has a limited potential for restoration, or is of low ecological functionality.





Category 2 Wetlands

Category 2 wetlands "...support moderate wildlife habitat, or hydrological or recreational functions," and as wetlands which are "...dominated by native species but generally without the presence of, or habitat for, rare, threatened or endangered species; and wetlands which are degraded but have a reasonable potential for reestablishing lost wetland functions." Category 2 wetlands constitute the broad middle category of "good" quality wetlands, and can be considered a functioning, diverse, healthy water resource that has ecological integrity and human value. Some Category 2 wetlands are lacking in human disturbance and considered to be naturally of moderate quality; others may have been Category 3 wetlands in the past, but have been degraded to Category 2 status.

Category 3 Wetlands

Wetlands that are assigned to Category 3 have "...superior habitat, or superior hydrological or recreational functions." They are typified by high levels of diversity, a high proportion of native species, and/or high functional values. Category 3 wetlands include wetlands which contain or provide habitat for threatened or endangered species, are high quality mature forested wetlands, vernal pools, bogs, fens, or which are scarce regionally and/or statewide. A wetland may be a Category 3 wetland because it exhibits one or all of the above characteristics. For example, a forested wetland located in the flood plain of a river may exhibit "superior" hydrologic functions (e.g., flood retention, nutrient removal), but not contain mature trees or high levels of plant species diversity.

2.2 STREAM CROSSINGS

Regulatory activities under the Clean Water Act provide authority for states to issue water quality standards and "designated uses" to all waters of the U.S. upstream to the highest reaches of the tributary streams. In addition, the Federal Water Pollution Control Act of 1972 and its 1977 and 1987 amendments require knowledge of the potential fish or biological communities that can be supported in a stream or river, including upstream headwaters. Streams were identified by the presence of a defined bed and bank, and evidence of an ordinary high water mark (OHWM). The USACE defines OHWM as "that 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).

Stream assessments were conducted using the methods described in the OEPA's Methods for Assessing Habitat in Flowing Waters: Using OEPA's *Qualitative Habitat Evaluation Index* (Rankin 2006) and *Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams, Version 3* (Ohio EPA 2012).





2.2.1 OEPA Qualitative Habitat Evaluation Index

The qualitative habitat evaluation index (QHEI) is designed to provide a rapid determination of habitat features that correspond to those physical factors that most affect fish communities and which are generally important to other aquatic life (e.g., macroinvertebrates). The quantitative measure of habitat used to calibrate the QHEI score are Indices (or Index) of Biotic Integrity (IBI) for fish. In most instances the QHEI is sufficient to give an indication of habitat quality, and the intensive quantitative analysis used to measure the IBI is not necessary. It is the IBI, rather than the QHEI, that is directly correlated with the aquatic life use designation for a particular surface water.

The QHEI method is generally considered appropriate for waterbodies with drainage basins greater than one square mile, if natural pools are greater than 15.75 inches, or if the water feature is shown as blue-line waterways on USGS 7.5-minute topographic quadrangle maps. In order to convey general stream habitat quality to the regulated public, the OEPA has assigned narrative ratings to QHEI scores. The ranges vary slightly for headwater streams (H are those with a watershed area less than or equal to 20 mi²) versus larger streams (L are those with a watershed area greater than 20 mi²). The Narrative Rating System includes: Very Poor (<30 H and L), Poor (30 to 42 H, 30 to 44 L), Fair (43 to 54 H, 45 to 59 L), Good (55 to 69 H, 60 to 74 L) and Excellent (70+ H, 75+ L) (Rankin 2006).

2.2.2 OEPA Primary Headwater Habitat Evaluation Index

Headwater streams are typically considered to be first-order and second-order streams, meaning streams that have no upstream tributaries (or "branches") and those that have only first-order tributaries, respectively. The stream order concept can be problematic when used to define headwater streams because stream-order designations vary depending upon the accuracy and resolution of the stream delineation. Headwater streams are generally not shown on USGS 7.5-minute topographic quadrangles and are sometimes difficult to distinguish on aerial photographs. Nevertheless, headwater streams are now recognized as useful monitoring units due to their abundance, widespread spatial scale and landscape position (Fritz et al. 2006). Impacts to headwater streams can have a cascading effect on the downstream water quality and habitat value. The headwater habitat evaluation index (HHEI) is a rapid field assessment method for physical habitat that can be used to appraise the biological potential of most Primary Headwater Habitat (PHWH) streams. The HHEI was developed using many of the same techniques as used for QHEI, but has criteria specifically designed for headwater habitats. To use HHEI, the stream must have a "defined bed and bank, with either continuous or periodically flowing water, with watershed area less than or equal to 1.0 mi² (259ha), <u>and</u> a maximum depth of water pools equal to or less than 15.75 inches" (Ohio EPA 2012).

Headwater streams are scored on the basis of channel substrate composition, bankfull width, and maximum pool depth. Assessments result in a score (0 to 100) that is converted to a specific PHWH stream class. Streams that are scored from 0 to 29.9 are typically grouped into "Class 1 PHWH Streams", 30 to 69.9 are "Class 2 PHWH Streams", and 70 to 100 are "Class 3 PHWH Streams".





Technically, a stream can score relatively high, but actually belong in a lower class, and vice-versa. According to the OEPA, if the stream score falls into a class and the scorer feels that based on site observations that score does not reflect the actual stream class, a decision-making flow chart can be used to determine appropriate PHWH stream class using the HHEI protocol (Ohio EPA 2012). Evidence of anthropogenic alterations to the natural channel will result in a "Modified" qualifier for the stream.

Class 1 PHWH Streams: Class 1 PHWH Streams are those that have "normally dry channels with little or no aquatic life present" (Ohio EPA 2012). These waterways are usually ephemeral, with water present for short periods of time due to infiltration from snowmelts or rainwater runoff.

Class 2 PHWH Streams: Class 2 PHWH Streams are equivalent to "warm-water habitat" streams. This stream class has a "moderately diverse community of warm-water adapted native fauna either present seasonally or on an annual basis" (Ohio EPA 2012). These species communities are composed of vertebrates (fish and salamanders) and/or benthic macroinvertebrates that are considered pioneering, headwater temporary, and/or temperature facultative species.

Class 3 PHWH Streams: Class 3 PHWH Streams usually have perennial water flow with cool-cold water adapted native fauna. The community of Class 3 PHWH Streams is comprised of vertebrates (either cold water adapted species of headwater fish and or obligate aquatic species of salamanders, with larval stages present), and/or a diverse community of benthic cool water adapted macroinvertebrates present in the stream continuously (on an annual basis).

2.2.3 401 Eligibility Watersheds

Under the 401 Water Quality Certification for the 2017 Nationwide Permits (NWP), OEPA has limited the use of the expedited permits for impacts to high quality streams in Ohio. OEPA has developed a map/shapefile which designates Ohio watersheds into three categories:

Ineligible Areas: If any stream proposed to be impacted is located in an ineligible area, then impacts to that stream are not eligible for coverage under the NWPs and an individual 401 WQC will be required from OEPA.

Possibly Eligible Areas: Any stream proposed to be impacted which is located in a possibly eligible area will require additional field screenings. The pH value must be collected and a QHEI or HHEI assessment must be performed on the stream. Flow charts provided in the OEPA Final Signed WQC NWP 2017 (Ohio EPA 2017) will then be used to determine if stream impacts will be eligible for coverage under the NWP or if an individual 401 WQC is required.

Eligible Areas: Any impacts to streams located in eligible areas are eligible for coverage under the NWP.



3.0 RESULTS

AECOM delineated a total of six wetlands including four PEM, one PSS, one PFO/PSS wetland complexes. Additionally, AECOM identified a total of three streams including two intermittent streams and one perennial stream within the survey boundary. These wetlands and streams are discussed in the following sections.

3.1 WETLAND DELINEATION

3.1.1 Preliminary Soils Evaluation

Soils within each wetland were observed and documented as part of the delineation methodology. According to the USDA/NRCS Web Soil Surveys of Marion County, Ohio (USDA NRCS 2018) and the NRCS Hydric Soils Lists of Ohio, two soil map units are listed as hydric soils within the survey boundary. Additionally, four soil maps units are listed has hydric inclusions due to displaying hydric soils with a minor component of the soil map unit (USDA NRCS 2018). Table 1 provides a detailed overview of all soil series and soil map units within the Project survey boundary. Soil map units located within the Project survey boundary are shown on Figure 2A-2C.

TABLE 1
SOIL MAP UNITS AND DESCRIPTIONS WITHIN THE CRISSINGER-KIRBY 138 kV TRANSMISSION LINE LOOP AND CRISSINGER SUBSTATION EXPANSION PROJECT SURVEY BOUNDARY

Soil Series	Symbol Map Unit Description		Topographic Setting	Hydric ³	Hydric Component (%)
Blount	Ble1A1	Blount silt loam, end moraine, 0 to 2 percent slopes	End Moraines on Till Plains	Yes*	Pewamo, end moraine (6)
Biount	Blg1A1	Blount silt loam, ground moraine, 0 to 2 percent slopes	End Moraines on Till Plains	Yes*	Pewamo, ground moraine (9)
Glynwood	GwA	Glynwood silt loam, 0 to 2 percent slopes	N/A ²	No	N/A
Giyiiwoou	Gwe5B2	Glynwood clay loam, end moraine, 2 to 6 percent slopes, eroded	Till plains Yes*		Pewamo (6)
Martinsville	tinsville MaA Martinsville loam, 0 to 2 percent slopes		N/A ² No		N/A
Milford	Mf	Milford silty clay loam, 0 to 2 percent slopes	Lake Plains	Yes	Milford (90) Houghton, undrained (3)
Ockley	y OcA Ockley loam, 0 to 2 percent slopes		N/A ²	No	N/A
Pewamo	Pk	Pewamo silty clay loam, 0 to 1 percent slopes	Depressions on Till Plains	Yes	Pewamo (85) Minster (6)
Urban	UEBXA	Urban land-Aeric Epiaquents-Blount complex, 0 to 3 percent slopes	Till Plains	Yes*	Typic endoaquents, till substratum (5)

NOTES:

3.1.2 National Wetland Inventory Map Review

According to NWI maps of the Marion West, Ohio quadrangles, the Project survey corridor contains one mapped NWI palustrine, emergent, persistent, seasonally flooded (PEM1C) wetland. The location of the NWI mapped wetland is shown on Figures 2A-2C.



⁽¹⁾ Data sources include:

USDA, NRCS, 2018. Web Soil Survey. Available online at: https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

USDA. NRCS. 2018. National Hydric Soils List by State. Available online at: http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/

USDA. SCS. 1989. Soil Survey of Marion County, Ohio

⁽²⁾ Web Soil Survey does not have an identified Topographic Setting.

⁽³⁾ Soils that are identified as hydric with an asterisk represent soils with hydric inclusions within the identified topographic settings.



The PEM1C NWI mapped wetland's boundary was field verified as not being accurate to on-site conditions. This NWI mapped wetland boundary was identified as a delineated PFO/PSS wetland complex, Wetland CK-03a and CK-03b. The upland conditions of the NWI mapped wetland area located within the survey boundary are represented in this report by the upland data point reflecting the upland conditions of the Wetland CK-03a and CK-03b.

3.1.3 Delineated Wetlands

During the delineation, AECOM identified a total of six wetlands, ranging in size from less than <0.01 acre to 0.62 acres, within the Project survey boundary. Some wetland boundaries extend beyond these areas, but only what was identified within the Project survey boundary and work areas were assessed. The six wetlands within the Project survey boundary are of three different wetland habitat types: four PEM wetlands, one PSS wetland, and one PSS/PFO wetland complex. Table 2 provides a summary of the delineated wetlands within the Project survey boundary.

The locations and approximate extent of the wetlands identified within the Project survey boundary are shown on Figures 3A-3C. Completed USACE wetland determination and ORAM forms are provided in Appendices A and B, respectively. Color photographs taken of each wetland have been provided in Appendix D.





TABLE 2
DELINEATED WETLANDS WITHIN THE CRISSINGER-KIRBY 138 kV TRANSMISSION LINE LOOP AND CRISSINGER SUBSTATION EXPANSION PROJECT SURVEY BOUNDARY

Wetland Name	Latitude Longitude		Cowardin Classification ¹	NWI Classification	ORAM Score	ORAM Category ²	Acreage within Survey Boundary
Wetland CK-01	40.556180	-83.159257	PEM	N/A	4	Category 1	0.05
Wetland CK-02	40.556081	-83.168223	PEM	N/A	8	Category 1	0.62
Wetland CK-03a	40.556125	-83.170570	PFO	PEM1C	39	Category 2	0.26
Wetland CK-03b	40.555999	-83.170658	PSS	FEMIL			0.06
Wetland CK-04	40.556080	-83.171487	PEM	N/A	33	Modified Category 2 ²	<0.01
Wetland CK-05	40.556029	-83.178445	PEM	N/A	14	Category 1	0.12
Wetland CK-06	40.554785	-83.183108	PSS	N/A	12	Category 1	0.03
Total: 6		1.15					

Cowardin Classification¹: PEM = palustrine emergent; PSS = Palustrine scrub/shrub, PFO=palustrine forested

ORAM Category^{2:} The Ohio Rapid Assessment Method for Wetlands v. 5.0, User's Manual and Scoring Forms state that if a wetland score falls into the transitional range, the wetland must be given the higher Category unless scientific data can prove it should be in a lower Category. Therefore, AECOM has assigned the identified wetland to the higher category level.





3.1.4 Delineated Wetlands ORAM V5.0 Results

Within the Project survey boundary, one wetland, Wetland CK-04, was identified within the transitional area between Category 1 and Category 2. Therefore, AECOM has assigned this wetland as a higher category level and classified it as a Modified Category 2 with an ORAM score of 33. One wetland, Wetland CK-03a and CK-03b, was identified as Category 2 and the remaining four wetlands, Wetland CK-01, CK-02, CK-05, and CK-06, were identified as Category 1. Wetland CK-03a and CK-03b received the highest ORAM score, 39, and Wetland CK-01 received the lowest ORAM score, 4. Table 2 displays a breakdown of ORAM scores and the ORAM forms are provided in Appendix B.

Category 1 Wetlands

Four Category 1 wetlands were identified within the Project survey boundary. The lowest scoring Category 1 wetland was Wetland CK-01, with a score of 4 and the highest scoring Category 1 wetland was Wetland CK-05, with a score of 14. The wetlands exhibited very narrow or narrow upland buffers and high intensive surrounding land use (e.g., cropping). The wetlands also exhibited poor plant community development with a moderate to extensive percentage of invasive species, and characteristically had habitat and hydrology in the early stages of recovering from previous manipulation due to mowing, clear cutting, selective cutting and other disturbances.

Category 2 Wetlands

Category 2 wetlands delineated within the Project boundary consisted of one modified Category 2 wetland, Wetland CK-04, with a score of 33, and a Category 2 wetland, Wetland CK-03a and CK-03b, with a score of 39. These wetlands exhibited medium upland buffers (forested land) and very low intensive surrounding land use (e.g. fallow fields). The wetlands also exhibited poor to fair plant community development with a moderate percentage of invasive species and had recovered habitat and hydrology from previous manipulation due to mowing and other likely disturbances.

Category 3 Wetlands

No Category 3 wetlands were identified during the field survey within the Project survey boundary.





3.2 STREAM CROSSINGS

AECOM identified three streams, totaling 1,237 linear feet, within the Project survey boundary, as listed in Table 3. The streams are comprised of two intermittent streams and one perennial stream. The locations of the streams identified within the survey boundary are shown on Figures 3A-3C.

HHEI evaluations were conducted on all three streams within the Project survey boundary. No QHEI evaluations were completed. AECOM evaluations were conducted at or near the proposed transmission line crossing for each stream. These streams were identified using USGS topographic maps, aerial photography, and field reconnaissance.





TABLE 3
DELINEATED STREAMS WITHIN THE CRISSINGER-KIRBY 138 KV TRANSMISSION LINE LOOP AND CRISSINGER SUBSTATION EXPANSION PROJECT SURVEY BOUNDARY

Report Name	Latitude	Longitude	Waterbody	Flow Regime	Form Used ¹	Score	Class or Narrative Description ²	Bankfull Width (feet)	Maximum Pool Depth (inches)	OEPA 401 WQC Eligibility for Nationwide Permits ²	Linear Feet Within Survey Boundary
Stream CK-01	40.5558948	-83.1653146	Unnamed Tributary (UNT) to Little Scioto River	Intermittent	ННЕІ	51	Modified Class 2	5	3	Eligible	474
Stream CK-02	40.5560517	-83.1679880	UNT to Little Scioto River	Intermittent	ННЕІ	55	Modified Class 2	4	6	Eligible	494
Stream CK-03	40.5560243	-83.1785388	UNT to Little Scioto River	Perennial	ННЕІ	55	Modified Class 2	8	18	Eligible	269
Total: 3									1,237		

^{1.} QHEI = Qualitative Habitat Evaluation Index, HHEI = Headwater Habitat Evaluation Index,



^{2.} Class or Narrative Description provides the designated beneficial uses for assessed resources identified within the Ohio Administrative Code Chapter 3745-1 Water Quality Standards. In absence of a listed designation for a resource, AECOM included the Category assessment identify by the OEPA's Qualitative Habitat Evaluation Index (Rankin 2006) or Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams, Version 3.

^{3.} As defined by OEPA Division of Surface Water Stream Eligibility Map. Available online at: http://oepa.maps.arcgis.com/apps/webappviewer/index.html?id=e6b46d29a38f46229c1eb47deefe49b6



3.2.1 Qualitative Habitat Evaluation Index

No streams were identified as having drainage area greater than one square mile or contained natural pools greater than 40 cm. Therefore, no streams were assessed utilizing the QHEI methodology.

3.2.2 Primary Headwater Habitat Evaluation Index

Three headwater streams, totaling 1,237 linear feet, were identified within the Project survey boundary. All three streams surveyed were identified as Modified Class 2 streams. Completed HHEI forms for each stream are provided in Appendix C. Photographs of all streams identified during the field survey are provided in Appendix D.

Modified Class 1 Headwater Streams – No Modified Class 1 streams were identified within the Project survey boundary.

Modified Class 2 Headwater Stream – All three streams surveyed during field investigations were identified as Modified Class 2 headwater streams, totaling 1,237 linear feet. One stream had a score of 51 and the remaining two streams scores received a score of 55. Two streams were identified as intermittent streams and one, with a score of 55, was identified as a perennial stream. The substrates primarily consisted of silt with lesser amounts of gravel and sand. The streams showed evidence of agricultural activities (e.g., tilling) that resulted in the stream receiving a Modified Class 2 designation. The maximum pool depths for the intermittent streams were 3 inches and 6 inches, and average bankfull widths were 5 feet and 4 feet. The maximum pool depth for the perennial stream was 18 inches and the average bankfull width was 8 feet.

Modified Class 3 Headwater Stream - No Modified Class 3 streams were identified within the Project survey boundary.

3.3 PONDS

No ponds were surveyed within the Project's survey boundary.

4.0 SUMMARY

The ecological survey of the Project survey boundary identified a total of six wetlands and three streams. The six wetlands within the Project's survey boundary were classified as four PEM, one PSS, and one PSS/PFO wetland complexes. Two of the wetlands, CK-03a/CK-03b and CK-03, were identified as ORAM Category 2 wetlands. All other delineated wetlands were assessed as ORAM Category 1.





The three streams identified within the Project survey boundary including two intermittent streams and one perennial stream. All three streams were assessed using the HHEI methodology as Modified Class 2 streams as these features did not display a natural channel and the drainage areas for these resources were less than one mi².

AECOM has preliminarily determined that all assessed streams and wetlands within the Project survey boundary appear to be jurisdictional (i.e., waters of the U.S.), as they all appear to be tributaries or wetlands that flow into or combine with other streams (waters of the U.S). The locations of the streams and wetlands identified within the survey boundary are shown on Figures 3A-3C.

The information contained in this wetland delineation report is for a study boundary that may be much larger than the actual Project limits-of-disturbance; therefore, lengths and acreages listed in this report may not constitute the actual impacts of the Project defined in subsequent permit applications. If necessary, a separate report that identifies the actual Project impacts will be provided with agency submittals.

The field survey results presented herein apply to the existing and reasonably foreseeable site conditions at the time of our assessment. They cannot apply to site changes of which AECOM is unaware and has not had the opportunity to review. Changes in the condition of a property may occur with time due to natural processes or human impacts at the Project site or on adjacent properties. Changes in applicable standards may also occur as a result of legislation or the expansion of knowledge over time. Accordingly, the findings of this report may be invalidated, wholly or in part, by changes beyond the control of AECOM.





5.0 REFERENCES

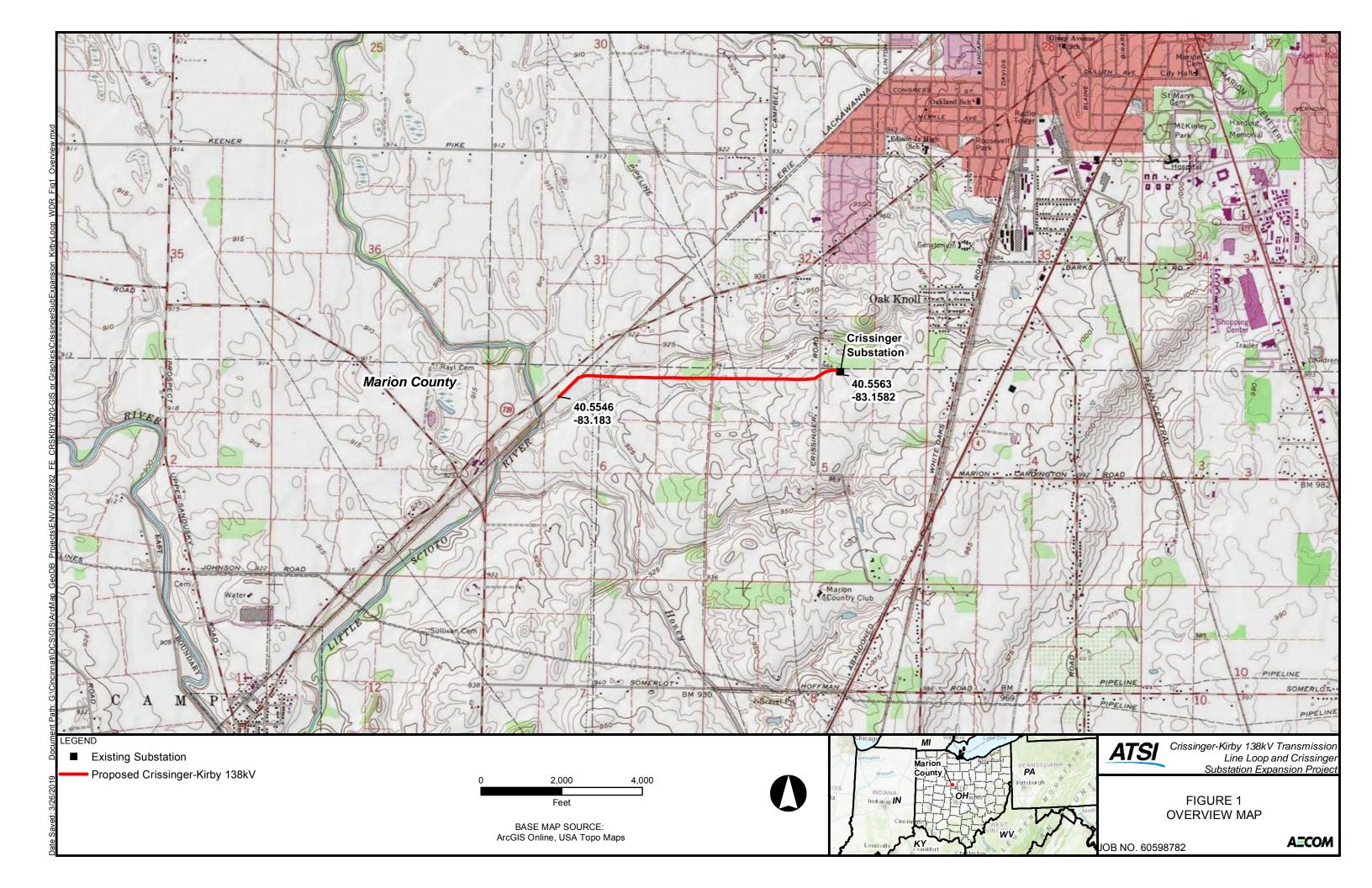
- Cowardin, L.M., V. Carter, F.C. Golet and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. Office of Biological Services, U.S. Fish and Wildlife Service, Washington, D.C.
- Environmental Laboratory. 1987. *U.S. Corps of Engineers Wetlands Delineation Manual.*Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station: Vicksburg, Mississippi.
- Fritz, K.M., B.R. Johnson, and D.M. Walters. 2006. Field Operations Manual for Assessing the Hydrologic Permanence and Ecological Condition of Headwater Streams. EPA/600/ R-06/126. U.S. Environmental Protection Agency, Office of Research and Development, Washington DC.
- Kollmorgen Corporation. 2010. Munsell Soil Color Charts. Baltimore, Maryland.
- Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X
- Mack, John J. 2001. Ohio Rapid Assessment Method for Wetlands v. 5.0, User's Manual and Scoring Forms. Ohio EPA Technical Report WET/2001-1. Ohio Environmental Protection Agency, Division of Surface Water, 401/Wetland Ecology Unit, Columbus, Ohio.
- National Geographic Society. 2013. Seamless Layer 2013 (Topo Source: Seamless Digital Raster Graphic-N.P.S. Natural Physical Map & U.S.G.S. Topographic Map i-cubed USGS Quad: Marion West, Ohio).
- Ohio EPA. 2012. Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams. Version 3.0. Ohio EPA Division of Surface Water, Columbus, Ohio.
- Ohio EPA. 2017. All Counties, Cities, and Townships in Ohio. Grant of Clean Water Act Section 401 Water Quality Certification. Authorization of discharge of dredge or fill material to various waters of the State for the following Nationwide Permits as published in January 6, 2017, Federal Register (Volume 82, Number 4) O EPA ID Number 165184 Access at: https://www.epa.ohio.gov/Portals/35/401/Final%20Signed%20401%20WQC%20NWP% 202017.pdfs on 03/25/2019.
- Ohio EPA. 2018. Integrated Water Quality Monitoring and Assessment Report. Accessed at https://www.epa.ohio.gov/dsw/tmdl/OhioIntegratedReport#123145148-2018 on 03/25/2019.

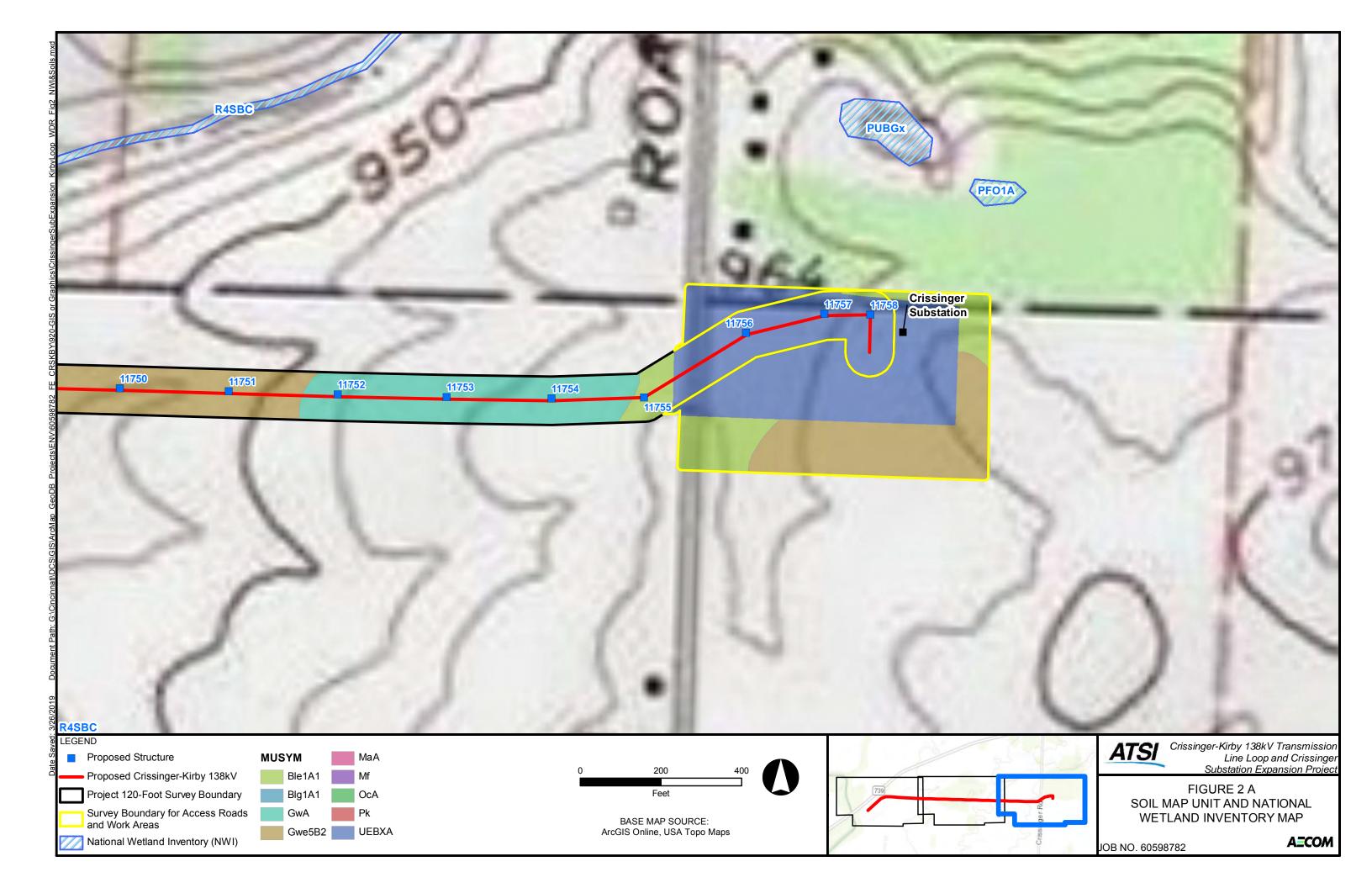


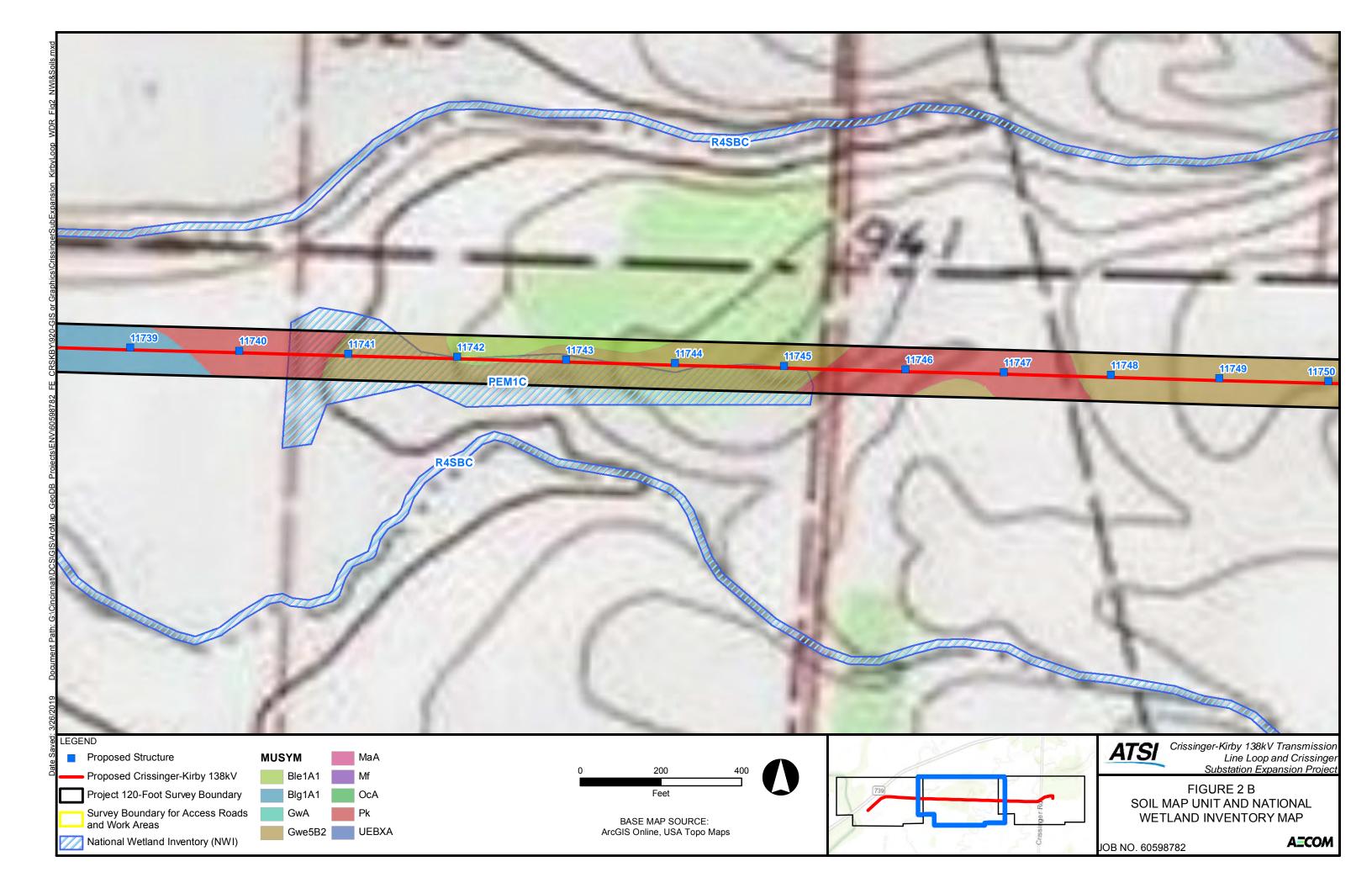


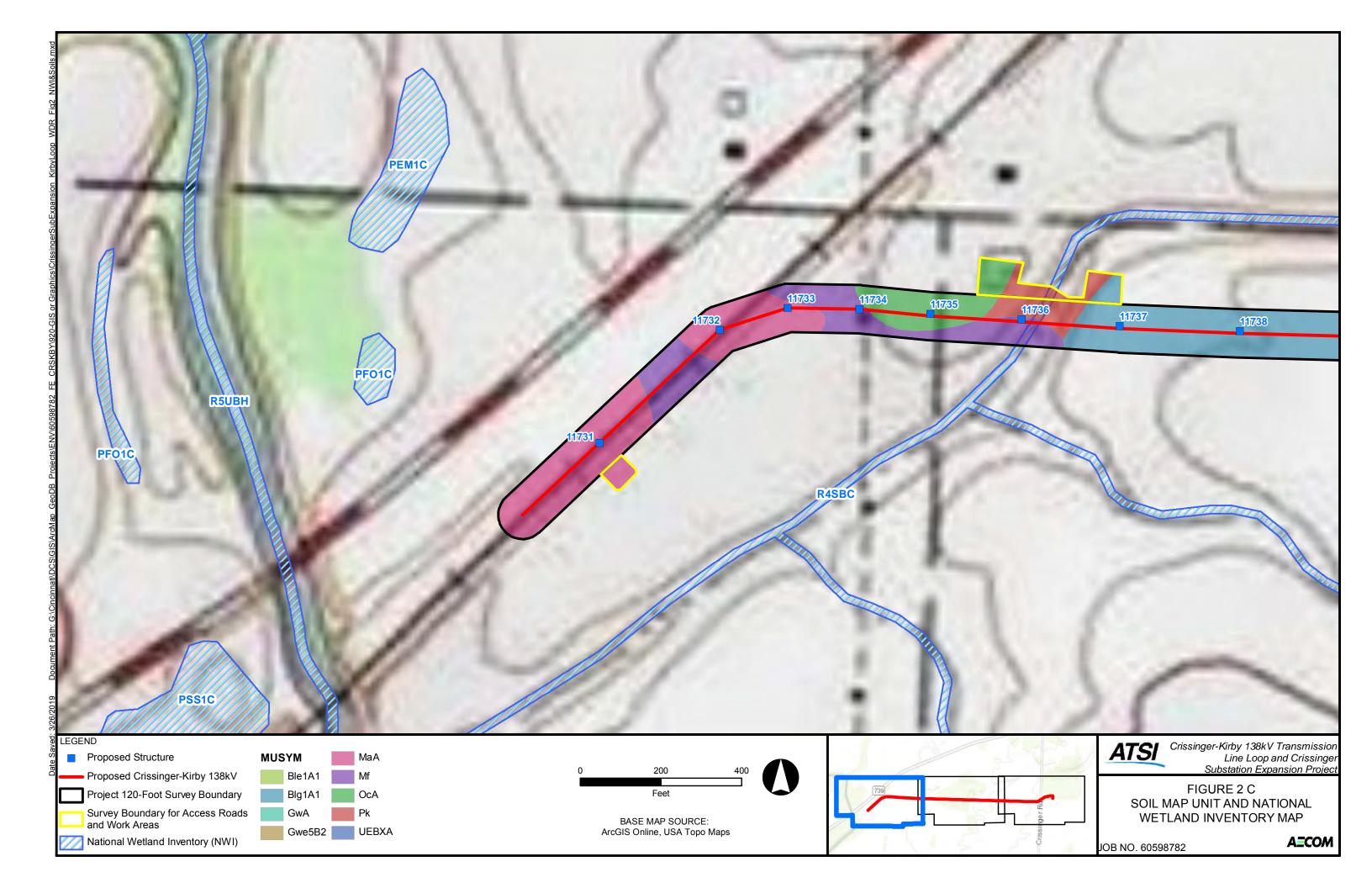
- Rankin, Edward T. 2006. *Methods for Assessing Habitat in Flowing Waters: Using the Qualitative Habitat Evaluation Index (QHEI)*. Ohio EPA Ecological Assessment Section, Division of Surface Water, Columbus, Ohio.
- State of Ohio. 2018. Ohio Administrative Code, Chapter 3745-1: Water Quality Standards. Ohio Environmental Protection Agency, Division of Surface Water, Columbus, Ohio. Accessed at https://www.epa.ohio.gov/dsw/rules/3745_1#use%20designations on 03/25/2019.
- U.S. Army Corps of Engineers (USACE). 2005. Regulatory Guidance Letter No. 05-05: Guidance on Ordinary High Water Mark Identification.
- U.S. Army Corps of Engineers (USACE). 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, C. V. Noble, and J.R. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- U.S. Department of Agriculture (USDA), Soil Conservation Service (SCS). 1989. Soil Survey of Marion County, Ohio.
- U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 2017. Web Soil Survey, Marion County, Ohio. Available online at: https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm
- U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 2015. National Hydric Soils List. http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/. Accessed 03/25/2019.
- U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 2017. National Weather Service- Wetland Climate Evaluation Database (WETS Table). http://www.wcc.nrcs.usda.gov/climate/wetlands.html. Accessed 03/25/2019.
- U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 2019. Web Soil Survey (GIS Shapefile). http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed 03/25/2019.
- United States Fish and Wildlife Service (USFWS). 2018. National Wetlands Inventory website. United States Department of the Interior, Fish and Wildlife Service, Washington, District of Columbia. Accessed at http://www.fws.gov/wetlands on 03/25/2019.

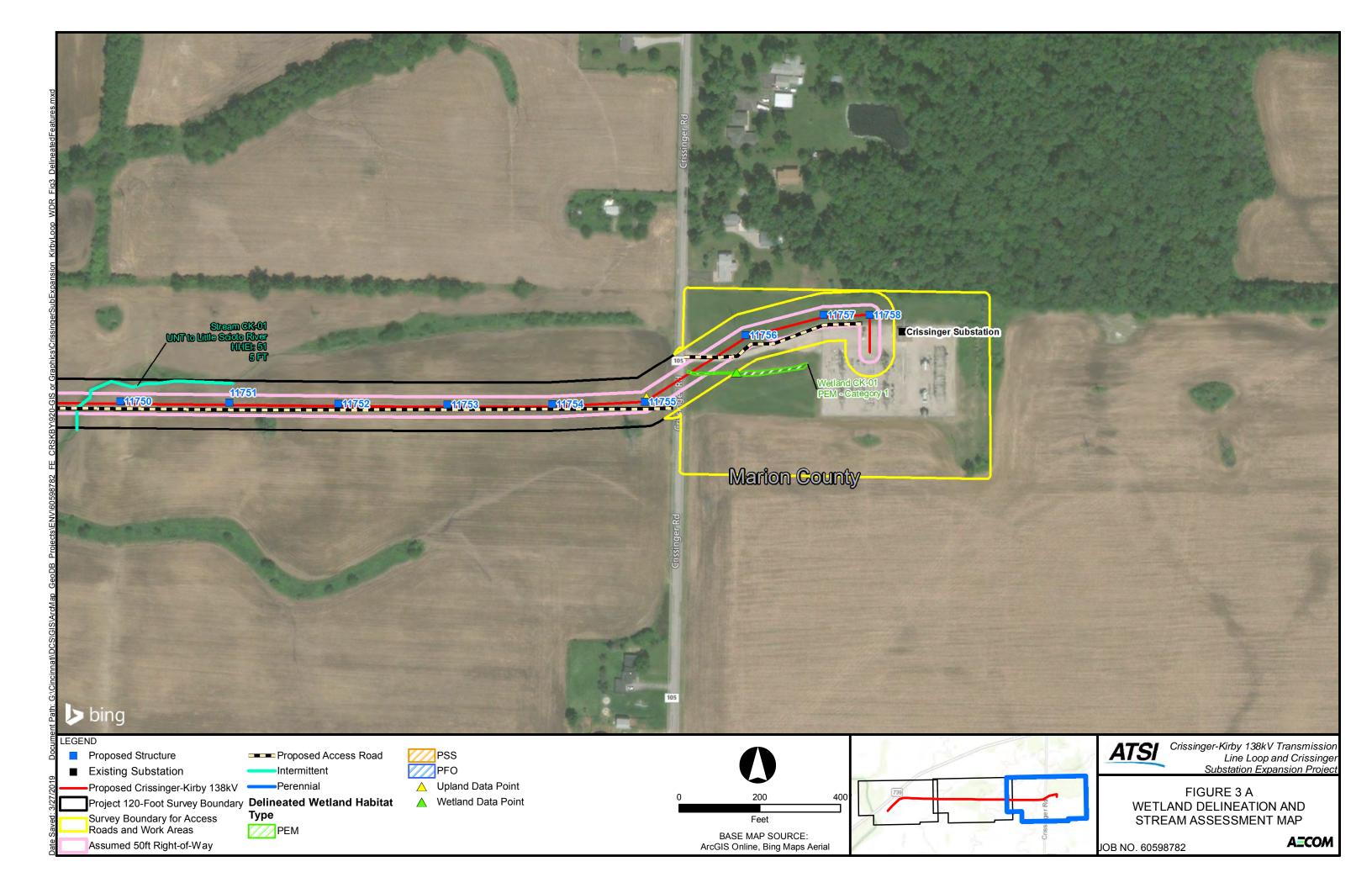


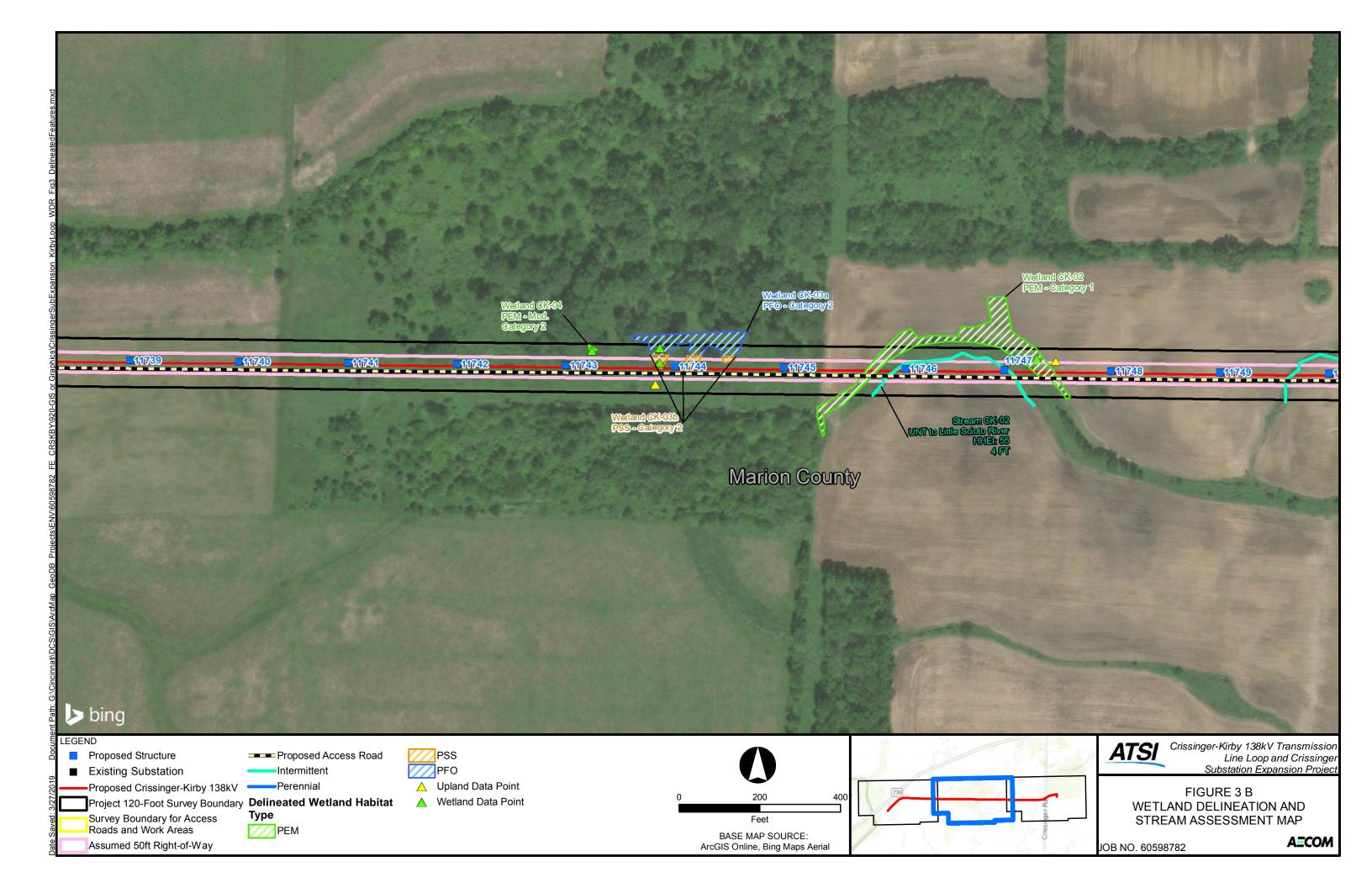


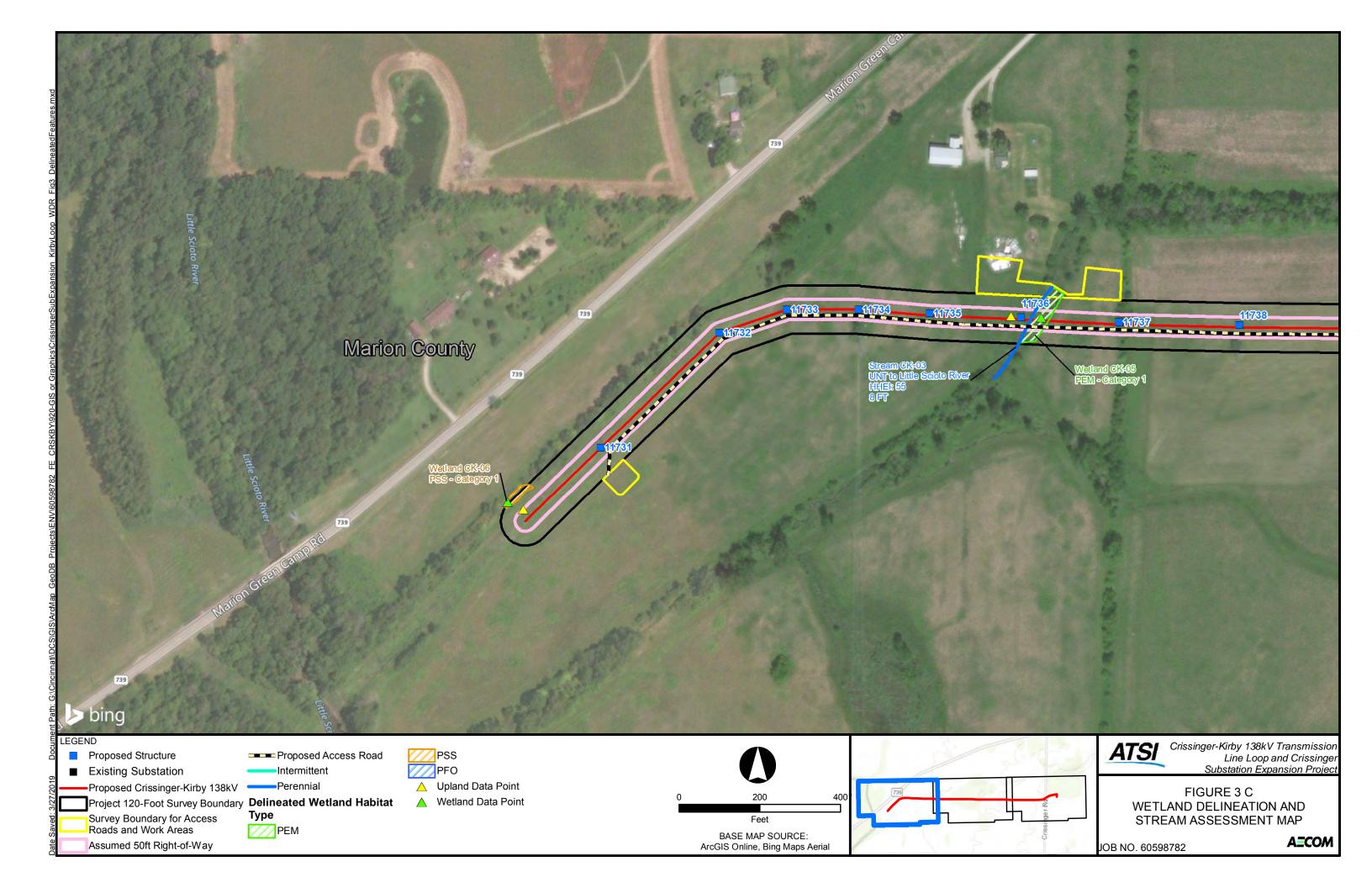














APPENDIX A

U.S. ARMY CORPS OF ENGINEERS WETLAND AND UPLAND FORMS



Project/Site: Crissinger-Kirby 138 kV		Cit	ty/County:	Marion		Sampling Date:18-Mar-19
Applicant/Owner: American Transmission	n Systems, Inc.			State:	OH Samp	oling Point: Wetland CK-01
Investigator(s): M.R.Kline, R.C.Massa			Section, Town	ship, Range:	s T T6S	R R15E
Landform (hillslope, terrace, etc.): Swal			L	ocal relief (c	concave, convex, none):	concave
Slope:/ Lat.:	40.556182		Long.: -	83.159427		Datum: NAD 83
Soil Map Unit Name: UEBXA; Urban	-	ount comple				ation: N/A
Are climatic/hydrologic conditions on the		,	No O		plain in Remarks.)	,N/A
Are Vegetation ✓ , Soil		ignificantly dis	sturbed?		· ormal Circumstances" pre	sent? Yes O No •
Are Vegetation , Soil ,	, , ,, =	aturally proble			ded, explain any answers	
SUMMARY OF FINDINGS - A				•		ŕ
Hydrophytic Vegetation Present?	Yes ● No ○					
Hydric Soil Present?	Yes No			Sampled A		
Wetland Hydrology Present?	Yes ● No ○		Within	i a weuani	" Yes ♥ No ∪	
Remarks:						
This PEM swale originates at a roa to a culvert beside the substation. VEGETATION - Use scients	Vegetation has been m	owed within			nd boundary follows ed	
Tree Stratum_ (Plot size: None	1	Absolute % Cover	Rel.Strat.		Dominance Test wo	rksheet:
1	/		Cover	Status	Number of Dominant S That are OBL, FACW, o	
2.			0.0%		That are Obt, FACW, t	
3.		•	0.0%		Total Number of Domi Species Across All Stra	
4.		0	0.0%		Species Across Air Stra	(3)
5		0	0.0%	0	Percent of dominan That Are OBL, FACV	
(DL L. I. M.		0	= Total Cove	r	That Are ODL, I ACV	v, 01 FAC (7,
Sapling/Shrub Stratum (Plot size: No					Prevalence Index wo	
1 2.		_	0.0%		Total % Cove	
3.			0.0%		OBL species FACW species	$\begin{array}{cccc} 60 & x & 1 & = & 60 \\ \hline 0 & x & 2 & = & 0 \end{array}$
4.		0	0.0%		FAC species _	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
5.		0	0.0%		FACU species	0
	1	0	= Total Cove		UPL species	0 x 5 = 0
1 Typha angustifolia		25	✓ 41.7%	OBL	Column Totals:	60 (A) 60 (B)
2. Eleccharic polyetric		25	✓ 41.7%	OBL	_	
3. Carex lurida		10	16.7%	OBL	Prevalence Inde	·
4.		0	0.0%		Hydrophytic Vegetat	
5.		0	0.0%		I	r Hydrophytic Vegetation
6.		0	0.0%		✓ 2 - Dominance To ✓ 3 - Prevalence In	
7. 8.		0	0.0%			Idex is \$3.0°
9.			0.0%			or on a separate sheet)
10.			0.0%		☐ Problematic Hyd	rophytic Vegetation 1 (Explain)
		60	= Total Cove			ic soil and wetland hydrology must
Woody Vine Stratum (Plot size: Nor	ne)		_ 10tal cove		be present, unless d	isturbed or problematic.
1		0	0.0%		Hydrophytic	
2			0.0%		Vegetation	s • No O
		0	= Total Cove	r	Present? Yes	
Remarks: (Include photo numbers	s here or on a separate s	heet.)				
Vegetation has been recently mov	•	•				

SOIL Sampling Point: Wetland CK-01 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Tvpe 1 (inches) Color (moist) % Color (moist) % Loc² Texture Remarks 0-16 10YR 3/2 80 7.5YR 5/6 20 С Μ Silty Clay Loam ¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. L2ocation: PL=Pore Lining. M=Matrix. **Hydric Soil Indicators: Indicators for Problematic Hydric Soils 3:** Histosol (A1) Sandy Gleyed Matrix (S4) Coast Prairie Redox (A16) Histic Epipedon (A2) Sandy Redox (S5) Dark Surface (S7) Black Histic (A3) Stripped Matrix (S6) ☐ Iron Manganese Masses (F12) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) ☐ Very Shallow Dark Surface (TF12) Stratified Layers (A5) Loamy Gleyed Matrix (F2) 2 cm Muck (A10) Other (Explain in Remarks) Depleted Matrix (F3) Depleted Below Dark Surface (A11) ✓ Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) Depleted Dark Surface (F7) ³ Indicators of hydrophytic vegetation and Sandy Muck Mineral (S1) wetland hydrology must be present, Redox Depressions (F8) unless disturbed or problematic. 5 cm Mucky Peat or Peat (S3) Restrictive Layer (if observed): Type: No \bigcirc **Hydric Soil Present?** Yes Depth (inches):_ Remarks: **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Secondary Indicators (minimum of two required) ✓ Surface Water (A1) Water-Stained Leaves (B9) Surface Soil Cracks (B6) ✓ High Water Table (A2) Aguatic Fauna (B13) Drainage Patterns (B10) ✓ Saturation (A3) True Aquatic Plants (B14) Dry Season Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Iron Deposits (B5) Thin Muck Surface (C7) ✓ FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Field Observations: Yes 💿 No O Surface Water Present? Depth (inches): 1 Yes No \bigcirc Water Table Present? Depth (inches): Yes ● No ○ **Wetland Hydrology Present?** Saturation Present? Yes 💿 No O Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:

Source of hydrology is surface runoff.

Project/Site: Crissinger-Kirby 138 kV	City/County:	Marion	Sampling Date: 18-Mar-19
Applicant/Owner: American Transmission Systems, Inc.		State:	OH Sampling Point: UPL CK-01
Investigator(s): M.R.Kline, R.C.Massa	Section, To	ownship, Range:	S T <u>T6S</u> R <u>R15E</u>
Landform (hillslope, terrace, etc.): Flat		Local relief (d	concave, convex, none): convex
Slope: 1.0% / 0.6 ° Lat.: 40.556011	Long	- : -83.160228	Datum: NAD 83
Soil Map Unit Name: Ble1A1; Blount silt loam, end moraine, (NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of ye		`	xplain in Remarks.)
	gnificantly disturbed?	(-, -	ormal Circumstances" present? Yes No •
	,		
Are Vegetation	aturally problematic? ving sampling po	•	ded, explain any answers in Remarks.) ns, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No •			
Hydric Soil Present? Yes ○ No •		the Sampled A	
Wetland Hydrology Present? Yes ○ No ●	l wi	thin a Wetland	d? Yes ○ No •
Remarks:			
Upland data point for Wetland CK-01. Surrounding land us VEGETATION - Use scientific names of plan		ınt	
,	Specie	s? ————————————————————————————————————	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:)	% Cover Cover		Number of Dominant Species
1	0 0.09	<u>/</u>	That are OBL, FACW, or FAC: 0 (A)
2	0 0.09		Total Number of Dominant
3			Species Across All Strata:1(B)
4 5.	0 0.09		Percent of dominant Species
J	0		That Are OBL, FACW, or FAC: 0.0% (A/B)
_Sapling/Shrub Stratum (Plot size:)	= TOLAT C	lovei	Prevalence Index worksheet:
1	0 0.09	6	Total % Cover of: Multiply by:
2.	0 0.09		OBL species $0 \times 1 = 0$
3.	0.09	<u>/</u> 6	FACW species $0 \times 2 = 0$
4.	0 0.09	/ 6	FAC species $0 \times 3 = 0$
5	0 0.09	<u>/</u>	FACU species <u>0</u> x 4 = <u>0</u>
Herb Stratum(Plot size: 5' radius)	0 = Total 0	Cover	UPL species <u>100</u> x 5 = <u>500</u>
1. Glycine max	100 🗹 100.0	% UPL	Column Totals: <u>100</u> (A) <u>500</u> (B)
2.	0 0.09	/ ₆	Prevalence Index = B/A =5.000
3.	0.0	%	·
4	0 0.09	<u>/</u>	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation
5	0 0.09	<u>/o</u>	2 - Dominance Test is > 50%
6	0 0.09		3 - Prevalence Index is ≤3.0 ¹
8.	0 0.09		4 - Morphological Adaptations ¹ (Provide supporting
9.	$\begin{array}{c c} 0 & $		data in Remarks or on a separate sheet)
10.	0 0.09		Problematic Hydrophytic Vegetation ¹ (Explain)
	100 = Total C		¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)			be present, unless disturbed or problematic.
1	0 0.09		Hydrophytic
2	0 0.09		Vegetation
	0 = Total 0	cover	Present? Yes VO
Remarks: (Include photo numbers here or on a separate shall Vegetation is mowed. Soybean remnants in field from last	•		

SOIL Sampling Point: UPL CK-01

Profile Desc	ription: (Des	cribe to the	depth nee	ded to d	ocument	the indic	cator or co	nfirm the	absence of indicators.)	
Depth		Matrix			Red	ox Featu	ires		_	
(inches)	Color (n	noist)	<u></u>	Color (n	noist)	%	Tvpe 1	Loc ²	Texture	Remarks
0-16	10YR	4/2	100						Silt Loam	
16-18	10YR	6/1	75	10YR	5/8	25	C	M	Silty Clay Loam	
Type: C=Con	 centration, D=	=Depletion, R	M=Reduced	Matrix, C	S=Covered	d or Coate	ed Sand Gra	ins.		1=Matrix.
Hydric Soil	Indicators:								Indicators for Proble	matic Hydric Soils ³ :
Histosol (Sand	dy Gleyed I	Matrix (S4	1)		Coast Prairie Redox	(A16)
	pedon (A2)			Sand	dy Redox (S5)			Dark Surface (S7)	(/10)
Black Hist	. ,			_ '	ped Matrix	` '			☐ Iron Manganese Ma	ccac (F12)
_ ' '	Sulfide (A4)			Loar	ny Mucky I	Mineral (F	1)		☐ Very Shallow Dark S	
	Layers (A5)				ny Gleyed		2)			
2 cm Muc	` '	unfoce (Add)		L Depl	eted Matri	x (F3)			Other (Explain in Re	тагкѕ)
_ `	Below Dark S	` '		Redo	ox Dark Su	ırface (F6)			
	k Surface (A1	•		Depl	eted Dark	Surface (F7)		Indicators of hydroph	
_ ′	ıck Mineral (Si	•		Redo	ox Depress	sions (F8)			wetland hydrology unless disturbed	must be present,
	cky Peat or Pea								uniess disturbed	or problematic.
	ayer (if obse	erved):								
Type:									Hydric Soil Present?	Yes ○ No ●
Depth (inc	hes):								Tryunc don Tresent.	les 🔾 NO 🔾
YOROLO		nata va								
-	Irology Indic ators (minimu		auired: che	rk all that	annly)				Secondary Indicat	ors (minimum of two required)
		ili di dile is re	quireu, criet			d I	(DO)			
	Vater (A1)				ater-Staine		(69)		Surface Soil C	` '
	er Table (A2)				uatic Faun		11.4\		Drainage Patte	` '
Saturation	` '				ue Aquatic	•	,			ater Table (C2)
☐ Water Ma	: Deposits (B2)				drogen Su			anta (C2)	Crayfish Burro	
Drift Dep)			esence of I	-	on Living R	.0015 (C3)		ible on Aerial Imagery (C9) essed Plants (D1)
	or Crust (B4)						in Tilled Sc	ile (C6)	Geomorphic P	
Iron Dep								iis (Co)	FAC-Neutral T	
	osits (B3) on Visible on A	orial Imageny	(R7)		in Muck Su				FAC-Neudal I	ESC (D3)
	Vegetated Cor				uge or We	-	-			
эрагзегу	vegetated Col	icave Surface	(60)		her (Explai	in in Kem	arks)			
Field Observ		Yes 〇	No •		Conth (inch	200).				
Surface Water		_	_	L	Depth (inch	les):		-		
Water Table P		Yes 🔾	No 💿	[Depth (inch	nes):		- 1	land Hydrology Present?	Yes O No 💿
Saturation Pre		Yes \bigcirc	No 💿	[Depth (inch	nes):		wet	ianu nyurology Present?	165 C NO C
(includes capil Describe Rec							nrevious in	spection	s), if available:	
SCOUNC ME	Joi ucu Dala	(Su can yai	ige, monit	Jing We	ii, aciiai	priot05,	previous II	spections	<i>3),</i> ii avaliabic.	
Domarka										
Remarks:										
No source of	hydrology.									

Project/Site: Crissinger-Kirby 138 kV		Cit	y/County:	Marion		Sampling Date: 18-Mar-19
Applicant/Owner: American Transmission	n Systems, Inc.			State:	OH Sam	pling Point: Wetland CK-02
Investigator(s): M.R.Kline, R.C.Massa			Section, Town	ship, Range:	s T T6S	
Landform (hillslope, terrace, etc.): Swale	9		l	ocal relief (concave, convex, none):	concave
Slope: 1.0% / 0.6 ° Lat.:	40 556043		Long.:	-83.167521		Datum: NAD 83
Soil Map Unit Name: Pk; Pewamo sil		ent clones		05.107521	NWI classific	
Are climatic/hydrologic conditions on the		/	● No ○	(If no. e)	xplain in Remarks.)	.duoiiN/A
Are Vegetation . Soil .		anificantly dis		,	ormal Circumstances" pre	esent? Yes O No •
		,			·	
Are Vegetation, Soil SUMMARY OF FINDINGS - A		iturally proble		•	ded, explain any answers ns, transects, imi	,
Hydrophytic Vegetation Present?	Yes No		1			<u>'</u>
Hydric Soil Present?	Yes No			Sampled A		
Wetland Hydrology Present?	Yes ● No ○		Withii	n a Wetland	^{1?} Yes ● No ○)
Remarks:						
This PEM swale begins outside of t Water follows a slight depression t VEGETATION - Use scie	until it becomes a waterco	ourse outsid	Dominant	dy area ag	ain. The wetland bou	ındary follows edge of depression.
)	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Dominance Test wo	
1		0	0.0%		Number of Dominant S That are OBL, FACW,	
2.		0	0.0%			
3		0	0.0%		Total Number of Domi Species Across All Stra	
4		0	0.0%			
5			0.0%		Percent of dominar That Are OBL, FAC	
_Sapling/Shrub Stratum (Plot size:	1	0	= Total Cove	er		
	/	0	0.0%		Prevalence Index w	
2.		0	0.0%		Total % Cove OBL species	$ \begin{array}{ccc} \text{er of:} & \text{Multiply by:} \\ 0 & \text{x } 1 = 0 \end{array} $
3.		0	0.0%		FACW species	25 x 2 = 50
4.		0	0.0%		FAC species	15 x 3 = 45
5.		0	0.0%		FACU species	0 x 4 = 0
<u>Herb Stratum</u> (Plot size: 5' radius)	0	= Total Cove	er	UPL species	15 x 5 = 75
1 Phalaris arundinacea		25	✓ 45.5%	FACW	Column Totals:	
2 Cataria numila			✓ 27.3%	FAC	Prevalence Ind	
3. Glycine max		15	✓ 27.3%	UPL		
4		0	0.0%		Hydrophytic Vegeta	tion Indicators: or Hydrophytic Vegetation
5		0	0.0%		2 - Dominance T	
6.		0	0.0%		3 - Prevalence I	
7. 8.			0.0%			al Adaptations ¹ (Provide supporting
9.			0.0%		data in Remarks	or on a separate sheet)
10.		0	0.0%		Problematic Hyd	lrophytic Vegetation ¹ (Explain)
			= Total Cove			ric soil and wetland hydrology must
)				be present, unless of	disturbed or problematic.
1		0	0.0%		Hydrophytic	
2			0.0%		Vegetation	s • No O
		0	= Total Cove	er	Present? Yes	S · NO ·
Remarks: (Include photo numbers	here or on a separate sh	eet.)				
Vegetation has been recently mow	ed and wetalnd occurs in	agricultura	I field that is	regularly	tilled.	

SOIL Sampling Point: Wetland CK-02 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Tvpe 1 (inches) Color (moist) % Color (moist) % Loc² Texture Remarks 0-18 10YR 2/1 100 Silty Clay Loam ¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. L2ocation: PL=Pore Lining. M=Matrix. **Hydric Soil Indicators: Indicators for Problematic Hydric Soils 3:** Histosol (A1) Sandy Gleyed Matrix (S4) Coast Prairie Redox (A16) Histic Epipedon (A2) Sandy Redox (S5) Dark Surface (S7) Black Histic (A3) Stripped Matrix (S6) ☐ Iron Manganese Masses (F12) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) ☐ Very Shallow Dark Surface (TF12) Stratified Layers (A5) Loamy Gleyed Matrix (F2) 2 cm Muck (A10) Other (Explain in Remarks) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) ✓ Thick Dark Surface (A12) Depleted Dark Surface (F7) ³ Indicators of hydrophytic vegetation and Sandy Muck Mineral (S1) wetland hydrology must be present, Redox Depressions (F8) unless disturbed or problematic. 5 cm Mucky Peat or Peat (S3) Restrictive Layer (if observed): Type: No \bigcirc **Hydric Soil Present?** Yes Depth (inches):_ Remarks: **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) ✓ Water-Stained Leaves (B9) ✓ Surface Water (A1) ✓ High Water Table (A2) Aguatic Fauna (B13) ✓ Drainage Patterns (B10) ✓ Saturation (A3) True Aquatic Plants (B14) Dry Season Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) ✓ Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Field Observations: Yes 💿 No O Surface Water Present? Depth (inches): 1 Yes No \bigcirc Water Table Present? Depth (inches): Yes ● No ○ **Wetland Hydrology Present?** Saturation Present? Yes 💿 No O Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:

Source of hydrology is surface runoff and stream flow.

Project/Site: Crissinger-Kirby 138 kV		City	/County:	Marion	Sampling Date: 18-Mar-19
Applicant/Owner: American Transmission	n Systems, Inc.			State:	OH Sampling Point: UPL CK-02
Investigator(s): M.R.Kline, R.C.Massa		Se	ection, Town	nship, Range:	S T T6S R R15E
Landform (hillslope, terrace, etc.): Flat			ı	Local relief (c	concave, convex, none): convex
Slope: 1.0% / 0.6 ° Lat.:	40 EE6036		Long:	-83.167352	Datum: NAD 83
				-03.10/332	<u> </u>
Soil Map Unit Name: Pk; Pewamo sil			No O	(If no ov	NWI classification: N/A cplain in Remarks.)
Are climatic/hydrologic conditions on the				, ,	
Are Vegetation ✓ , Soil ☐		ignificantly distu		Are "No	ormal Circumstances" present? Yes Vo No V
Are Vegetation, Soil SUMMARY OF FINDINGS - A		aturally problen		•	ded, explain any answers in Remarks.) ns, transects, important features, etc.
	Yes O No •	gp			,
Hydrophytic Vegetation Present?	Yes O No •		Is the	e Sampled A	Area
Hydric Soil Present?	Yes O No •		withi	n a Wetland	d? Yes ○ No ●
Wetland Hydrology Present?	res Uno U				
Remarks: Upland data point for Wetland CK-	.02 Surrounding land us	se is agricultu	re		
opiana data point for wedana ck	oz. Surrounding land us	se is agricultu	ic.		
VEGETATION - Use scie	ntific names of plar		Dominant		
(0)		Absolute			Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:		% Cover	Cover	Status	Number of Dominant Species
1					That are OBL, FACW, or FAC:(A)
2. 3.			0.0%		Total Number of Dominant
4.		0	0.0%		Species Across All Strata:1(B)
5.		0	0.0%		Percent of dominant Species
-		0 :	= Total Cove	er	That Are OBL, FACW, or FAC: 0.0% (A/B)
Sapling/Shrub Stratum (Plot size:)				Prevalence Index worksheet:
1		_ 0_ [0.0%		Total % Cover of: Multiply by:
2			0.0%		OBL species 0 x 1 = 0
3			0.0%		FACW species $0 \times 2 = 0$
5.		0 [0.0%		FAC species $0 \times 3 = 0$
			= Total Cove	 er	FACU species 0 x 4 = 0 UPL species 100 x 5 = 500
Herb Stratum (Plot size: 5' radius)		_		
1. Glycine max			100.0%	UPL	Column Totals: <u>100</u> (A) <u>500</u> (B)
2		0 [0.0%		Prevalence Index = B/A =
4.		0 [0.0%		Hydrophytic Vegetation Indicators:
5.		0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
6.		0	0.0%		2 - Dominance Test is > 50%
7.		0	0.0%		3 - Prevalence Index is ≤3.0 ¹
8.		_ 0 [0.0%		4 - Morphological Adaptations 1 (Provide supporting data in Remarks or on a separate sheet)
9. 10.		_ 0	0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
10			0.0%		¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)		= Total Cove	er	be present, unless disturbed or problematic.
1.		_ 0 [0.0%		
2		0	0.0%		Hydrophytic Vegetation
		0 :	= Total Cove	er	Present? Yes No •
Remarks: (Include photo numbers	here or on a separate s	heet.)			
Vegetation is mowed. Soybean re	mnants in field from last	growing seas	son.		

LIDL OK 00 Doint

Depth (inches) - 0-16 - 16-18					Red					
	Color (n	Matrix noist)	%	Color ((moist)	lox Featu <u>%</u>	Tvpe 1	Loc2	Texture	Remarks
16-18	10YR	4/2	100						Silt Loam	
	10YR	4/2	80	10YR	5/8	20	С	М	Silty Clay Loam	
					-					
ype: C=Conce		=Depletion,	, RM=Reduce	ed Matrix,	CS=Covere	d or Coate	ed Sand Gra	ins.	Location: PL=Pore Lining, Machine Indicators for Problem	
Histosol (A	•			Sa	ndy Gleyed	Matrix (S	1)		Coast Prairie Redox (A16)
Histic Epipe	` ,			Sa	ndy Redox ((S5)			Dark Surface (S7)	A10)
Black Histic	. ,			Str	ripped Matrix	x (S6)			Iron Manganese Mass	ses (F12)
	Sulfide (A4)				amy Mucky				Very Shallow Dark Su	. ,
Stratified L				Lo	amy Gleyed	Matrix (F	2)			
2 cm Muck	. ,		4.	☐ De	epleted Matri	ix (F3)			Other (Explain in Ren	narks)
_ '	Below Dark Si	`	L)	Re	edox Dark Su	urface (F6)			
	Surface (A1	•		☐ De	epleted Dark	Surface (F7)		3 Indicators of hydrophy	tic vegetation and
_ `	ck Mineral (Si	•		Re	dox Depress	sions (F8)			wetland hydrology r	must be present,
	ky Peat or Pe								unless disturbed o	r problematic.
Restrictive La	yer (if obse	erved):								
Type:									Hudvia Sail Drocont?	v
Type:	nes):								Hydric Soil Present?	Yes O No •
Type: Depth (inch Remarks:									Hydric Soil Present?	Yes O No •
Type: Depth (inche Remarks:	GY								Hydric Soil Present?	Yes ○ No ●
Type: Depth (incher Remarks: IYDROLO Wetland Hydr	GY rology Indic	cators:	required; ch	neck all th	at apply)					
Type:	GY rology Indic tors (minimu	cators:	required; ch			ed Leaves	(B9)		Secondary Indicato	rs (minimum of two required)
Type:	GY rology Indictors (minimulater (A1)	cators:	required; ch		Water-Staine		(B9)		Secondary Indicato Surface Soil Cra	rs (minimum of two required)
Type:	GY rology Indictors (minimulater (A1) r Table (A2)	cators:	required; ch	\ \ \	Water-Staine Aquatic Faur	na (B13)			Secondary Indicato Surface Soil Cra	rs (minimum of two required) acks (B6) rns (B10)
Type:	GY rology Indictors (minimulater (A1) r Table (A2) (A3)	cators:	; required; ch		Water-Staine Aquatic Faur True Aquatic	na (B13) : Plants (B	314)		Secondary Indicato Surface Soil Cra Drainage Patter Dry Season Wa	ors (minimum of two required) acks (B6) rns (B10) ter Table (C2)
Type:	GY rology Indictors (minimulater (A1) r Table (A2) (A3) ks (B1)	cators: m of one is	required; ch	\ # 1	Water-Staine Aquatic Faur True Aquatic Hydrogen Su	na (B13) : Plants (E ulfide Odo	814) r (C1)	oots (C3)	Secondary Indicato Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrov	ors (minimum of two required) acks (B6) rns (B10) ter Table (C2) vs (C8)
Type:	GY rology Indictors (minimulater (A1) r Table (A2) (A3) ks (B1) Deposits (B2)	cators: m of one is	required; ch	\ \	Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi	na (B13) : Plants (E ulfide Odo :zospheres	314) r (C1) s on Living R	loots (C3)	Secondary Indicato Surface Soil Cra Drainage Pattee Dry Season Wa Crayfish Burrov Saturation Visib	ors (minimum of two required) acks (B6) rns (B10) ter Table (C2)
Type:	GY rology Indictors (minimumater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3)	cators: m of one is	; required; ch	\ \ \ \ \ \ \	Water-Staine Aquatic Faur True Aquatic Hydrogen Su	na (B13) Plants (E ulfide Odo zospheres Reduced	314) r (C1) s on Living F Iron (C4)		Secondary Indicato Surface Soil Cra Drainage Pattee Dry Season Wa Crayfish Burrov Saturation Visib	rs (minimum of two required) acks (B6) rns (B10) ter Table (C2) vs (C8) ble on Aerial Imagery (C9) ssed Plants (D1)
Type:	rology Indicators (minimum ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4)	cators: m of one is	; required; ch	\ # 1 6 6 6	Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron	na (B13) c Plants (E ulfide Odo izospheres Reduced Reduction	314) r (C1) s on Living R Iron (C4) n in Tilled Sc		Secondary Indicato Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrov Saturation Visib Stunted or Stre	rs (minimum of two required) acks (B6) rns (B10) ter Table (C2) vs (C8) ole on Aerial Imagery (C9) ssed Plants (D1) sition (D2)
Type:	rology Indicators (minimum ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4)	cators: m of one is		\ \ \ \ \ \ \ \ \ \	Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of	na (B13) c Plants (E ulfide Odo izospheres Reduced Reductior urface (Ci	s14) r (C1) s on Living F Iron (C4) n in Tilled Sc 7)		Secondary Indicato Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrov Saturation Visit Stunted or Stre	rs (minimum of two required) acks (B6) rns (B10) ter Table (C2) vs (C8) ole on Aerial Imagery (C9) assed Plants (D1) sition (D2)
Type:	GY rology Indictors (minimulater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)	cators: m of one is	ery (B7)		Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck So	na (B13) c Plants (E ulfide Odo izospheres Reduced Reductior urface (Ci ell Data (E	s14) r (C1) s on Living R Iron (C4) n in Tilled Sc 7)		Secondary Indicato Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrov Saturation Visit Stunted or Stre	rs (minimum of two required) acks (B6) rns (B10) ter Table (C2) vs (C8) ole on Aerial Imagery (C9) assed Plants (D1) sition (D2)
Type:	rology Indicators (minimum ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) in Visible on A degetated Corustions:	cators: m of one is) werial Image	ery (B7) ace (B8)		Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck So Gauge or We Other (Expla	na (B13) c Plants (E ulfide Odo izospheres Reduced Reductior urface (C) ell Data (E	s14) r (C1) s on Living R Iron (C4) n in Tilled Sc 7)		Secondary Indicato Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrov Saturation Visit Stunted or Stre	rs (minimum of two required) acks (B6) rns (B10) ter Table (C2) vs (C8) ole on Aerial Imagery (C9) assed Plants (D1) sition (D2)
Type:	rology Indicators (minimum ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) in Visible on A degetated Corustions:	cators: Im of one is erial Image ncave Surfa	ery (B7) ace (B8)		Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck So Gauge or We	na (B13) c Plants (E ulfide Odo izospheres Reduced Reductior urface (C) ell Data (E	s14) r (C1) s on Living R Iron (C4) n in Tilled Sc 7)		Secondary Indicato Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrov Saturation Visit Stunted or Stre	rs (minimum of two required) acks (B6) rns (B10) ter Table (C2) vs (C8) ole on Aerial Imagery (C9) assed Plants (D1) sition (D2)
Type:	GY rology Indictors (minimulater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) n Visible on A egetated Cor ations: Present?	cators: m of one is) werial Image	ery (B7) ace (B8)		Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck So Gauge or We Other (Expla	na (B13) c Plants (E ulfide Odo izospheres Reduced Reductior urface (C) ell Data (E inin in Rem	s14) r (C1) s on Living R Iron (C4) n in Tilled Sc 7)	iils (C6)	Secondary Indicato Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrov Saturation Visib Stunted or Stre Geomorphic Po FAC-Neutral Te	rs (minimum of two required) acks (B6) rns (B10) ter Table (C2) vs (C8) ble on Aerial Imagery (C9) ssed Plants (D1) sition (D2) st (D5)
Type:	GY rology Indictors (minimulater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) n Visible on Alegetated Cor ations: Present? esent?	cators: Im of one is erial Image ncave Surfa	ery (B7) ace (B8) No No No		Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck So Gauge or We Other (Expla	na (B13) c Plants (E ulfide Odo izospheres Reduced Reductior urface (C ell Data (E nin in Rem hes): hes):	s14) r (C1) s on Living R Iron (C4) n in Tilled Sc 7)	iils (C6)	Secondary Indicato Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrov Saturation Visit Stunted or Stre	rs (minimum of two required) acks (B6) rns (B10) ter Table (C2) vs (C8) ole on Aerial Imagery (C9) assed Plants (D1) sition (D2)

Project/Site: Crissinger-Kirby 138 kV		Cit	cy/County:	Marion		Samplii	ng Date:	18-Mar-19
Applicant/Owner: American Transmission Syst	ems, Inc.			State:	ОН	Sampling Point:	Wetlan	d CK-03a
Investigator(s): M.R.Kline, R.C.Massa			Section, Town	ship, Range:	S T	T6S R	R15E	
Landform (hillslope, terrace, etc.): Flat			L	ocal relief (c	concave, convex, noi	ne): concave		
Slope: 1.0% / 0.6 ° Lat.: 40.	 556035		Long.: -	83.170887		Dat	um: NAD 83	
		ina 2 ta C			NW/I cla	ssification: PEM	-	
Soil Map Unit Name: <u>Gwe5B2; Glynwood</u> Are climatic/hydrologic conditions on the site ty		(No O		cplain in Remarks.)	ssincadon. PEN	iic	
		nificantly dis		. ,	,	۵ محمد ال	Yes	No O
		•			ormal Circumstances	·		140 ©
Are Vegetation, Soil, or	Hydrology na	turally proble	ematic?	(If nee	ded, explain any ans	wers in Remarks	.)	
SUMMARY OF FINDINGS - Attac	h site map show	ing samı	pling poin	t locatio	ns, transects,	important f	eatures, e	tc.
Hydrophytic Vegetation Present? Ye	s • No O							
Hydric Soil Present? Ye	s • No O			Sampled A		-		
Wetland Hydrology Present? Ye	s • No O		, with	ra wedanc	·· Yes So No) 🔾		
Remarks:			I					
This PFO section of a PSS/PFO wetland						line right-of-wa	ay. The wetl	and is
influenced by a high water table and su	ırface runoff. The w	etland bour	ndary follows	s edge of d	epression.			
VEGETATION - Use scientifi	is names of plant	tc						
VEGETATION - Ose scientin	Chames of plant		Dominant - Species?		I B	Llaskasta		
)	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Dominance Test			
1. Acer rubrum		20	✓ 66.7%	FAC	Number of Domin That are OBL, FAG		3	(A)
2. Quercus alba		5	16.7%	FACU				_
3. Carya ovata		5	16.7%	FACU	Total Number of I Species Across Al		5	(B)
4		0	0.0%					_
5			0.0%	0	Percent of dom That Are OBL, F		60.0%	6 (A/B)
Sapling/Shrub Stratum (Plot size: 15' radio	us \	30	= Total Cove	er				
1. Ailanthus altissima	,	20	✓ 66.7%	FACU	Prevalence Inde		Multiplu bur	
Lonicera morrowii			✓ 33.3%	FACU	Total % C OBL species	25	$ \begin{array}{rcl} \text{Multiply by:} \\ $	 25
3.		0	0.0%		FACW species			50
4.		0	0.0%		FAC species	30	_	90
5		0	0.0%		FACU species	40	x 4 = 1	60
Herb Stratum (Plot size: 5' radius)	30	= Total Cove	er	UPL species	0	x 5 =	0
1 Phalaris arundinacea		30	✓ 46.2%	FACW	Column Totals	s: <u>125</u>	(A) 3:	35 (B)
2. Carex lurida		25	✓ 38.5%	OBL	Prevalence	Index = B/A =		
3. Toxicodendron radicans		10	15.4%	FAC				<u></u>
4		0	0.0%		Hydrophytic Veg	st for Hydrophy		n
5			0.0%		I	ce Test is > 50°	_	
6. 7.			0.0%			ce Index is ≤3.0		
8.			0.0%			ogical Adaptatio		e supporting
9.		0	0.0%			arks or on a sep		
10.		0	0.0%		Problematic	Hydrophytic Ve	egetation ¹ (E	explain)
		65	= Total Cove		¹ Indicators of			
Woody Vine Stratum (Plot size:)			••	be present, unle	ss disturbed o	r problematic	•
1			0.0%		Hydrophytic			
2			0.0%		Vegetation	Yes No	\cap	
		0	= Total Cove	er	Present?	res 🙂 NO	\smile	
Demarks: (Include phote numbers have	or on a constate at	oot \			•			
Remarks: (Include photo numbers here	or on a separate sn	cci.)						

SOIL Sampling Point: Wetland CK-03a Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Tvpe 1 (inches) Color (moist) % Color (moist) % Loc² Texture Remarks 0-16 10YR 5/2 80 10YR 5/8 20 С Μ Silty Clay Loam ¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. L2ocation: PL=Pore Lining. M=Matrix. **Hydric Soil Indicators: Indicators for Problematic Hydric Soils 3:** Histosol (A1) Sandy Gleyed Matrix (S4) Coast Prairie Redox (A16) Histic Epipedon (A2) Sandy Redox (S5) Dark Surface (S7) Black Histic (A3) Stripped Matrix (S6) ☐ Iron Manganese Masses (F12) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) ☐ Very Shallow Dark Surface (TF12) Stratified Layers (A5) Loamy Gleyed Matrix (F2) 2 cm Muck (A10) Other (Explain in Remarks) ✓ Depleted Matrix (F3) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) Depleted Dark Surface (F7) ³ Indicators of hydrophytic vegetation and Sandy Muck Mineral (S1) wetland hydrology must be present, Redox Depressions (F8) unless disturbed or problematic. 5 cm Mucky Peat or Peat (S3) Restrictive Layer (if observed): Type: No \bigcirc **Hydric Soil Present?** Yes Depth (inches):_ Remarks: **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Secondary Indicators (minimum of two required) ✓ Water-Stained Leaves (B9) Surface Water (A1) Surface Soil Cracks (B6) ✓ High Water Table (A2) Aguatic Fauna (B13) Drainage Patterns (B10) ✓ Saturation (A3) True Aquatic Plants (B14) Dry Season Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) ✓ Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Field Observations: Yes 🔾 No 💿 Surface Water Present? Depth (inches): Yes No \bigcirc Water Table Present? Depth (inches): Yes No O **Wetland Hydrology Present?** Saturation Present? Yes 💿 No O Depth (inches):

(includes capillary fringe)

Source of hydrology is high water table.

Remarks:

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

Project/Site: Crissinger-Kirby 138 kV		City	y/County:	Marion		Sampli	ng Date:	19-Mar-19
Applicant/Owner: American Transmission	n Systems, Inc.			State:	OH Sa	ampling Point:	Wetlan	d CK-03b
Investigator(s): M.R.Kline, R.C.Massa		S	Section, Towns	ship, Range:	S T T	6S R	R15E	
Landform (hillslope, terrace, etc.): Flat			ı	_ocal relief (c	concave, convex, none): concave		
Slope: 1.0% / 0.6 ° Lat.:	40 555993			83.170885		Dat	um: NAD 83	3
					NIMI classi	ification: PEM	-	
Soil Map Unit Name: <u>Gwe5B2; Glynw</u>		(oercent slop ● No ○		cplain in Remarks.)	ilcation. PEIV	IIC	
Are climatic/hydrologic conditions on the		yeur.		•	,		Yes •	No O
Are Vegetation, Soil		significantly dist		Are "No	ormal Circumstances" p	resent?	res 🙂	NO C
Are Vegetation, Soil	, or Hydrology	naturally proble	matic?	(If need	ded, explain any answ	ers in Remarks	.)	
SUMMARY OF FINDINGS - A	ttach site map sho	wing samp	oling poin	t locatio	ns, transects, ir	nportant f	eatures, e	tc.
Hydrophytic Vegetation Present?	Yes ● No ○							
Hydric Soil Present?	Yes No			Sampled A		\sim		
Wetland Hydrology Present?	Yes No		Withir	n a Wetland	I? Yes ● No	J		
Remarks:								
This PSS section of a PSS/PFO wet								
has been cleared of vegetation in t	.ne past. The wettand i	is influenced b	y a nign wa	iter table a	na suriace runoii.	rne weuand	boundary for	lows eage of
VEGETATION - Use scie	ntific names of pla	nts.	Dominant					
	<u> </u>	Absolute	- Species? - Rel.Strat.	Indicator	Dominance Test v	vorksheet:		
Tree Stratum (Plot size: None)	% Cover	Cover	Status	Number of Dominar			
1			0.0%		That are OBL, FACV		2	(A)
2			0.0%		Total Number of Do	minant		
3			0.0%		Species Across All S		4	(B)
4		r	0.0%		Percent of domin	ant Species		
5		0	0.0%	0	That Are OBL, FA		50.09	% (A/B)
Sapling/Shrub Stratum (Plot size: 15	'radius)		= Total Cove	:r	·			
1. Ailanthus altissima	,	30	✓ 46.2%	FACU	Prevalence Index		Mandelphy by	
2		10	15.4%	FACU	Total % Co OBL species	<u>ver от:</u> 15	$\frac{\text{Multiply by:}}{\text{x 1} = 1}$	 15
3				FACW	FACW species	<u> 15</u> 45		90
4. Rosa multiflora			<u>√</u> 23.1%	FACU	FAC species	10		30
5.		0	0.0%		FACU species	55		20
<u>Herb Stratum</u> (Plot size: 5' radius	1	65	= Total Cove	er	UPL species	0		0
1. Phalaris arundinacea		35	✓ 58.3%	FACW	Column Totals:	125		55 (B)
2. Carex lurida			✓ 38.3 % ✓ 25.0%	OBL				
3. Toxicodendron radicans			16.7%	FAC	Prevalence Ir	1 dex = B/A =	2.840	<u> </u>
4.		0	0.0%		Hydrophytic Vege			
5.		0 [0.0%		1 - Rapid Test			n
6.		0 [0.0%		2 - Dominance			
7		0 [0.0%		✓ 3 - Prevalence			
8.		0	0.0%		4 - Morphologi data in Remar			
9.		0[0.0%		Problematic H	•	•	
10.			0.0%				•	. ,
	e)	60	= Total Cove	er	¹ Indicators of hy be present, unless			
1.		0	0.0%					
2.		[0.0%		Hydrophytic			
- -			= Total Cove		Vegetation Present?	res 💿 No	\bigcirc	
			- 10tal cove		1100			
Remarks: (Include photo numbers	here or on a separate	sheet.)						
Tremarker (Include priote numbers	There or on a separate t	Silecti,						

SOIL Sampling Point: Wetland CK-03b Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Tvpe 1 (inches) Color (moist) % Color (moist) % Loc² Texture Remarks 0-16 10YR 5/2 80 10YR 5/8 20 С Μ Silty Clay Loam ¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. L2ocation: PL=Pore Lining. M=Matrix. **Hydric Soil Indicators: Indicators for Problematic Hydric Soils 3:** Histosol (A1) Sandy Gleyed Matrix (S4) Coast Prairie Redox (A16) Histic Epipedon (A2) Sandy Redox (S5) Dark Surface (S7) Black Histic (A3) Stripped Matrix (S6) ☐ Iron Manganese Masses (F12) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) ☐ Very Shallow Dark Surface (TF12) Stratified Layers (A5) Loamy Gleyed Matrix (F2) 2 cm Muck (A10) Other (Explain in Remarks) ✓ Depleted Matrix (F3) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) Depleted Dark Surface (F7) ³ Indicators of hydrophytic vegetation and Sandy Muck Mineral (S1) wetland hydrology must be present, Redox Depressions (F8) unless disturbed or problematic. 5 cm Mucky Peat or Peat (S3) Restrictive Layer (if observed): Type: No \bigcirc **Hydric Soil Present?** Yes Depth (inches):_ Remarks: **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Secondary Indicators (minimum of two required) ✓ Water-Stained Leaves (B9) Surface Water (A1) Surface Soil Cracks (B6) ✓ High Water Table (A2) Aguatic Fauna (B13) Drainage Patterns (B10) ✓ Saturation (A3) True Aquatic Plants (B14) Dry Season Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) ✓ Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Field Observations: Yes 🔾 No 💿 Surface Water Present? Depth (inches): Yes No \bigcirc Water Table Present? Depth (inches): Yes No O **Wetland Hydrology Present?** Saturation Present? Yes 💿 No O Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Source of hydrology is high water table.

Project/Site: Crissinger-Kirby 138 kV	City/Coun	ty: Marion	Sam	pling Date:18-Mar-19
Applicant/Owner: American Transmission Systems, Inc.		State:	OH Sampling Point	t: Wetland CK-04
Investigator(s): M.R.Kline, R.C.Massa	Section,	Township, Range:	S T T6S R	R15E
Landform (hillslope, terrace, etc.): Flat		Local relief (oncave, convex, none): concave	
Slope: 1.0% / 0.6 ° Lat.: 40.556073	Lor	— ng∴ -83.171489	, , <u>, , , , , , , , , , , , , , , , , </u>	Datum: NAD 83
Soil Map Unit Name: Ble1A1; Blount silt loam, end moraine, (\bigcirc	NWI classification: PE	<u>=M1C</u>
Are climatic/hydrologic conditions on the site typical for this time of ye		(-, -	plain in Remarks.)	Yes ● No ○
	gnificantly disturbed?	Are "No	ormal Circumstances" present?	res 🙂 No 🔾
Are Vegetation	aturally problematic?		ded, explain any answers in Remar	•
•		point locatio	ms, cransects, important	- Teatures, etc.
Hydrophytic Vegetation Present? Yes No No Yes No		Is the Sampled A	rea	
		within a Wetland		
Wetland Hydrology Present? Yes No No				
This PEM wetland is a small, wet depression that is surrour follows edge of depression. VEGETATION - Use scientific names of plan	its. Domi	nant ies?		
	Absolute Rel.S % Cover Cov	trat. Indicator	Dominance Test worksheet:	
1		.0%	Number of Dominant Species That are OBL, FACW, or FAC:	1 (A)
2.	0 0	.0%	, ,	
3	0 0	.0%	Total Number of Dominant Species Across All Strata:	3 (B)
4	0 0	.0%		(/
5	0 0	.0%	Percent of dominant Species That Are OBL, FACW, or FAC	22 22 (1/2)
(DL) 1 4Fl madius	0 = Tota	ll Cover	That Are ODL, I ACW, OF I A	<u> </u>
Sapling/Shrub Stratum (Plot size: 15' radius)			Prevalence Index worksheet	
1. Lonicera morrowii	2 2 50		Total % Cover of:	Multiply by:
2. Rosa multiflora 3.		0.0% FACU .0%	OBL species 0	x 1 =
4.		.0%	FACW species <u>20</u> FAC species 0	x 2 = 40 x 3 = 0
5.		.0%	FACU species 4	x 4 = 16
(District El radius		ll Cover	UPL species 0	$x = \frac{10}{0}$
Herb Stratum (Plot size: 5' radius)		2 224		(1)
1_Phalaris arundinacea		0.0% FACW		
2		.0%	Prevalence Index = B/A	A = <u>2.333</u>
4.		.0%	Hydrophytic Vegetation India	cators:
5.		.0%	1 - Rapid Test for Hydrop	hytic Vegetation
6.		.0%	2 - Dominance Test is > 5	50%
7.	0 0	.0%	✓ 3 - Prevalence Index is ≤	3.0 ¹
8	0 0	.0%	4 - Morphological Adapta data in Remarks or on a s	ntions ¹ (Provide supporting
9.	0 0	.0%	Problematic Hydrophytic	•
10	0 0	.0%		
	= Tota	ll Cover	¹ Indicators of hydric soil an be present, unless disturbed	
1.	0 🗌 0	.0%		
2.	0 0	.0%	Hydrophytic	
		l Cover	Vegetation Present? Yes N	No O
Remarks: (Include photo numbers here or on a separate sl Sparse vegetation in concave surface.	neet.)			

inches) Color (moist) 96 Color (moist) 96 Took 1 Loc2 Texture Remarks 14-16 2.5Y 3/2 90 10YR 5/8 10 C M 5llty Clay Loan		ription: (Des	Matrix			Redo	x Feature	es		,	
14-16 2.5Y 5/2 80 10YR 5/8 20 C M Silty Clay	Depth (inches)	Color (r		%	Color (n				Loc2	Texture	Remarks
Specific Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Secation: PL=Pore Lining, M=Matrix.	0-14	2.5Y	3/2	90	10YR	5/6	10	С	М	Silty Clay Loam	
Histos (A1) Histos (A1) Histos (A2) Black Histic (A3) Sandy Redox (S5) Black Histic (A3) Stripped Matrix (S6) Loamy Mucky Mineral (F1) Stratified Layers (A5) Loamy Mucky Mineral (F1) Stratified Layers (A5) Loamy Mucky Mineral (F1) Stratified Layers (A5) Loamy Mucky Mineral (F1) Depleted Belsow Dark Surface (A11) Thick Dark Surface (A12) Depleted Belsow Dark Surface (A12) Sandy Muck Mineral (S1) Som Mucky Peat or Peat (S3) Sardy Muck Mineral (S1) Som Mucky Peat or Peat (S3) Stripped Matrix (F2) Sandy Muck Mineral (S1) Som Mucky Peat or Peat (S3) Strictive Layer (if observed): Type:	14-16		5/2	80 -	10YR	5/8	20	C	M	Silty Clay	
Sandy Muck Mineral (S1)	dric Soil I Histosol (Histic Epip Black Hist Hydrogen Stratified Communication	Andicators: A1) pedon (A2) cic (A3) a Sulfide (A4) Layers (A5) ck (A10) Below Dark S	iurface (A11		Sanc Strip Loan Loan Depl	dy Gleyed M dy Redox (Si oped Matrix I my Mucky M my Gleyed M leted Matrix ox Dark Surf	atrix (S4) 5) (S6) lineral (F1 Matrix (F2) (F3) face (F6))	ns.	Indicators for Problem Coast Prairie Redox (Dark Surface (S7) Iron Manganese Mas Very Shallow Dark Su Other (Explain in Ren	natic Hydric Soils ³ : A16) ses (F12) urface (TF12) narks)
Type:	_ ′	•	,		_ :		`	<i>,</i> ,		wetland hydrology	must be present,
Popth (inches):				-						1	
Pydramrks: Pydramrks: Pydr	estrictive L										
Surface Water (A1) ✓ Water-Stained Leaves (B9) Surface Soil Cracks (B6) ✓ High Water Table (A2) Aquatic Fauna (B13) □ Drainage Patterns (B10) □ Saturation (A3) □ True Aquatic Plants (B14) □ Dry Season Water Table (C2) □ Crayfish Burrows (C8) □ Sediment Deposits (B2) □ Drift Deposits (B3) □ Presence of Reduced Iron (C4) □ Algal Mat or Crust (B4) □ Iron Deposits (B5) □ Inundation Visible on Aerial Imagery (B7) ☑ Sparsely Vegetated Concave Surface (B8) Ves No Depth (inches): Surface Water (A1) ✓ Water-Stained Leaves (B9) □ Drift Deposits (B13) □ Drainage Patterns (B10) □ Drainage Pattern	Restrictive La Type: Depth (inc	ayer (if obse									Yes ● No ○
Surface Water (A1) ✓ Water-Stained Leaves (B9) ✓ In High Water Table (A2) ✓ Saturation (A3) ✓ Saturation (A3) ✓ Saturation (A3) ✓ Saturation (A3) ✓ Sediment Deposits (B2) ✓ Drift Deposits (B3) ✓ Presence of Reduced Iron (C4) ✓ Algal Mat or Crust (B4) ✓ In Deposits (B5) ✓ In Undation Visible on Aerial Imagery (B7) ✓ Sparsely Vegetated Concave Surface (B8) ✓ Specific Water Present? ✓ Yes ✓ No ✓ Depth (inches): ✓ Surface Water (A1) ✓ Water-Stained Leaves (B9) ✓ Surface Soil Cracks (B6) ✓ Drainage Patterns (B10) ✓ Saturation Passon Water Table (C2) ✓ Drayish (B14) ✓ Drayish (B14) ✓ Dray Season Water Table (C2) ✓ Drayish (B14) ✓ Drayish (B14) ✓ Dray Season Water Table (C2) ✓ Drayish (B14) ✓ Drayish (B14) ✓ Dray Season Water Table (C2) ✓ Drayish (B10) ✓ Dr	estrictive L Type: Depth (inc emarks:	ayer (if obse									Yes ● No ○
✓ High Water Table (A2) Aquatic Fauna (B13) Drainage Patterns (B10) ✓ Saturation (A3) True Aquatic Plants (B14) Dry Season Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) ✓ Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Wetland Hydrology Present? Yes No No No No No No No Penth (inches): Saturation Present? No No No No No No No No No N	Type: Depth (inc Remarks: YDROLC	ayer (if observed):	erved):								Yes No
Water Table Present? Yes No Depth (inches): 5 Saturation Present? Yes No Depth (inches): 5 Wetland Hydrology Present? Yes No No Depth (inches): 5	Restrictive Land Type: Depth (incomments: Type: Depth (incomments: Type: T	hes):	cators: Im of one is	required; ch						Hydric Soil Present? Secondary Indicato	rs (minimum of two required)
Water Table Present? Yes No Depth (inches): 5 Wetland Hydrology Present? Yes No Depth (inches): 5	Restrictive Land Type: Depth (inc) Remarks: IYDROLO Wetland Hyd Primary Indica Surface W High Water Saturation Water Ma Sediment Drift Depot Algal Mat Iron Depot Inundatio	hes):	cators: Im of one is	ery (B7)	Wa Wa Aq Aq Arrivation of the Hy Arrivation of the	ater-Stained quatic Fauna ue Aquatic F rdrogen Sulf rdidized Rhizo esence of Re ecent Iron Re nin Muck Sur auge or Well	(B13) Plants (B14) Tide Odor (Dispheres of the control of the con	4) (C1) on Living R on (C4) n Tilled So		Secondary Indicate Surface Soil Cra Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visit Stunted or Stre	ers (minimum of two required) acks (B6) rns (B10) ter Table (C2) vs (C8) ble on Aerial Imagery (C9) ssed Plants (D1) sition (D2)
Saturation Present? Ves No Depth (inches): 5	Restrictive Land Type: Depth (inc) Remarks: PYDROLO Vetland Hyd Primary Indica Surface W W High Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely W	hes):	cators: Im of one is Aerial Image	ery (B7) ace (B8)	Wa Wa Aq Aq Arrivation of the Hy Ox Pro Re Ga Ot	ater-Stained quatic Fauna ue Aquatic F drogen Sulf kidized Rhizo esence of Re cent Iron Re ain Muck Sur auge or Well her (Explain	Plants (B1-) Plant	4) (C1) on Living R on (C4) n Tilled So		Secondary Indicate Surface Soil Cra Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visit Stunted or Stre	ers (minimum of two required) acks (B6) rns (B10) ter Table (C2) vs (C8) ble on Aerial Imagery (C9) ssed Plants (D1) sition (D2)
Addition (1) Ves (•) No (·) Denth (inches): 5	Restrictive Li Type: Depth (inc Remarks: Rema	hes):	cators: Im of one is Nerial Image Incave Surfa	ery (B7) ace (B8)	Wa Aq Aq Trı Ayı Ox Prı Re	ater-Stained quatic Fauna ue Aquatic F vdrogen Sulf kidized Rhizc esence of Re ecent Iron Re nin Muck Sur auge or Well her (Explain	(B13) Plants (B1- ide Odor opspheres of educed Infection i fface (C7) I Data (D9 n in Reman	4) (C1) on Living R on (C4) n Tilled So ())		Secondary Indicate Surface Soil Cra Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visit Stunted or Stre	ers (minimum of two required) acks (B6) rns (B10) ter Table (C2) vs (C8) ble on Aerial Imagery (C9) ssed Plants (D1) sition (D2)
	Restrictive Li Type: Depth (inc Remarks: IYDROLC Wetland Hyd Primary Indica Surface W ✓ High Wate ✓ Saturatior Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio ✓ Sparsely V Field Observ Surface Water Water Table P	hes):	cators: Im of one is verial Image ncave Surfa	ery (B7) cce (B8) No O	Wa Wa Aq	ater-Stained quatic Fauna ue Aquatic F vdrogen Sulf kidized Rhizc esence of Re ecent Iron Re nin Muck Sur auge or Well her (Explain	(B13) Plants (B1- ide Odor opspheres of educed Infection i fface (C7) I Data (D9 n in Reman	4) (C1) on Living R on (C4) n Tilled So (C) rks)	ils (C6)	Secondary Indicate Surface Soil Cra Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visit Stunted or Stree Geomorphic Po FAC-Neutral Te	rs (minimum of two required) acks (B6) rns (B10) ter Table (C2) vs (C8) ole on Aerial Imagery (C9) assed Plants (D1) sition (D2) st (D5)

Project/Site: Crissinger-Kirby 138 kV			Cit	y/County:	Marion			Sampling D	Date:	18-Mar-19
Applicant/Owner: American Transmission	Systems, Inc.				State:	ОН	Sampling	Point: JPI	_CK-04	& CK-03a/03t
Investigator(s): M.R.Kline, R.C.Massa			(Section, Tow	/nship, Range:	S	T T6S	R R15	5E	
Landform (hillslope, terrace, etc.): Flat					Local relief (c	concave, convex,	none): co	nvex		
Slope: 1.0% / 0.6 ° Lat.:	40 EEE046			Long:			,		NAD 8	3
					-83.170921	NI) A /T	· -l:6		11710	
Soil Map Unit Name: <u>Gwe5B2; Glynw</u>			,	percent sic No				n: <u>N/A</u>		
Are climatic/hydrologic conditions on the s					,	cplain in Remarks	,		v (a)	
Are Vegetation, Soil	, or Hydrology		significantly dis	turbed?	Are "No	ormal Circumstar	nces" present	t?	Yes 💿	No O
Are Vegetation , Soil ,	, or Hydrology		naturally proble		•	ded, explain any		,		. . .
SUMMARY OF FINDINGS - A			wing Sam	piing poi	nt locatio	ns, transec	ıs, impor	tant iea	tures, e	
Hydrophytic Vegetation Present?		lo 💿		Te th	ne Sampled A	rea				
Hydric Soil Present?		lo 💿			in a Wetland		No 💿			
Wetland Hydrology Present?	Yes O	lo 💿								
Remarks:										
Upland data point for Wetlands CK	-04, CK-03a,	and CK-03	b. Surround	ing land us	se is forest a	nd transmissio	n line right	-of-way.		
VEGETATION - Use scien	ntific name	s of plai	nts.	Dominant						
				- Species?		Dominance 1	Feet workel	neet:		
Tree Stratum(Plot size: None)		% Cover	Rel.Strat. Cover	. Indicator Status					
1			0	0.0%		Number of Do That are OBL,			0	(A)
2.			0	0.0%		·				_
3.			0	0.0%		Total Number Species Acros		t	5	(B)
4.			0	0.0%		opecies / tel es	5 / iii			
5			0	0.0%	0	Percent of d			0.09	∕₀ (A/B)
			0	= Total Cov	ver	That Are OB	oL, FACW, (or FAC:	0.07	<u> </u>
Sapling/Shrub Stratum (Plot size: 15'	radius)					Prevalence I	ndex works	sheet:		
1. Rosa multiflora			25	45.5%	FACU	Total ^c	% Cover of	: Mu	Itiply by:	
-				36.4%	FACU	OBL specie	s <u>(</u>) x	1 =	0
3. Rubus allegheniensis			10	18.2%	FACU	FACW spec	cies (0
4. 5.				0.0%		FAC specie			-	0
J						FACU speci				500
<u>Herb Stratum</u> (Plot size: 5' radius)		55	= Total Cov	ver	UPL specie	s <u></u>	5 x	5 =	25
1. Solidago canadensis			25	33.3%	FACU	Column To	tals: <u>13</u>	30 (A) _5	5 <u>25</u> (B)
2. Lolium perenne			25	33.3%	FACU	Prevaler	nce Index =	= B/A =	4.03	.8
3. Dactylis glomerata			20	26.7%	FACU	Hydrophytic	Vegetation	Indicators		_
4. Daucus carota			5	6.7%	UPL		Test for Hy			on
5				0.0%			nance Test		regetation	<i></i>
6. 7.							lence Inde	_		
8.				0.0%					1 (Provid	le supporting
9.				0.0%			emarks or			
10.				0.0%		Problema	tic Hydrop	hytic Vege	tation 1 (Explain)
10.				0.0%		¹ Indicators	of hydric s	oil and we	tland hyd	rology must
Woody Vine Stratum (Plot size: None	e)		75	= Total Cov	ver	be present, ı				
1			0	0.0%						
2			0	0.0%		Hydrophytic Vegetation				
			0	= Total Cov	ver	Present?	Yes C	No 💿		
Remarks: (Include photo numbers	here or on a	separate s	heet.)							

SOIL Sampling Point: <u>UPL CK-04 & CK-03a/03</u>

Ginches) Color (moist) 4-16 107R 5/4 100 Sill Loam Sill Loam Sill Casim Sociation: PL-Pere Lining, M-Matrix Indicators of Problematic Nation Indicators of Problematic Nation Indicators of Problematic Nation Indicators of Problematic Nation Indicators of Part Recarca (F12) Sociation Sociation: PL-Pere Lining, M-Matrix Indicators of Problematic Nation Indicators of Part Recarca (F12) Sociation: PL-Pere Lining, M-Matrix Indicators of Problematic Nation Indicators of Part Recarca (F12) Sociation: Plan R	(inches) 0-4		Matrix		Red	lox Featu	res			
4-16 101/R 5/4 100 Silty Clay Loam Pipe: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Rocation: PL=Pore Lining, M=Matrix.		Color (r		%				Loc ²	Texture	Remarks
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Recator: FL=Pore Lining, M=Matrix.	4-16	10YR	3/2	100					Silt Loam	
Histos (A1) Sandy Gleyed Matrix (S4) Coast Prairie Redox (A16) Sandy Redox (S5) Dark Surface (S7) Coast Prairie Redox (A16) Sandy Redox (S5) Dark Surface (S7) Coast Prairie Redox (A16) Sandy Redox (S5) Dark Surface (S7) Coast Prairie Redox (A16) Sandy Redox (S5) Dark Surface (S7) Coast Prairie Redox (A16) Coart Private Redox (A16) Coast Prairie Redox (A11) Coast Prairie Redox (A11) Coast Prairie Redox (A12) Coast Prairie Redox (A11) Coast Prairie Redox (A12) Coast Prairie Redox (A12) Coast Prairie Redox (A12) Coast Prairie Redox (A12) Coast Prairie Redox (A16)		10YR	5/4	100					Silty Clay Loam	
Type:	Histosol (A Histosol (A Histic Epipe Black Histic Hydrogen S Stratified Li 2 cm Muck Depleted B Thick Dark Sandy Muck 5 cm Muck	ndicators: 1) edon (A2) c (A3) Sulfide (A4) ayers (A5) (A10) delow Dark S Surface (A1 k Mineral (S y Peat or Pe	urface (A1: 2) 1) at (S3)		Sandy Gleyed Sandy Redox (Stripped Matrix Loamy Mucky Loamy Gleyed Depleted Matri Redox Dark Su Depleted Dark	Matrix (S4 (S5) x (S6) Mineral (F Matrix (F3) ix (F3) urface (F6 Surface ((1) (2)	ins.	Indicators for Problem Coast Prairie Redox (Dark Surface (S7) Iron Manganese Mass Very Shallow Dark Su Other (Explain in Ren Indicators of hydrophy wetland hydrology r	natic Hydric Soils ³ : A16) ses (F12) urface (TF12) narks) tic vegetation and must be present,
PYDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) True Aquatic Plants (B14) Drainage Patterns (B10) Saturation (A3) True Aquatic Plants (B14) Dry Season Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Iron Deposits (B5) Thin Muck Surface (C7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Wetland Hydrology Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches):		yer (if obse	erved):							
PyDROLOGY	Depth (inche	es):			_				Hydric Soil Present?	Yes ∪ No 🖲
High Water Table (A2)										
Saturation (A3)	Vetland Hydro	ology Indic		s required; che	ck all that apply)				Secondary Indicato	rs (minimum of two required)
Water Marks (B1)	Vetland Hydro	ology Indic		s required; che		ed Leaves	(B9)			
Sediment Deposits (B2) □ Oxidized Rhizospheres on Living Roots (C3) □ Drift Deposits (B3) □ Presence of Reduced Iron (C4) □ Stunted or Stressed Plants (D1) □ Algal Mat or Crust (B4) □ Recent Iron Reduction in Tilled Soils (C6) □ Iron Deposits (B5) □ Thin Muck Surface (C7) □ Inundation Visible on Aerial Imagery (B7) □ Gauge or Well Data (D9) □ Sparsely Vegetated Concave Surface (B8) □ Other (Explain in Remarks) Field Observations: Surface Water Present? Yes ○ No ● Depth (inches): □ Depth (inc	Vetland Hydro Primary Indicat Surface Wa High Water	ology Indic cors (minimu ater (A1) r Table (A2)		s required; che	Water-Staine Aquatic Faur	na (B13)	,		Surface Soil Cra	acks (B6) rns (B10)
Drift Deposits (B3)	Vetland Hydro Primary Indicat Surface Wa High Water Saturation	cors (minimu eter (A1) r Table (A2) (A3)		s required; che	Water-Staine Aquatic Faur True Aquatic	na (B13) : Plants (B	14)		Surface Soil Cra Drainage Patter Dry Season Wa	acks (B6) rns (B10) ter Table (C2)
Algal Mat or Crust (B4)	Primary Indicat Surface Wa High Water Saturation Water Mark	cology Indic cors (minimu ater (A1) r Table (A2) (A3) ks (B1)	m of one is	s required; che	Water-Staine Aquatic Faur True Aquatic Hydrogen Su	na (B13) : Plants (B ulfide Odo	14) r (C1)		Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrov	acks (B6) rns (B10) tter Table (C2) vs (C8)
Iron Deposits (B5)	Primary Indicat Surface Wa High Water Saturation Water Mark Sediment E	ology Indic cors (minimu ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2)	m of one is	s required; che	Water-Staine Aquatic Faur True Aquatic Hydrogen St Oxidized Rhi	na (B13) : Plants (B ulfide Odo zospheres	14) r (C1) s on Living F	doots (C3)	Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrov Saturation Visib	acks (B6) rns (B10) ter Table (C2) vs (C8) ole on Aerial Imagery (C9)
Inundation Visible on Aerial Imagery (B7)	Primary Indicat Surface Wa High Water Saturation Water Mark Sediment D Drift Depos	ology Indic cors (minimu ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2)	m of one is	s required; che	Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of	na (B13) Plants (B ulfide Odo zospheres Reduced I	14) r (C1) s on Living F Iron (C4)		Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrov Saturation Visib Stunted or Stre	acks (B6) rns (B10) ter Table (C2) vs (C8) ble on Aerial Imagery (C9) ssed Plants (D1)
Sparsely Vegetated Concave Surface (B8)	Vetland Hydro Primary Indicat Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o	cology Indicestors (minimulater (A1) or Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4)	m of one is	s required; che	Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of	na (B13) Plants (B ulfide Odo zospheres Reduced I	14) r (C1) s on Living F Iron (C4)		Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrov Saturation Visib Stunted or Stre Geomorphic Po	acks (B6) rns (B10) ter Table (C2) vs (C8) ble on Aerial Imagery (C9) ssed Plants (D1) sition (D2)
Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Depth (inches): Depth (inches): Depth (inches): Depth (inches): Wetland Hydrology Present? Yes No Depth (inches):	Vetland Hydro Primary Indicat Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos	ology Indic cors (minimu ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)	m of one is		Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron	na (B13) : Plants (B ulfide Odo zospheres Reduced : Reduction	14) r (C1) s on Living F fron (C4) i in Tilled Sc		Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrov Saturation Visib Stunted or Stre Geomorphic Po	acks (B6) rns (B10) ter Table (C2) vs (C8) ble on Aerial Imagery (C9) ssed Plants (D1) sition (D2)
Surface Water Present? Yes No Depth (inches):	Vetland Hydro Primary Indicat Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos	ology Indic cors (minimu ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)	m of one is		Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck S	na (B13) Plants (Bulfide Odo Zospheres Reduced E Reduction Refure (C7	14) r (C1) s on Living F fron (C4) in Tilled Sc		Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrov Saturation Visib Stunted or Stre Geomorphic Po	acks (B6) rns (B10) ter Table (C2) vs (C8) ble on Aerial Imagery (C9) ssed Plants (D1) sition (D2)
Vater Table Present? Yes No Depth (inches):	Primary Indicat Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Inundation	ology India cors (minimu ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) Visible on A	m of one is	ery (B7)	Water-Staine Aquatic Faur True Aquatic Hydrogen St Oxidized Rhi Presence of Recent Iron Thin Muck S Gauge or We	na (B13) E Plants (B ulfide Odo zospheres Reduced E Reduction urface (C7 ell Data (E	14) r (C1) s on Living F fron (C4) in Tilled Sc r)		Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrov Saturation Visib Stunted or Stre Geomorphic Po	acks (B6) rns (B10) ter Table (C2) vs (C8) ble on Aerial Imagery (C9) ssed Plants (D1) sition (D2)
Saturation Present? Includes capillary fringe) Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches):	Primary Indicat Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Inundation Sparsely Ve	ology Indic cors (minimu ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) Visible on A egetated Cor	m of one is) derial Image ncave Surfa	ery (B7) ace (B8)	Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck S Gauge or We Other (Expla	na (B13) I Plants (B Ilfide Odo Zospheres Reduced I Reduction urface (C7 ell Data (E	14) r (C1) s on Living F fron (C4) in Tilled Sc r)		Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrov Saturation Visib Stunted or Stre Geomorphic Po	acks (B6) rns (B10) ter Table (C2) vs (C8) ble on Aerial Imagery (C9) ssed Plants (D1) sition (D2)
rincludes capillary fringe) Yes No Depth (inches):	Vetland Hydro Primary Indicat Surface Water High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Inundation Sparsely Ve	ology Indic cors (minimu ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) Visible on A egetated Cor	m of one is nerial Image neave Surfa	ery (B7) ace (B8)	Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck S Gauge or We Other (Expla	na (B13) I Plants (B Ilfide Odo Zospheres Reduced I Reduction urface (C7 ell Data (E	14) r (C1) s on Living F fron (C4) in Tilled Sc r)		Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrov Saturation Visib Stunted or Stre Geomorphic Po	acks (B6) rns (B10) ter Table (C2) vs (C8) ble on Aerial Imagery (C9) ssed Plants (D1) sition (D2)
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Primary Indicat Surface Water High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Inundation Sparsely Ve	ology Indic cors (minimu ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) Visible on A egetated Cor	m of one is nerial Image neave Surfa	ery (B7) ace (B8)	Water-Staine Aquatic Faur True Aquatic Hydrogen St Oxidized Rhi Presence of Recent Iron Thin Muck S Gauge or We Other (Expla	na (B13) c Plants (B ulfide Odo zospheres Reduced : Reduction urface (C7 ell Data (D in in Rem hes):	14) r (C1) s on Living F fron (C4) in Tilled Sc r)	nils (C6)	Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrov Saturation Visib Stunted or Stre Geomorphic Po FAC-Neutral Te	acks (B6) rns (B10) ter Table (C2) vs (C8) ble on Aerial Imagery (C9) ssed Plants (D1) sition (D2) st (D5)
	Primary Indicat Surface Water High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Inundation Sparsely Ve	ology Indic cors (minimu ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) Visible on A egetated Cor tions: Present? esent? ent? ary fringe)	m of one is incave Surfa Yes Yes Yes	ery (B7) ace (B8) No • No • No • No •	Water-Staine Aquatic Faur True Aquatic Hydrogen St Oxidized Rhi Presence of Recent Iron Thin Muck S Gauge or We Other (Expla	na (B13) t Plants (B ulfide Odo zospheres Reduced : Reductior urface (C7 ell Data (D inin in Rem hes): hes):	14) r (C1) s on Living F (ron (C4) in Tilled Sc (r)) (ron) arks)	- Wet	Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrov Saturation Visib Stunted or Stre Geomorphic Po FAC-Neutral Te	acks (B6) rns (B10) ter Table (C2) vs (C8) ble on Aerial Imagery (C9) ssed Plants (D1) sition (D2) st (D5)

Project/Site: Crissinger-Kirby 138 kV	City	y/County:	Marion		Sampling D	ate: 18	3-Mar-19		
Applicant/Owner: American Transmission 9			State:	OH Sam	pling Point:	Wetland	CK-05		
Investigator(s): M.R.Kline, R.C.Massa			S	ection, Tow	nship, Range:	s T T6S	R R15	 E	
Landform (hillslope, terrace, etc.): Floodpl	lain		_		Local relief (c	concave, convex, none):	concave		
Slope:/					-83.178451		-	NAD 83	
Soil Map Unit Name: Pk; Pewamo silty		to 1 perc <u>ent s</u>	lopes			NWI classific	cation: N/A		
Are climatic/hydrologic conditions on the sit				● No ○	(If no, ex	xplain in Remarks.)			
	or Hydrology		antly dist	aurbed?		ormal Circumstances" pre	esent?	Yes N	lo O
	or Hydrology	_	ly probler			•			
SUMMARY OF FINDINGS - Att					•	ded, explain any answers ns, transects, imp	ŕ	tures, etc	: <u>.</u>
		0		Is the	e Sampled A				
,		0		Withi	in a Wetland	^{1?} Yes ● No ○)		
Treatana Tryanology Treatana	103 0 1.0								
Remarks: This PEM wetland occurs on the floodplain of a perennial watercourse. The wetland is within a slight depression that is seasonaly saturated. The wetland boundary follows edge of depression and hydrophytic vegetation. VEGETATION - Use scientific names of plants. Dominant Species?									
	١		osolute Cover	Rel.Strat.	Indicator	Dominance Test wo	rksheet:		
			0 [Cover	Status	Number of Dominant S That are OBL, FACW,		1	(A)
1			0 [0.0%		I Hat die Obt, i Acvy,	OF FAC.		(A)
3.			0 [0.0%		Total Number of Domi		1	(B)
4.			0 [0.0%		Species Across All Stra	ata:	1	(b)
5.			0 [0.0%		Percent of dominan		: 22 20/	(4 (5)
				= Total Cove	er	That Are OBL, FAC	W, or FAC:	100.0%	(A/B)
Sapling/Shrub Stratum (Plot size: None	e)					Prevalence Index w	orksheet:		
1.			0 [0.0%		Total % Cove	er of: Mul	Itiply by:	
2			0 [0.0%		OBL species		1 =0	_
3.			0 [0.0%		FACW species	100 x 2	2 = 200	<u> </u>
4.			0 [0.0%		FAC species	0 x 3	3 = 0	_
5			0 [0.0%		FACU species		4 = 0	_
Herb Stratum (Plot size: 5' radius		_	0	= Total Cove	er	UPL species	0 x 5	5 = 0	_
1 Phalaris arundinacea	—′		100	✓ 100.0%	FACW	Column Totals:	100 (A)		(B)
2.			0 [0.0%	- IACTT	_			_ (-/
3.			0 [0.0%		Prevalence Ind	ex = B/A =	2.000	
4.			0 [0.0%		Hydrophytic Vegeta			
5.			0 [0.0%		✓ 1 - Rapid Test fo		Vegetation	
6.			0 [0.0%		2 - Dominance T			
7.			0 [0.0%		✓ 3 - Prevalence Ir			
8.			0	0.0%		4 - Morphologica data in Remarks			upporting
9.			0 [0.0%			•	•	
10.			0 [0.0%		Problematic Hyd	. , .		
- (Plot size: None			100	= Total Cove	er	Indicators of hydra be present, unless of			ogy must
Woody Vine Stratum (Plot size: None						be present, amost s	IlSturbeu or p.	JDIEIIIGE.S.	
1			0 [0.0%		Hydrophytic			
2			0 [0.0%		Vegetation	s • No O		
			0	= Total Cov	er	Present? Yes	5 · 110 ·		
Remarks: (Include photo numbers h	ere or on a se	parate sheet.))	_					

SOIL Sampling Point: Wetland CK-05 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Tvpe 1 (inches) Color (moist) % Color (moist) % Loc² Texture Remarks 0-16 10YR 3/2 95 10YR 4/6 5 С Μ Silty Clay Loam ¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. L2ocation: PL=Pore Lining. M=Matrix. **Hydric Soil Indicators: Indicators for Problematic Hydric Soils 3:** Histosol (A1) Sandy Gleyed Matrix (S4) Coast Prairie Redox (A16) Histic Epipedon (A2) Sandy Redox (S5) Dark Surface (S7) Black Histic (A3) Stripped Matrix (S6) ☐ Iron Manganese Masses (F12) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) ☐ Very Shallow Dark Surface (TF12) Stratified Layers (A5) Loamy Gleyed Matrix (F2) 2 cm Muck (A10) Other (Explain in Remarks) Depleted Matrix (F3) Depleted Below Dark Surface (A11) ✓ Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) Depleted Dark Surface (F7) ³ Indicators of hydrophytic vegetation and Sandy Muck Mineral (S1) wetland hydrology must be present, Redox Depressions (F8) unless disturbed or problematic. 5 cm Mucky Peat or Peat (S3) Restrictive Layer (if observed): Type: No \bigcirc **Hydric Soil Present?** Yes Depth (inches):_ Remarks: **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) Surface Soil Cracks (B6) ✓ High Water Table (A2) Aguatic Fauna (B13) Drainage Patterns (B10) ✓ Saturation (A3) True Aquatic Plants (B14) Dry Season Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Iron Deposits (B5) Thin Muck Surface (C7) ✓ FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Field Observations: Yes 🔾 No 💿 Surface Water Present? Depth (inches): Yes No \bigcirc Water Table Present? Depth (inches): Yes 💿 No O **Wetland Hydrology Present?** Saturation Present? Yes 💿 No O Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Source of hydrology is seasonal flooding.

Project/Site: Crissinger-Kirby 138 kV		City/County:	Marion	Sampling Date: 18-Mar-19
Applicant/Owner: _American Transmission Syst	tems, Inc.		State:	OH Sampling Point: UPL CK-05
Investigator(s): M.R.Kline, R.C.Massa		Section, To	wnship, Range:	S T T6S R R15E
Landform (hillslope, terrace, etc.):			Local relief (c	concave, convex, none): convex
Slope: 1.0% / 0.6 ° Lat.: 40.	556036	Long	- : -83.178723	Datum: NAD 83
			. 03.170723	NWI classification: N/A
Soil Map Unit Name: <u>Pk; Pewamo silty cla</u> Are climatic/hydrologic conditions on the site ty		s No C) (If no. ex	xplain in Remarks.)
	Hydrology significantly		,	ormal Circumstances" present?
				5a. 55a5c5 p. 555
	Hydrology		•	nded, explain any answers in Remarks.) ons, transects, important features, etc.
	s O No O			,,
	s O No O	Ist	the Sampled A	Area
,		wit	thin a Wetland	d? Yes ○ No •
Wetland Hydrology Present? Ye	s O No 🖲			
Remarks: Upland data point for Wetland CK-05.	Surrounding land use is fallov	v field.		
VEGETATION - Use scientifi	c names of plants.	Domina	nt	
	Ahsolu	Species	et. Indicator	Dominance Test worksheet:
Tree Stratum(Plot size: None)			Number of Dominant Species
1	0	0.0%	6	That are OBL, FACW, or FAC: 0 (A)
2	0	0.0%	6	Total Number of Dominant
3		0.0%		Species Across All Strata: 4 (B)
4	0	0.0%		Descent of deminant Charles
5		0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)
Sapling/Shrub Stratum (Plot size: None	0	_ = Total C	over	
	/	0.0%	,	Prevalence Index worksheet:
2		0.09		Total % Cover of: Multiply by: OBL species 0 x 1 = 0
3.	0	0.0%		OBL species $0 \times 1 = 0$ FACW species $0 \times 2 = 0$
4.	0	0.0%		FAC species $0 \times 3 = 0$
5.	0	0.0%		FACU species 125 x 4 = 500
Herb Stratum (Plot size: 5' radius	0	= Total C	over	UPL species 25 x 5 = 125
1 Dactylis glomerata	, 75	✓ 50.09	% FACU	Column Totals: 150 (A) 625 (B)
2 Dayley careta	25	✓ 16.79		
3. Lolium perenne	25	✓ 16.7°		Prevalence Index = B/A = 4.167
4. Solidago canadensis	25	✓ 16.79		Hydrophytic Vegetation Indicators:
5.	0	0.0%	6	1 - Rapid Test for Hydrophytic Vegetation
6.	0	0.0%	6	2 - Dominance Test is > 50%
7	0	0.0%	6	3 - Prevalence Index is ≤3.0 1
8.	0	0.0%	6	4 - Morphological Adaptations 1 (Provide supporting data in Remarks or on a separate sheet)
9.		0.0%	6	Problematic Hydrophytic Vegetation ¹ (Explain)
10	0	0.09	6	1.
Woody Vine Stratum (Plot size: None)	= Total C	over	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1	0	0.0%	6	
2.	0	0.0%	6	Hydrophytic
	0	= Total C	over	Vegetation Present? Yes ○ No ●
				<u>l</u>
Remarks: (Include photo numbers here	e or on a separate sheet.)			

SOIL Sampling Point: <u>UPL CK-05</u>

Profile Descr Depth		Matrix		Red	ox Featu	ires			
(inches)	Color (r	Color (moist)		1		Loc ²	Texture	Remarks	
0-16	10YR	3/1	<u>%</u>					Silt Loam	
16-18	10YR	6/8	100					Sandy Loam	
Histosol (A Histic Epip Black Hist Hydrogen Stratified 2 cm Muc Depleted Thick Darl Sandy Mu 5 cm Muc	Indicators: A1) pedon (A2) pic (A3) Sulfide (A4) Layers (A5) pk (A10) Below Dark S k Surface (A1 pick Mineral (S kky Peat or Pe	ourface (A1: 2) 1) aat (S3)		Sandy Gleyed Sandy Redox (Stripped Matrix Loamy Mucky Loamy Gleyed Depleted Matri Redox Dark Su Depleted Dark Redox Depress	Matrix (S4 S5) ((S6) Mineral (F Matrix (F3 x (F3) rface (F6 Surface (=1) 2)) (F7)	ins.	Idicators for Proble Coast Prairie Redox Dark Surface (S7) Iron Manganese Ma Very Shallow Dark S Other (Explain in Redox) Indicators of hydroph wetland hydrology unless disturbed	matic Hydric Soils ³ : (A16) sses (F12) surface (TF12) marks) nytic vegetation and must be present,
	ayer (if obse	erved):							
Type:									
Depth (incl Remarks:	hes):							Hydric Soil Present?	Yes ○ No •
Depth (incl								Hydric Soil Present?	Yes ○ No ●
Depth (incl Remarks:	OGY	cators:						Hydric Soil Present?	Yes ○ No ●
Depth (incl Remarks: IYDROLO Wetland Hyd	OGY Irology India		required; che	eck all that apply)					Yes No •
Depth (incl Remarks: IYDROLO Wetland Hyd	OGY Irology Indicators (minimu		required; che	eck all that apply)	d Leaves	(B9)			ors (minimum of two required)
Depth (incl Remarks: IYDROLO Wetland Hyd Primary Indica Surface W High Wate	OGY Irology India ators (minimu Jater (A1) er Table (A2)		required; che	Water-Staine Aquatic Faun	a (B13)	` ,		Secondary Indicat Surface Soil C Drainage Patt	ors (minimum of two required) racks (B6) erns (B10)
Depth (incl Remarks: IYDROLO Wetland Hyd Primary Indica Surface W	OGY Irology India ators (minimu Jater (A1) er Table (A2)		required; che	Water-Staine	a (B13)	` ,		Secondary Indicat Surface Soil C Drainage Patt Dry Season W	cors (minimum of two required) racks (B6) erns (B10) Vater Table (C2)
Depth (incl Remarks: IYDROLO Wetland Hyd Primary Indica Surface W High Wate Saturation Water Ma	Irology India ators (minimu /ater (A1) er Table (A2) n (A3) rks (B1)	m of one is	required; che	Water-Staine Aquatic Faun	a (B13) Plants (B	314)		Secondary Indicat Surface Soil C Drainage Patt	cors (minimum of two required) racks (B6) erns (B10) Vater Table (C2)
Depth (incl Remarks: IYDROLO Wetland Hyd Primary Indica Surface W High Wate Saturation Water Ma	orgy Indicators (minimulators	m of one is	required; che	Water-Staine Aquatic Faun True Aquatic	a (B13) Plants (B lfide Odo	314) r (C1)	coots (C3)	Secondary Indicat Surface Soil C Drainage Patt Dry Season W Crayfish Burro	cors (minimum of two required) racks (B6) erns (B10) Vater Table (C2)
Depth (incl Remarks: IYDROLO Wetland Hyd Primary Indica Surface W High Wate Saturation Water Ma	Poly Indicators (minimul/ater (A1) er Table (A2) in (A3) rks (B1) Deposits (B2)	m of one is	required; che	Water-Staine Aquatic Faun True Aquatic Hydrogen Su	a (B13) Plants (B Ifide Odo zospheres	314) r (C1) s on Living F	doots (C3)	Secondary Indicat Surface Soil C Drainage Patt Dry Season W Crayfish Burro Saturation Vis	cors (minimum of two required) racks (B6) erns (B10) /ater Table (C2) ows (C8)
Depth (incl Remarks: IYDROLO Wetland Hyd Primary Indica Surface W High Wate Saturation Water Ma Sediment Drift Depo	Poly Indicators (minimul/ater (A1) er Table (A2) in (A3) rks (B1) Deposits (B2)	m of one is	required; che	Water-Staine Aquatic Faun True Aquatic Hydrogen Su Oxidized Rhi	a (B13) Plants (B Ifide Odo zospheres Reduced 1	314) r (C1) s on Living F Iron (C4)		Secondary Indicat Surface Soil C Drainage Patt Dry Season W Crayfish Burro Saturation Vis	cors (minimum of two required) racks (B6) erns (B10) rater Table (C2) ows (C8) ible on Aerial Imagery (C9) ressed Plants (D1)
Depth (incl Remarks: IYDROLO Wetland Hyd Primary Indica Surface W High Wate Saturation Water Ma Sediment Drift Depo	pogy India ators (minimu vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2 osits (B3) or Crust (B4)	m of one is	required; che	Water-Staine Aquatic Faun True Aquatic Hydrogen Su Oxidized Rhiz	a (B13) Plants (B Ifide Odo zospheres Reduced I Reduction	B14) r (C1) s on Living F Iron (C4) n in Tilled Sc		Secondary Indicat Surface Soil C Drainage Patt Dry Season W Crayfish Burro Saturation Vis Stunted or St	cors (minimum of two required) racks (B6) erns (B10) rater Table (C2) ows (C8) ible on Aerial Imagery (C9) ressed Plants (D1) rosition (D2)
Depth (incl Remarks: IYDROLO Wetland Hyd Primary Indica Surface W High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo	pogy India ators (minimu vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2 osits (B3) or Crust (B4)	m of one is		Water-Staine Aquatic Faun True Aquatic Hydrogen Su Oxidized Rhi: Presence of Recent Iron Thin Muck So	a (B13) Plants (B Ifide Odo zospheres Reduced E Reduction urface (C7	314) r (C1) s on Living F Iron (C4) n in Tilled Sc 7)		Secondary Indicat Surface Soil C Drainage Patt Dry Season W Crayfish Burro Saturation Vis Stunted or Sti Geomorphic F	cors (minimum of two required) racks (B6) erns (B10) rater Table (C2) ows (C8) ible on Aerial Imagery (C9) ressed Plants (D1) rosition (D2)
Depth (incl Remarks: YDROLO YDROLO Wetland Hyd Primary Indica Surface W High Wate Saturatior Water Ma Sediment Drift Depc Algal Mat Iron Depc Inundatio	Pogy India ators (minimu later (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) or Crust (B4) osits (B5)	m of one is	ery (B7)	Water-Staine Aquatic Faun True Aquatic Hydrogen Su Oxidized Rhi: Presence of Recent Iron	a (B13) Plants (B Ifide Odo zospheres Reduced : Reduction urface (C7	B14) r (C1) s on Living F Iron (C4) n in Tilled Sc 7)		Secondary Indicat Surface Soil C Drainage Patt Dry Season W Crayfish Burro Saturation Vis Stunted or Sti Geomorphic F	cors (minimum of two required) racks (B6) erns (B10) rater Table (C2) ows (C8) ible on Aerial Imagery (C9) ressed Plants (D1) rosition (D2)
Depth (incl Remarks: IYDROLO Wetland Hyd Primary Indica Surface W High Water Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely V	Irology India ators (minimu Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) n Visible on A	m of one is) Merial Image Incave Surfa	ery (B7) ce (B8)	Water-Staine Aquatic Faun True Aquatic Hydrogen Su Oxidized Rhi: Presence of Recent Iron Thin Muck St Gauge or We	a (B13) Plants (B Ifide Odo zospheres Reduced : Reduction urface (C7	B14) r (C1) s on Living F Iron (C4) n in Tilled Sc 7)		Secondary Indicat Surface Soil C Drainage Patt Dry Season W Crayfish Burro Saturation Vis Stunted or Sti Geomorphic F	cors (minimum of two required) racks (B6) erns (B10) rater Table (C2) ows (C8) ible on Aerial Imagery (C9) ressed Plants (D1) rosition (D2)
Depth (incl Remarks: IYDROLO Wetland Hyd Primary Indica Surface W High Wate Saturatior Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio	pogy Irology India ators (minimu /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2 osits (B3) or Crust (B4) osits (B5) n Visible on A //egetated Col	m of one is	ery (B7) ce (B8)	Water-Staine Aquatic Faun True Aquatic Hydrogen Su Oxidized Rhi: Presence of Recent Iron Thin Muck St Gauge or We	a (B13) Plants (B Ifide Odo cospheres Reduced : Reductior urface (C7 ell Data (E	B14) r (C1) s on Living F Iron (C4) n in Tilled Sc 7)		Secondary Indicat Surface Soil C Drainage Patt Dry Season W Crayfish Burro Saturation Vis Stunted or Sti Geomorphic F	cors (minimum of two required) racks (B6) erns (B10) rater Table (C2) ows (C8) ible on Aerial Imagery (C9) ressed Plants (D1) rosition (D2)
Depth (incl Remarks: IYDROLO Wetland Hyd Primary Indica Surface W High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely W	Proceedings (Proceedings) Proceedings (Procedings) Proceedings (Procedings) Proceedings (Procedings) Proceedings (Proceedings	m of one is) Merial Image Incave Surfa	ery (B7) ce (B8)	Water-Staine Aquatic Faun True Aquatic Hydrogen Su Oxidized Rhi: Presence of Recent Iron Thin Muck St Gauge or We Other (Expla	a (B13) Plants (B Iffide Odo zospheres Reduced: Reduction urface (C7 Ill Data (D in in Rem	B14) r (C1) s on Living F Iron (C4) n in Tilled Sc 7)	nils (C6)	Secondary Indicat Surface Soil C Drainage Patt Dry Season W Crayfish Burro Saturation Vis Stunted or Str Geomorphic F FAC-Neutral T	cors (minimum of two required) racks (B6) erns (B10) fater Table (C2) ows (C8) ible on Aerial Imagery (C9) ressed Plants (D1) rosition (D2) rest (D5)
Depth (incl Remarks: IYDROLO Wetland Hyd Primary Indica Surface W High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely N Field Observ. Surface Water Water Table Presented Presen	Pogy Irology Indicators (minimulators (minimulators (minimulators (minimulators (minimulators (minimulators (minimulators (minimulators (minimulators)) Present? Present?	m of one is Nerial Image ncave Surfa	ery (B7) ce (B8) No •	Water-Staine Aquatic Faun True Aquatic Hydrogen Su Oxidized Rhi: Presence of Recent Iron Thin Muck So Gauge or We Other (Expla	a (B13) Plants (B Ifide Odo zospheres Reduced : Reduction urface (C7 in in Rem mes): mes):	B14) r (C1) s on Living F Iron (C4) n in Tilled Sc 7)	nils (C6)	Secondary Indicat Surface Soil C Drainage Patt Dry Season W Crayfish Burro Saturation Vis Stunted or Sti Geomorphic F	cors (minimum of two required) racks (B6) erns (B10) rater Table (C2) ows (C8) ible on Aerial Imagery (C9) ressed Plants (D1) rosition (D2)
Depth (incl Remarks: IYDROLO Wetland Hyd Primary Indica Surface W High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely N Field Observ. Surface Water Water Table Po Saturation Prese (includes capill	Pogy Irology India Jators (minimu Jater (A1) Per Table (A2) Presents (B3) Presents (B3) Or Crust (B4) Presents (B5) Presents Presents Presents Sents (B3)	yes (Yes	ery (B7) ce (B8) No • No • No •	Water-Staine Aquatic Faun True Aquatic Hydrogen Su Oxidized Rhi: Presence of Recent Iron Thin Muck Si Gauge or We Other (Expla	a (B13) Plants (B Ifide Odo zospheres Reduced: Reduction urface (C7 Ell Data (D in in Rem mes): mes): mes):	814) r (C1) s on Living F Iron (C4) n in Tilled Sc 7) D9) aarks)	- Wet	Secondary Indicat Surface Soil C Drainage Patt Dry Season W Crayfish Burro Saturation Vis Stunted or St Geomorphic F FAC-Neutral T	cors (minimum of two required) racks (B6) erns (B10) fater Table (C2) ows (C8) ible on Aerial Imagery (C9) ressed Plants (D1) rosition (D2) rest (D5)
Depth (incl Remarks: IYDROLO Wetland Hyd Primary Indica Surface W High Water Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely W Field Observ. Surface Water Water Table Posaturation Presignedudes capill	Pogy Irology India Jators (minimu Jater (A1) Per Table (A2) Presents (B3) Presents (B3) Or Crust (B4) Presents (B5) Presents Presents Presents Sents (B3)	yes (Yes	ery (B7) ce (B8) No • No • No •	Water-Staine Aquatic Faun True Aquatic Hydrogen Su Oxidized Rhi: Presence of Recent Iron Thin Muck So Gauge or We Other (Expla	a (B13) Plants (B Ifide Odo zospheres Reduced: Reduction urface (C7 Ell Data (D in in Rem hes): hes):	814) r (C1) s on Living F Iron (C4) n in Tilled Sc 7) D9) aarks)	- Wet	Secondary Indicat Surface Soil C Drainage Patt Dry Season W Crayfish Burro Saturation Vis Stunted or St Geomorphic F FAC-Neutral T	cors (minimum of two required) racks (B6) erns (B10) fater Table (C2) ows (C8) ible on Aerial Imagery (C9) ressed Plants (D1) rosition (D2) rest (D5)
Depth (incl Remarks: IYDROLO Wetland Hyd Primary Indica Surface W High Water Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely W Field Observ. Surface Water Water Table Posaturation Presignedudes capill	Pogy Irology India Jators (minimu Jater (A1) Per Table (A2) Presents (B3) Presents (B3) Or Crust (B4) Presents (B5) Presents Presents Presents Sents (B3)	yes (Yes	ery (B7) ce (B8) No • No • No •	Water-Staine Aquatic Faun True Aquatic Hydrogen Su Oxidized Rhi: Presence of Recent Iron Thin Muck So Gauge or We Other (Expla	a (B13) Plants (B Ifide Odo zospheres Reduced: Reduction urface (C7 Ell Data (D in in Rem hes): hes):	814) r (C1) s on Living F Iron (C4) n in Tilled Sc 7) D9) aarks)	- Wet	Secondary Indicat Surface Soil C Drainage Patt Dry Season W Crayfish Burro Saturation Vis Stunted or St Geomorphic F FAC-Neutral T	cors (minimum of two required) racks (B6) erns (B10) fater Table (C2) ows (C8) ible on Aerial Imagery (C9) ressed Plants (D1) rosition (D2) rest (D5)

Project/Site: Crissinger-Kirby 138 kV	City/County	y: Marion		Sampling Date:18-Mar-19					
Applicant/Owner: American Transmission Systems, Inc.		State:	OH Sampling	g Point: Wetland CK-06					
Investigator(s): M.R.Kline, R.C.Massa	Section,	Township, Range:	S T T6S	R R15E					
Landform (hillslope, terrace, etc.): Swale		Local relief (c	concave, convex, none): co	ncave					
Slope:	Lon	— g∴ -83.183196		Datum: NAD 83					
		9 03.103190	NWI classification	_					
Soil Map Unit Name: MaA; Martinsville loam, 0 to 2 percent s Are climatic/hydrologic conditions on the site typical for this time of you		(If no. e)	xplain in Remarks.)	<u>N/A</u>					
	ignificantly disturbed?	(-, -		t? Yes • No O					
	•		ormal Circumstances" present						
Are Vegetation	aturally problematic?	`	ded, explain any answers in F	,					
Hydrophytic Vegetation Present? Yes No			po.						
		s the Sampled A							
	v	within a Wetland	d? Yes No						
Wetland Hydrology Present? Yes No No Remarks:	L								
This PSS wetland is located within a swale along the toe-of-slope of a former railroad bed. The depression is collecting some surface runoff from the surrounding area. The wetland boundary follows toe-of-slope and edge of depression. VEGETATION - Use scientific names of plants. Dominant Species?									
	Absolute Rel.St % Cover Cover	trat. Indicator	Dominance Test worksh						
1		0%	Number of Dominant Spec That are OBL, FACW, or FA						
2		0%	That are obe, more, c	AC					
3.	0 0.0	0%	Total Number of Dominant Species Across All Strata:	t 2 (B)					
4.		0%	Species Across Air Strata.	<u> </u>					
5.	0 0.0	0% 0	Percent of dominant Sp						
	0 = Total	Cover	That Are OBL, FACW, o	or FAC:100.0% (A/B)					
_Sapling/Shrub Stratum (Plot size: 15' radius)			Prevalence Index works	sheet:					
1. Cornus amomum	60 🗹 85.	.7% FACW	Total % Cover of	f: Multiply by:					
2. Acer negundo	5	1% FAC	OBL species (0 x 1 =0					
3. Ulmus rubra	_ 5	1% FAC	FACW species 10	00 x 2 = <u>200</u>					
4	0 0.0	0%	FAC species 1	<u>10</u> x 3 = <u>30</u>					
5		0%	FACU species (0 x 4 =0					
<u>Herb Stratum</u> (Plot size: 5' radius)	= Total	Cover	UPL species (0 x 5 = 0					
1. Phalaris arundinacea	40 🗹 100	0.0% FACW	Column Totals: 11	10 (A) <u>230</u> (B)					
2.		0%	Prevalence Index =						
3.	0 0.0	0%		· — —					
4.	0 0.0	0%	Hydrophytic Vegetation						
5.	0 0.0	0%	1 - Rapid Test for Hy						
6.	0 0.0	0%	2 - Dominance Test						
7.	0 0.0	0%	✓ 3 - Prevalence Index						
8.	0 0.0	0%		daptations ¹ (Provide supporting on a separate sheet)					
9.	0 0.0	0%		phytic Vegetation ¹ (Explain)					
10.	0 0.0	0%	1						
Woody Vine Stratum (Plot size: None)	40 = Total	Cover	indicators of hydric s be present, unless distu	soil and wetland hydrology must urbed or problematic.					
	0 🗌 0.0	0%	-	-					
2.		0%	Hydrophytic						
2	0 = Total		Vegetation Present? Yes	No O					
		COVE	Trobbit.						
Remarks: (Include photo numbers here or on a separate sl	neet.)								

SOIL Sampling Point: Wetland CK-06 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Tvpe 1 (inches) Color (moist) % Color (moist) % Loc² Texture Remarks 0-16 2.5Y 3/2 90 10YR 5/6 10 С Μ Silty Clay Loam ¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. L2ocation: PL=Pore Lining. M=Matrix. **Hydric Soil Indicators: Indicators for Problematic Hydric Soils 3:** Histosol (A1) Sandy Gleyed Matrix (S4) Coast Prairie Redox (A16) Histic Epipedon (A2) Sandy Redox (S5) Dark Surface (S7) Black Histic (A3) Stripped Matrix (S6) ☐ Iron Manganese Masses (F12) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) ☐ Very Shallow Dark Surface (TF12) Stratified Layers (A5) Loamy Gleyed Matrix (F2) 2 cm Muck (A10) Other (Explain in Remarks) Depleted Matrix (F3) Depleted Below Dark Surface (A11) ✓ Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) Depleted Dark Surface (F7) ³ Indicators of hydrophytic vegetation and Sandy Muck Mineral (S1) wetland hydrology must be present, Redox Depressions (F8) unless disturbed or problematic. 5 cm Mucky Peat or Peat (S3) Restrictive Layer (if observed): Type: No \bigcirc **Hydric Soil Present?** Yes Depth (inches):_ Remarks: **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Secondary Indicators (minimum of two required) ✓ Water-Stained Leaves (B9) Surface Water (A1) Surface Soil Cracks (B6) ✓ High Water Table (A2) Aguatic Fauna (B13) Drainage Patterns (B10) ✓ Saturation (A3) True Aquatic Plants (B14) Dry Season Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) ✓ Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) ✓ FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Field Observations: Yes 🔾 No 💿 Surface Water Present? Depth (inches): Yes No \bigcirc Water Table Present? Depth (inches):

Yes ● No ○ **Wetland Hydrology Present?** Saturation Present? Yes No O Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Source of hydrology is surface runoff.

Project/Site: Crissinger-Kirby 138 kV	City/Cou	unty: Marion		Sampling Date: 18-Mar-19
Applicant/Owner: American Transmission Systems, Inc.		State:	OH Sampling	Point: UPL CK-06
Investigator(s): M.R.Kline, R.C.Massa	Section	on, Township, Range:	S T T6S	R R15E
Landform (hillslope, terrace, etc.): Bench		Local relief (c	concave, convex, none): COI	nvex
Slope: 1.0% / 0.6 ° Lat.: 40.554693	l	 Long.: -83.183055		Datum: NAD 83
Soil Map Unit Name: Gwe5B2; Glynwood clay loam, end mora				
Are climatic/hydrologic conditions on the site typical for this time of ye			kplain in Remarks.)	. <u>N/A</u>
	gnificantly disturbe	(-, -	ormal Circumstances" present	t? Yes O No •
	,		·	
Are Vegetation	aturally problemation	,	ded, explain any answers in F ns, transects, impor	,
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	5 Po		
		Is the Sampled A		
,		within a Wetland	d? Yes ○ No ●	
Treduita Hydrology Frederic.		<u> </u>		
Remarks:	a is fallow field			
Upland data point for Wetland CK-06. Surrounding land use	e is fallow field.			
VEGETATION - Use scientific names of plan		minant		
The second secon	Absolute Rel	ecies? Indicator	Dominance Test worksh	neet:
<u>Tree Stratum</u> (Plot size: None)		Cover Status	Number of Dominant Spec	
1	0 📙	0.0%	That are OBL, FACW, or FA	AC: <u>0</u> (A)
2	0	0.0%	Total Number of Dominant	
3. 4.	0	0.0%	Species Across All Strata:	3(B)
5.	0	0.0% 0	Percent of dominant Sp	
		otal Cover	That Are OBL, FACW, o	
_Sapling/Shrub Stratum (Plot size: 15' radius)		Juli Cove.	Prevalence Index works	
1. Rubus allegheniensis	10 🗸 1	100.0% FACU	Total % Cover of	
2.	0	0.0%		$0 \qquad x \ 1 = \qquad 0$
3.	0	0.0%		0 x 2 = 0
4.	0	0.0%		0 x 3 = 0
5	0	0.0%	FACU species 12	20 x 4 = 480
_Herb Stratum (Plot size: 5' radius)	= To	otal Cover	UPL species 1	0 x 5 = 50
1 Dactylis glomerata	75	62.5% FACU	Column Totals: 13	30 (A) <u>530</u> (B)
2. Lolium perenne		20.8% FACU		
3. Daucus carota	10	8.3% UPL	Prevalence Index =	
4. Cirsium arvense	10	8.3% FACU	Hydrophytic Vegetation	
5	0	0.0%	I	ydrophytic Vegetation
6.	0	0.0%	2 - Dominance Test	
7.	0	0.0%	3 - Prevalence Index	
8. 9.	0 📙	0.0%		daptations ¹ (Provide supporting on a separate sheet)
10.	0	0.0%	Problematic Hydrop	hytic Vegetation ¹ (Explain)
10	0	0.0%	1 Indicators of hydric s	oil and wetland hydrology must
Woody Vine Stratum (Plot size: None)	120 = To	otal Cover	be present, unless distu	
1	0	0.0%		
2.	0	0.0%	Hydrophytic Vegetation	_
	0 = To	otal Cover	Present? Yes	No ⊙
Remarks: (Include photo numbers here or on a separate sh	neet.)			

SOIL Sampling Point: **UPL CK-06** Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth (inches) Color (moist) % Color (moist) % Tvpe 1 Loc² Texture Remarks 50% rock 0-16 10YR 3/1 100 Silt Loam ¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. L2ocation: PL=Pore Lining. M=Matrix. **Hydric Soil Indicators: Indicators for Problematic Hydric Soils 3:** Sandy Gleyed Matrix (S4) Histosol (A1) Coast Prairie Redox (A16) Histic Epipedon (A2) Sandy Redox (S5) Dark Surface (S7) Black Histic (A3) Stripped Matrix (S6) ☐ Iron Manganese Masses (F12) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Very Shallow Dark Surface (TF12) Stratified Layers (A5) Loamy Gleyed Matrix (F2) 2 cm Muck (A10) Other (Explain in Remarks) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) Depleted Dark Surface (F7) $^{\scriptsize 3}$ Indicators of hydrophytic vegetation and Sandy Muck Mineral (S1) wetland hydrology must be present, Redox Depressions (F8) unless disturbed or problematic. 5 cm Mucky Peat or Peat (S3) Restrictive Layer (if observed): Type: **Hydric Soil Present?** Yes 🔾 No 💿 Depth (inches):_ Sample pit on what seems to be an old railroad bed. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) Surface Soil Cracks (B6) High Water Table (A2) Aguatic Fauna (B13) Drainage Patterns (B10) Saturation (A3) True Aquatic Plants (B14) Dry Season Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Field Observations: Yes 🔾 No 💿 Surface Water Present? Depth (inches): Yes 🔾 No 💿 Water Table Present? Depth (inches): Yes O No • **Wetland Hydrology Present?** Saturation Present? Yes 🔾 No 💿 Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No source of hydrology.



APPENDIX B OEPA WETLAND ORAM FORMS



Site: ATSI Crissinger-Kirby	Rater(s): M.R.Klir	ne, R.C.Massa	Date:	3/18/2019
-	•	Field Id:	•	
0 0 Met	tric 1. Wetland Area (size).	Wetland CK-01		
>50 a 25 to 10 to 3 to 4 0.3 to 4 0.1 to 5 0.1 to 0	ct one size class and assign score. ctres (>20.2ha) (6 pts) <50 acres (10.1 to <20.2ha) (5 pts) <25 acres (4 to <10.1ha) (4 pts) :10 acres (1.2 to <4ha) (3 pts) o <3 acres (0.12 to <1.2ha) (2pts) o <0.3 acres (0.04 to <0.12ha) (1 pt) acres (0.04ha) (0 pts)	0.01 aci	res	
1 1 Met	tric 2. Upland buffers and sur	rounding land use.		
WIDE MEDI NARF X VERY 2b. III VERY LOW. MODI	alculate average buffer width. Select only one E. Buffers average 50m (164ft) or more around w IUM. Buffers average 25m to <50m (82 to <164f ROW. Buffers average 10m to <25m (32ft to <82 Y NARROW. Buffers average <10m (<32ft) arou Intensity of surrounding land use. Select one of Y LOW. 2nd growth or older forest, prairie, savar Cold field (>10 years), shrubland, young second ERATELY HIGH. Residential, fenced pasture, p. I. Urban, industrial, open pasture, row cropping,	vetland perimeter (7) t) around wetland perimeter (4) 2ft) around wetland perimeter (1) nd wetland perimeter (0) or double check and average. nnah, wildlife area, etc. (7) I growth forest. (5) ark, conservation tillage, new fallow field.		
4.0 5.0 Met	tric 3. Hydrology.			
High Other x Precip Sease Perer 3c. M >0.7 (0.4 to x <0.4 m 3e. M None Recor Recor x Recor	ources of Water. Score all that apply. pH groundwater (5) • groundwater (3) pitation (1) onal/Intermittent surface water (3) onial surface water (lake or stream) (5) laximum water depth. Select one. (27.6in) (3) • 0.7m (15.7 to 27.6in) (2) n (<15.7in) (1) lodifications to natural hydrologic regime. Sc or none apparent (12) vered (7) vering (3) nt or no recovery (1) tric 4. Habitat Alteration and D	Semi- to permanently inundat Regularly inundated/saturatec Seasonally inundated (2) x Seasonally saturated in upper ore one or double check and average. Check all disturbances obse x ditch title dike weir x stormwater input	er human use (1) prest), complex (1) idiotion. Score one or dbl che ed/saturated (4) d (3) r 30cm (12in) (1) erved point source (nonstormwate	
None Recor Recor X Recei 4b. H Excel Very Good Mode Fair (Poor X Poor 4c. H None Recor X Recei	rately good (4) 3) to fair (2)	and average. Check all disturbances observing grazing clearcutting x selective cutting woody debris removal x	shrub/sapling removal herbaceous/aquatic bed rer sedimentation dredging	noval

Wetland CK-01.xlsm | test_Field 3/27/2019

Site: ATS	I Crissinge	r-Kirby	Rater(s): M.R.Klir	ne, R.C.	Massa	Date:	3/18/2019
					Field Id:		
	8	3			Wetland CK-01		
	subtotal this	s page					
	0 8	Metric 5. Speci	al Wetlands.				
max 10 pts.	subtotal	Check all that app	oly and score as indicate	ated.			
		Bog (10)					
		Fen (10)					
		Old growth forest (10) Mature forested wetland	1 (5)				
			ry wetland-unrestricted hydro	loav (10)			
			ry wetland-restricted hydrolog				
		Lake Plain Sand Prairies	s (Oak Openings) (10)				
		Relict Wet Praires (10)	Madaral threatened or andone		es (10)		
			e/federal threatened or endang ngbird/water fowl habitat or us		es (10)		
			e Question 5 Qualitative Ratir				
	-4 4	Metric 6. Plant	communities, inte	rspers	ion, microtopography.		
max 20pts.	subtotal	6a. Wetland Vege	tation Communities.		Vegetation Community Cove	er Scale	
		Score all present using	0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 ac		
		Aquatic bed		1	Present and either comprises small par		
		1 Emergent Shrub			vegetation and is of moderate quality, o significant part but is of low quality	r comprises a	
		Forest		2	Present and either comprises significan	t part of wetland's 2	
		Mudflats			vegetation and is of moderate quality or		
		Open water			part and is of high quality		
		Other		3	Present and comprises significant part,	or more, of wetland's 3	
		6b. horizontal (plan vie Select only one.	ew) interspersion.		vegetation and is of high quality		
		High (5)			Narrative Description of Vegetation 0	Quality	
		Moderately high(4)			Low spp diversity and/or predominance	of nonnative or low	
		Moderate (3)			disturbance tolerant native species	th	
		Moderately low (2) Low (1)			Native spp are dominant component of although nonnative and/or disturbance		
		x None (0)			can also be present, and species divers		
		6c. Coverage of invasi	ve plants. Refer		moderately high, but generallyw/o prese	*	
		Table 1 ORAM long forr			threatened or endangered spp to		
		or deduct points for cover			A predominance of native species, with		
		x Extensive >75% cover (Moderate 25-75% cover	,		and/or disturbance tolerant native spp a absent, and high spp diversity and ofter	•	
		Sparse 5-25% cover (-1			the presence of rare, threatened, or end		
		Nearly absent <5% cover	er (0)		, · · · · · · · · · · · · · · · · · · ·	•	
		Absent (1)			Mudflat and Open Water Class Qualit	у	
		6d. Microtopography. Score all present using	n to 3 scale		Absent <0.1ha (0.247 acres) Low 0.1 to <1ha (0.247 to 2.47 acres)		
		Vegetated hummucks/tu			Moderate 1 to <4ha (2.47 to 9.88 acres	1	
		Coarse woody debris >1			High 4ha (9.88 acres) or more	·	
		Standing dead >25cm (
		Amphibian breeding poo	DIS	0	Microtopography Cover Scale Absent		
				1	Present very small amounts or if more	common	
					of marginal quality		
				2	Present in moderate amounts, but not o		
Category 1					quality or in small amounts of highest quality or in small amounts of highest quality	-	
	4 GRANI	D TOTAL(max 100 pts)		3	Present in moderate or greater amounts	3	
					and of highest quality		

Wetland CK-01.xlsm | test_Field 3/27/2019

Site: AT	SI Crissinger-Kirby	Rater(s): M.R.Klin	ie, R.C.Massa	Date:	3/18/2019
		•	Field Id:	•	
	1 1 Metric 1. V	Vetland Area (size).	Wetland CK-02		
max 6 pts	>50 acres (>20.2 25 to <50 acres (10 to <25 acres (3 to <10 acres (1 0.3 to <3 acres (10.1 to <20.2ha) (5 pts) 4 to <10.1ha) (4 pts) .2 to <4ha) (3 pts) .12 to <1.2ha) (2pts) (0.04 to <0.12ha) (1 pt)	0.06 acr	res	
		lpland buffers and suri	ounding land use.		
max 14 pts.	WIDE. Buffers av MEDIUM. Buffer NARROW. Buffer x VERY NARROW 2b. Intensity of	erage buffer width. Select only one verage 50m (164ft) or more around w s average 25m to <50m (82 to <164ft rs average 10m to <25m (32ft to <82ft). Buffers average <10m (<32ft) arou surrounding land use. Select one of growth or older forest, prairie, savar	t) around wetland perimeter (4) ft) around wetland perimeter (1) nd wetland perimeter (0) or double check and average.	·k.	
	LOW. Old field (; MODERATELY I	10 years), shrubland, young second	growth forest. (5) ark, conservation tillage, new fallow field. ((3)	
	7.0 9.0 Metric 3. H	lydrology.			
max 30 pts.	High pH groundw Other groundwat x Precipitation (1) x Seasonal/Intermi Perennial surface 3c. Maximum w. >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 x <0.4m (<15.7in) 3e. Modification None or none ap Recovered (7) Recovering (3) x Recent or no rec	er (3) ttent surface water (3) water (lake or stream) (5) ater depth. Select one. to 27.6in) (2) (1) s to natural hydrologic regime. Sc parent (12)	3b. Connectivity. Score all the street of th	er human use (1) prest), complex (1) idor (1) uration. Score one or dbl che ed/saturated (4) if (3) 30cm (12in) (1) erved point source (nonstormwate	
max 20 pts.		sturbance. Score one or double ch	•		
	Excellent (7) Very good (6) Good (5) Moderately good Fair (3) Poor to fair (2) x Poor (1)	overy (1) elopment. Select only one and assi (4) ation. Score one or double check a parent (9)		shrub/sapling removal herbaceous/aquatic bed rer sedimentation dredging farming	noval
	subtotal this page ORAM v. 5.0 Fie	ld Form Quantitative Rating			

 Wetland CK-02.xlsm | test_Field
 3/27/2019

Site: ATSI Crissinger-Kirby		Rater(s): M.R.Kline, R.C.Massa			Date:	3/18/2019	
	<u> </u>	•	. ,	*	Field Id:		
	12				Wetland CK-02		
	subtotal this	page					
	0 12	Metric 5. Spec	ial Wetlan	ds.			
max 10 pts.	subtotal	Check all that ap	oly and scor	e as indicated.			
		Bog (10)	•				
		Fen (10)					
		Old growth forest (10) Mature forested wetland	1 (5)				
		Lake Erie coastal/tributa	. ,	stricted hydrology (10)			
		Lake Erie coastal/tributa	ary wetland-rest	icted hydrology (5)			
		Lake Plain Sand Prairie	s (Oak Opening	s) (10)			
		Relict Wet Praires (10) Known occurrence state	/fodoral throato	nod or ondangered spec	sion (10)		
		Significant migratory so			(10)		
		Category 1 Wetland. Se	e Question 5 Q	ualitative Rating (-10)			
	-4 8	Metric 6. Plant	communi	ties, interspers	sion, microtopography.		
max 20pts.	subtotal	6a. Wetland Vege			Vegetation Community C		
		Score all present using	0 to 3 scale.	0	Absent or comprises <0.1ha (0.24) Present and either comprises small		
		Aquatic bed 1 Emergent		1	vegetation and is of moderate qual		
		Shrub			significant part but is of low quality	ny, or comprised a	
		Forest		2	Present and either comprises signi		
		Mudflats			vegetation and is of moderate qual	ity or comprises a small	
		Open water Other		-3	part and is of high quality Present and comprises significant	nart or more of wetland's 3	
		6b. horizontal (plan vie	 ew) Interspersion		vegetation and is of high quality	part, or more, or wettand 3 3	
		Select only one.					
		High (5)			Narrative Description of Vegetat		
		Moderately high(4) Moderate (3)			Low spp diversity and/or predomin- disturbance tolerant native species		
		Moderately low (2)			Native spp are dominant compone		
		Low (1)			although nonnative and/or disturba		
		x None (0)			can also be present, and species of		
		6c. Coverage of invasi Table 1 ORAM long for		r	moderately high, but generallyw/o threatened or endangered spp to	oresence of rare	
		or deduct points for cov			A predominance of native species,	with nonnative spp high	
		x Extensive >75% cover			and/or disturbance tolerant native		
		Moderate 25-75% cove			absent, and high spp diversity and		
		Sparse 5-25% cover (-1 Nearly absent <5% cov			the presence of rare, threatened, o	r endangered spp	
		Absent (1)	01 (0)		Mudflat and Open Water Class Q	uality	
		6d. Microtopography.		_ 0	Absent <0.1ha (0.247 acres)		
		Score all present using			Low 0.1 to <1ha (0.247 to 2.47 acr		
		Vegetated hummucks/to Coarse woody debris >		2	Moderate 1 to <4ha (2.47 to 9.88 a High 4ha (9.88 acres) or more	cres)	
		Standing dead >25cm (3	High 4ha (9.00 acres) of more		
		Amphibian breeding poo			Microtopography Cover Scale		
				0	Absent		
				1	Present very small amounts or if m of marginal quality	ore common	
				2	Present in moderate amounts, but	not of highest	
Category 1				2	quality or in small amounts of higher		
	8 GRAND	TOTAL(max 100 pts)		3	Present in moderate or greater am	ounts	
					and of highest quality		

Wetland CK-02.xlsm | test_Field 3/27/2019

Wetland CK-03a and CK-03b

Site: ATSI Crissinger-Kirby	Rater(s): M.R.Kline	e, R.C.Massa	Date:	3/18/2019
	•	Field Id:	•	
2 2 Metric 1. We	tland Area (size).	Wetland CK-03a&b		
>50 acres (>20.2ha) 25 to <50 acres (10. 10 to <25 acres (4 to 3 to <10 acres (1.2 to x 0.3 to <3 acres (0.12 to)	1 to <20.2ha) (5 pts) 0 <10.1ha) (4 pts) 0 <10.4ha) (3 pts) 10 to <1.2ha) (2pts) 10 to <1.2ha) (2pts) 10 to <0.12ha) (1 pt)	0.04 acres	S	
11 13 Metric 2. Up	land buffers and surro	ounding land use.		
WIDE. Buffers avera x MEDIUM. Buffers av NARROW. Buffers av VERY NARROW. B 2b. Intensity of sur x VERY LOW. 2nd gr	ge buffer width. Select only one age 50m (164ft) or more around we verage 25m to <50m (82 to <164ft) average 10m to <25m (32ft to <82ft uffers average <10m (<32ft) around rounding land use. Select one or owth or older forest, prairie, savanny years), shrubland, young second of the same of the select one or over the select one of the select	around wetland perimeter (4)) around wetland perimeter (1) d wetland perimeter (0) double check and average. ah, wildlife area, etc. (7)		
MODERATELY HIG	H. Residential, fenced pasture, par	k, conservation tillage, new fallow field. (3)		
13.0 26.0 Metric 3. Hyd	trial, open pasture, row cropping, m	ining, construction. (1)		
High pH groundwater (at surface water (3) ater (lake or stream) (5) r depth. Select one. 27.6in) (2) o natural hydrologic regime. Scoent (12)	tile dike weir stormwater input	human use (1) st), complex (1) or (1) stition. Score one or dbl chec /saturated (4) 3)	
None or none appar x Recovered (3) Recovering (2) Recent or no recove 4b. Habitat develop Excellent (7) Very good (6) Good (5) Moderately good (4) x Fair (3) Poor to fair (2) Poor (1)	on. Score one or double check arent (9)	n score. Id average. Check all disturbances observed mowing grazing x clearcutting x selective cutting woody debris removal	d shrub/sapling removal herbaceous/aquatic bed remo sedimentation dredging farming nutrient enrichment	oval

Wetland CK-03a&03b.xlsm | test_Field 3/27/2019

Wetland CK-03a and CK-03b

Site: ATS	or Cris	ssingei	-Ki	rby	Rater(s):	M.R.Kline, R	.C.	Massa	Date:	3/18/2019
								Field Id:		
		38						Wetland CK-03a&b		
		subtotal this	_							
				Matria E Oncal	-1 \4/-41	-1-				
	0	38		Metric 5. Speci	ai wetian	as.				
max 10 pts.		subtotal		Check all that app	oly and scor	e as indicated.				
				Bog (10)						
			_	Fen (10) Old growth forest (10)						
			-	Mature forested wetland	(5)					
				Lake Erie coastal/tributa	` '	stricted hydrology (1	0)			
				Lake Erie coastal/tributa						
			_	Lake Plain Sand Prairies	(Oak Opening	s) (10)				
			_	Relict Wet Praires (10) Known occurrence state	/federal threate	ned or endangered s	neci	es (10)		
				Significant migratory sor				(10)		
				Category 1 Wetland. See	e Question 5 Q	ualitative Rating (-10)			
	1	39		Metric 6. Plant	communi	ties, interspe	ers	on, microtopography.		
max 20pts.		subtotal	4	6a. Wetland Veget	ation Com	nunities.		Vegetation Community Cove	er Scale	
max zopio.			Score all present using (0	Absent or comprises <0.1ha (0.2471 ad			
				Aquatic bed		•	1	Present and either comprises small par	t of wetland's 1	
			1	Emergent				vegetation and is of moderate quality, o	r comprises a	
			1	Shrub Forest		•	2	significant part but is of low quality Present and either comprises significar	t part of wotland's 2	
			H	Mudflats			2	vegetation and is of moderate quality of		
				Open water				part and is of high quality	·	
				Other		•	3	Present and comprises significant part,	or more, of wetland's 3	
				6b. horizontal (plan vie Select only one.	w) Interspersion	on.		vegetation and is of high quality		
				High (5)				Narrative Description of Vegetation (Quality	
				Moderately high(4)				Low spp diversity and/or predominance		
				Moderate (3)				disturbance tolerant native species		
			L.	Moderately low (2)				Native spp are dominant component of		
			X	Low (1) None (0)				although nonnative and/or disturbance can also be present, and species divers		
				6c. Coverage of invasiv	e plants. Refe	r		moderately high, but generallyw/o prese		
				Table 1 ORAM long form				threatened or endangered spp to		
			_	or deduct points for cove	-			A predominance of native species, with		
				Extensive >75% cover (Moderate 25-75% cover				and/or disturbance tolerant native spp a		
			Х	Sparse 5-25% cover (-1)				absent, and high spp diversity and often the presence of rare, threatened, or end		
				Nearly absent <5% cover				and processes of raile, unleatened, or one	aungorou opp	
				Absent (1)				Mudflat and Open Water Class Quali	ty	
				6d. Microtopography.		•		Absent <0.1ha (0.247 acres)		
			_	Score all present using (Vegetated hummucks/tu		•	2	Low 0.1 to <1ha (0.247 to 2.47 acres) Moderate 1 to <4ha (2.47 to 9.88 acres	<u> </u>	
				Coarse woody debris >1		•		High 4ha (9.88 acres) or more)	
				Standing dead >25cm (1				,		
				Amphibian breeding poo	ls			Microtopography Cover Scale		
						•	1	Absent Present very small amounts or if more	nommon	
							ı	of marginal quality	COMMON	
						•	2	Present in moderate amounts, but not of	of highest	
Category 2						-		quality or in small amounts of highest q		
	39	GRANI) TC	OTAL(max 100 pts)			3	Present in moderate or greater amount	s	
								and of highest quality		

Wetland CK-03a&03b.xlsm | test_Field 3/27/2019

Site: AT	SI Crissinge	er-Kirby	Rater(s): M.R.KI	ine, R.C.Massa	Date:	3/18/2019
-	<u> </u>	-		Field Id:	•	
	0 (Metric 1.	Wetland Area (size).	Wetland CK-04		
max 6 pts	subtotal	Select one size	class and assign score.			
		>50 acres (>20.		0.03 acres		
			(10.1 to <20.2ha) (5 pts)			
			(4 to <10.1ha) (4 pts) 1.2 to <4ha) (3 pts)			
			(0.12 to <1.2ha) (2pts)			
			s (0.04 to <0.12ha) (1 pt)			
	441 44	x <0.1 acres (0.04				
	11 1		Upland buffers and su	_		
max 14 pts.	subtotal		=	ne and assign score. Do not double check.		
			average 50m (164ft) or more around rs average 25m to <50m (82 to <16	,		
			ers average 10m to <25m (32ft to <			
		VERY NARRO	V. Buffers average <10m (<32ft) arc	ound wetland perimeter (0)		
			surrounding land use. Select one			
			d growth or older forest, prairie, sav			
			(>10 years), shrubland, young secor HIGH Residential fenced pasture	park, conservation tillage, new fallow field. (3)		
			dustrial, open pasture, row cropping			
	13.0 24.0	Metric 3.	Hydrology.			
max 30 pts.	subtotal	3a. Sources of	Water. Score all that apply.	3b. Connectivity. Score all that	apply.	
		High pH ground	. ,	100 year floodplain (1)		
		x Other groundwa		Between stream/lake and other h		
		x Precipitation (1) Seasonal/Intern	nittent surface water (3)	Part of wetland/upland (e.g. fores Part of riparian or upland corridor		
		Perennial surface	ce water (lake or stream) (5)	3d. Duration inundation/saturat	ion. Score one or dbl check	ι.
			vater depth. Select one.	Semi- to permanently inundated/s Regularly inundated/saturated (3)		
		>0.7 (27.6in) (3) 0.4 to 0.7m (15.		Seasonally inundated (2)		
		x <0.4m (<15.7in)	(1)	x Seasonally saturated in upper 30	cm (12in) (1)	
		_		Score one or double check and average. Check all disturbances observe	ad.	
		None or none a x Recovered (7)	pparent (12)		oint source (nonstormwater)	
		Recovering (3)			lling/grading	
		Recent or no re	covery (1)		oad bed/RR track	
					redging Other:	
	11 35	Metric 4.	Habitat Alteration and			
max 20 pts.	subtotal	_	listurbance. Score one or double	•		
		None or none a	pparent (4)			
		x Recovered (3) Recovering (2)				
		Recent or no re	covery (1)			
			elopment. Select only one and as	sign score.		
		Excellent (7) Very good (6)				
		Good (5)				
		Moderately goo	d (4)			
		Fair (3) x Poor to fair (2)				
		Poor (1)				
			ration. Score one or double check			
		None or none a x Recovered (6)	pparent (9)	Check all disturbances observed mowing s	hrub/sapling removal	
		Recovering (3)			erbaceous/aquatic bed remo	val
		Recent or no re	covery (1)	x clearcutting s	edimentation	
					redging arming	
					utrient enrichment	
	35	5				
			eld Form Quantitative Rating			

Wetland CK-04.xlsm | test_Field 3/26/2019

Site: ATSI	Crissinge	r-Kirby	Rater(s):	M.R.Kline, R.O	C.Massa	Date:	3/18/2019
			-		Field Id:	•	
	3	5			Wetland CK-04		
	subtotal thi	s page					
	0 3	Metric 5. Spec	ial Wetlan	ds.			
max 10 pts.	subtotal	Check all that a	ply and scor	e as indicated.			
		Bog (10)					
		Fen (10) Old growth forest (10)					
		Mature forested wetlan	nd (5)				
				stricted hydrology (10)			
		Lake Erie coastal/tribu					
		Lake Plain Sand Prairi Relict Wet Praires (10		S) (10)			
			•	ned or endangered spe	cies (10)		
		Significant migratory s	ongbird/water fov	I habitat or usage (10)	, ,		
		Category 1 Wetland. S	_				
	-2 33	Metric 6. Plan	t communi	ties, intersper	sion, microtopogra		
max 20pts.	subtotal	6a. Wetland Veg			Vegetation Commu	•	
		Score all present using Aquatic bed	g 0 to 3 scale.			ha (0.2471 acres) contiguous area ses small part of wetland's 1	
		1 Emergent				rate quality, or comprises a	
		Shrub			significant part but is of lov		
		Forest		-		ses significant part of wetland's 2	
		Mudflats Open water			vegetation and is of moder part and is of high quality	rate quality or comprises a small	
		Other		-		gnificant part, or more, of wetland's 3	
		6b. horizontal (plan v	iew) Interspersion		vegetation and is of high q		
		Select only one. High (5)			Narrative Description of	Vegetation Quality	
		Moderately high(4)				redominance of nonnative or low	
		Moderate (3)			disturbance tolerant native		
		Moderately low (2)				component of the vegetation, mod	
		Low (1) x None (0)				disturbance tolerant native spp	
		6c. Coverage of inva	sive plants. Refe	r	moderately high, but gener	species diversity moderate to rallyw/o presence of rare	
		Table 1 ORAM long for		•	threatened or endangered	, ,	
		or deduct points for co				species, with nonnative spp high	
		Extensive >75% cove	. ,			t native spp absent or virtually	
		x Moderate 25-75% cov Sparse 5-25% cover (the presence of rare, threa	rsity and often, but not always,	
		Nearly absent <5% co	,		the presence of fare, three	aterieu, or endangered 3pp	
		Absent (1)	. ,		Mudflat and Open Water	Class Quality	
		6d. Microtopography			Absent <0.1ha (0.247 acre		
		Score all present using Vegetated hummucks.			Low 0.1 to <1ha (0.247 to a Moderate 1 to <4ha (2.47 to a Moderate 2 to a Mode		
		Coarse woody debris		- ;	High 4ha (9.88 acres) or m		
		Standing dead >25cm	` ,		1 3 ()		
		Amphibian breeding p	ools		Microtopography Cover	Scale	
					Absent	to as if many common	
					Present very small amoun of marginal quality	us of it more common	
				-	Present in moderate amou	unts, but not of highest	
Mod. Category	2				quality or in small amounts		
	33 GRAN	D TOTAL(max 100 pts)		Present in moderate or gre	eater amounts	
					and of highest quality		

Wetland CK-04.xlsm | test_Field 3/26/2019

Site: ATSI	Crissinger	r-Kirby	Rater(s): M.R.KI	ine, R.C.Massa	Date:	3/18/2019
	 _	•	•	Field Id:	-	
	1 1	Metric 1. We	etland Area (size).	Wetland CK-05		
max 6 pts	subtotal	Select one size cla	ss and assign score.			
		>50 acres (>20.2ha		0.02 acre	es	
		10 to <25 acres (4 to	.1 to <20.2ha) (5 pts) o <10.1ha) (4 pts)			
		3 to <10 acres (1.2	to <4ha) (3 pts)			
		0.3 to <3 acres (0.1 x 0.1 to <0.3 acres (0.1				
		<0.1 acres (0.04ha)				
	2 3	Metric 2. Up	land buffers and su	rrounding land use.		
max 14 pts.	subtotal	2a. Calculate aver	age buffer width. Select only o	ne and assign score. Do not double check	k.	
			age 50m (164ft) or more around	. ,,		
				4ft) around wetland perimeter (4) 82ft) around wetland perimeter (1)		
			Buffers average <10m (<32ft) arc			
				or double check and average.		
			owth or older forest, prairie, sav years), shrubland, young secor			
				park, conservation tillage, new fallow field. (3	3)	
			trial, open pasture, row cropping	· · · · · · · · · · · · · · · · · · ·	,	
	9.0 12.0	Metric 3. Hy	drology.			
max 30 pts.	subtotal	3a. Sources of Wa	ter. Score all that apply.	3b. Connectivity. Score all th	nat apply.	
		High pH groundwat		100 year floodplain (1)		
		Other groundwater x Precipitation (1)	(3)	Between stream/lake and othe Part of wetland/upland (e.g. for		
		x Seasonal/Intermitte	nt surface water (3)	Part of riparian or upland corrid		
			vater (lake or stream) (5)	3d. Duration inundation/satu		eck.
		>0.7 (27.6in) (3)	er depth. Select one.	Semi- to permanently inundate Regularly inundated/saturated		
		0.4 to 0.7m (15.7 to	27.6in) (2)	Seasonally inundated (2)	(-)	
		x <0.4m (<15.7in) (1)		x Seasonally saturated in upper	30cm (12in) (1)	
		None or none appa		Score one or double check and average. Check all disturbances obse	rved	
		Recovered (7)	,	ditch	point source (nonstormwate	er)
		x Recovering (3) Recent or no recov	on. (1)	tile x	filling/grading road bed/RR track	
		IXecent of no recov	GIY (I)	weir	dredging	
				stormwater input	Other:	
	6 18	Metric 4. Ha	bitat Alteration and	Development.		
max 20 pts.	subtotal		urbance. Score one or double	check and average.		
		None or none appa Recovered (3)	rent (4)			
		x Recovering (2)				
		Recent or no recov	• . ,	-i		
		Excellent (7)	pment. Select only one and as	sign score.		
		Very good (6)				
		Good (5) Moderately good (4	١			
		Fair (3))			
		Poor to fair (2)				
		x Poor (1)	on. Score one or double check	c and average		
		None or none appa		Check all disturbances observe	ed	
		Recovered (6)		x mowing	shrub/sapling removal	
		x Recovering (3) Recent or no recov	erv (1)	grazingclearcutting	herbaceous/aquatic bed rer sedimentation	noval
			-· , \·/	selective cutting	dredging	
				woody debris removal x toxic pollutants	farming nutrient enrichment	
	18	7		toxic pollutarits		
		page ORAM v. 5.0 Field	Form Quantitative Rating			

 Wetland CK-05.xlsm | test_Field
 3/27/2019

Site: ATS	I Crissinge	r-Kirby	Rater(s): M.R.Klin	e, R.C.	Massa	Date:	3/18/2019
			•		Field Id:		
	18	3			Wetland CK-05		
	subtotal this	<u>-1</u>					
	0 18	<u> </u>	al Watlands				
	U IC	-					
max 10 pts.	subtotal		oly and score as indica	ited.			
		Bog (10)					
		Fen (10) Old growth forest (10)					
		Mature forested wetland	(5)				
			ry wetland-unrestricted hydrol	ogy (10)			
			ry wetland-restricted hydrolog	y (5)			
		Lake Plain Sand Prairies	(Oak Openings) (10)				
		Relict Wet Praires (10) Known occurrence state	/federal threatened or endang	ered speci	es (10)		
			gbird/water fowl habitat or usa		()		
		· · ·	e Question 5 Qualitative Ratin				
	-4 14	Metric 6. Plant	communities, inte	rspers	ion, microtopography.		
max 20pts.	subtotal	6a. Wetland Veget	ation Communities.		Vegetation Community Cove	er Scale	
		Score all present using (to 3 scale.	0	Absent or comprises <0.1ha (0.2471 ac		
		Aquatic bed		1	Present and either comprises small par		
		1 Emergent Shrub			vegetation and is of moderate quality, o significant part but is of low quality	r comprises a	
		Forest		2	Present and either comprises significan	t part of wetland's 2	
		Mudflats			vegetation and is of moderate quality or		
		Open water			part and is of high quality		
		Other 6b. horizontal (plan vie	w) Interenersion	3	Present and comprises significant part, vegetation and is of high quality	or more, or wetland's 3	
		Select only one.	w) interspersion.		vegetation and is of riight quality		
		High (5)			Narrative Description of Vegetation C		
		Moderately high(4)			Low spp diversity and/or predominance	of nonnative or low	
		Moderate (3) Moderately low (2)			disturbance tolerant native species Native spp are dominant component of	the vegetation mod	
		Low (1)			although nonnative and/or disturbance t		
		x None (0)			can also be present, and species divers		
		6c. Coverage of invasiv			moderately high, but generallyw/o prese	ence of rare	
		Table 1 ORAM long form			threatened or endangered spp to	nonnativo ann high	
		or deduct points for cover			A predominance of native species, with and/or disturbance tolerant native spp a		
		Moderate 25-75% cover	,		absent, and high spp diversity and ofter	•	
		Sparse 5-25% cover (-1)			the presence of rare, threatened, or end	langered spp	
		Nearly absent <5% cove	r (0)		Mudflet and Onen Water Class Quality		
		Absent (1) 6d. Microtopography.		0	Mudflat and Open Water Class Qualit Absent <0.1ha (0.247 acres)	у	
		Score all present using (to 3 scale.		Low 0.1 to <1ha (0.247 to 2.47 acres)		
		Vegetated hummucks/tu			Moderate 1 to <4ha (2.47 to 9.88 acres)		
		Coarse woody debris >1	, ,	3	High 4ha (9.88 acres) or more		
		Standing dead >25cm (1 Amphibian breeding poor			Microtopography Cover Scale		
		, unprincian precuing poo	10	0	Absent		
					Present very small amounts or if more of	common	
					of marginal quality	f himbors	
Category 1				2	Present in moderate amounts, but not of quality or in small amounts of highest quality		
Jacogory	14 GRANI	D TOTAL(max 100 pts)			Present in moderate or greater amounts	-	
	14 ONAIN	S . G . AL(IIIUX 100 pts)		3	· ·	,	
					and of highest quality		

Wetland CK-05.xlsm | test_Field 3/27/2019

Site: ATSI Criss	singer-Ki	rby Ra	ater(s): M.R.Kline	, R.C.Massa	Date:	3/18/2019
		•		Field Id:	•	
0	0	Metric 1. Wetland	Area (size).	Wetland CK-06		
max 6 pts si	ubtotal	Select one size class and a >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20. 10 to <25 acres (4 to <10.1ha 3 to <10 acres (1.2 to <4ha) 0.3 to <3 acres (0.12 to <1.2t 0.1 to <0.3 acres (0.04 to <0. <0.1 acres (0.04ha) (0 pts)	2ha) (5 pts) a) (4 pts) (3 pts) na) (2pts)	0.05	acres	
2	2	Metric 2. Upland b	ouffers and surro	unding land use.		
max 14 pts.	subtotal	2a. Calculate average buffer WIDE. Buffers average 50m MEDIUM. Buffers average 25 NARROW. Buffers average 1 VERY NARROW. Buffers average 1	(164ft) or more around wetle 5m to <50m (82 to <164ft) a 10m to <25m (32ft to <82ft)	round wetland perimeter (4) around wetland perimeter (1)	check.	
	X	2b. Intensity of surrounding VERY LOW. 2nd growth or o LOW. Old field (>10 years), s MODERATELY HIGH. Resid HIGH. Urban, industrial, oper	older forest, prairie, savanna shrubland, young second gro lential, fenced pasture, park	h, wildlife area, etc. (7) owth forest. (5) , conservation tillage, new fallow fie	eld. (3)	
6.0	8.0	Metric 3. Hydrolog	3 у.			
max 30 pts.		3a. Sources of Water. Score High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surface Perennial surface water (lake 3c. Maximum water depth. 3 >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 None or none apparent (12) Recovered (7) Recovering (3) Recent or no recovery (1) Metric 4. Habitat A	e water (3) or stream) (5) Select one. 2) I hydrologic regime. Score	Semi- to permanently inur Regularly inundated/satur Seasonally saturated in up one or double check and average Check all disturbances of ditch tile dike weir stormwater input	other human use (1) g. forest), complex (1) corridor (1) /saturation. Score one or dbl ch ndated/saturated (4) ated (3) pper 30cm (12in) (1) ge.	
max 20 pts. s	x x x	4a. Substrate disturbance. None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Seexcellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score None or none apparent (9) Recovered (6) Recovering (3)	elect only one and assign	score.	oserved x shrub/sapling removal herbaceous/aquatic bed re	moval
	14	Recent or no recovery (1) ORAM v. 5.0 Field Form Qua	antitative Rating	clearcutting selective cutting woody debris removal toxic pollutants	x sedimentation dredging farming nutrient enrichment	

Wetland CK-06.xlsm | test_Field 3/27/2019

Site: ATS	SI Crissinge	r-Ki	rby	Rater(s):	M.R.Kline, R.C	C.I	Massa	Date:	3/18/2019
				. ,	•		Field Id:		
	14	ŀ					Wetland CK-06		
	subtotal this	s page							
	0 14	ŀ	Metric 5. Speci	al Wetlan	ds.				
max 10 pts.	subtotal		Check all that app Bog (10) Fen (10) Old growth forest (10) Mature forested wetland Lake Erie coastal/tributa Lake Plain Sand Prairies Relict Wet Praires (10)	(5) ry wetland-unre	stricted hydrology (10) icted hydrology (5)				
		-	Known occurrence state	federal threate	ned or endangered spe	ecie	es (10)		
			Significant migratory son	gbird/water fow	I habitat or usage (10)				
		_	Category 1 Wetland. See	_		_			
	-2 12	2	Metric 6. Plant	communi	ties, intersper	Si	on, microtopography.		
max 20pts.	subtotal		6a. Wetland Veget	ation Comr	nunities.		Vegetation Community Cove	er Scale	
			Score all present using 0	to 3 scale.			Absent or comprises <0.1ha (0.2471 ac		
			Aquatic bed		•		Present and either comprises small par		
		1	Emergent Shrub				vegetation and is of moderate quality, o significant part but is of low quality	r comprises a	
		H	Forest				Present and either comprises significant	t part of wetland's 2	
			Mudflats				vegetation and is of moderate quality or		
			Open water		_		part and is of high quality		
			Other				Present and comprises significant part,	or more, of wetland's 3	
			6b. horizontal (plan vie Select only one.	w) interspersion	on.		vegetation and is of high quality		
			High (5)				Narrative Description of Vegetation 0	Quality	
			Moderately high(4)				Low spp diversity and/or predominance	of nonnative or low	
			Moderate (3)				disturbance tolerant native species		
		-	Moderately low (2) Low (1)				Native spp are dominant component of although nonnative and/or disturbance		
		х	None (0)				can also be present, and species divers		
			6c. Coverage of invasiv	e plants. Refe	r		moderately high, but generallyw/o prese		
			Table 1 ORAM long form				threatened or endangered spp to		
		_	or deduct points for cove				A predominance of native species, with		
			Extensive >75% cover (- Moderate 25-75% cover	,			and/or disturbance tolerant native spp a absent, and high spp diversity and ofter		
		<u> </u>	Sparse 5-25% cover (-1)				the presence of rare, threatened, or end		
			Nearly absent <5% cove					•	
			Absent (1)				Mudflat and Open Water Class Quality	у	
			6d. Microtopography.	140 2 000lo			Absent <0.1ha (0.247 acres)		
			Score all present using (Vegetated hummucks/tu				Low 0.1 to <1ha (0.247 to 2.47 acres) Moderate 1 to <4ha (2.47 to 9.88 acres	<u> </u>	
			Coarse woody debris >1		-		High 4ha (9.88 acres) or more		
			Standing dead >25cm (1						
			Amphibian breeding poo	ls			Microtopography Cover Scale		
							Absent Present very small amounts or if more	rommon	
							of marginal quality	,	
						2	Present in moderate amounts, but not o		
Category 1					_		quality or in small amounts of highest q	uality	
	12 GRAN	D TC	OTAL(max 100 pts)		-		Present in moderate or greater amounts	<u> </u>	
							and of highest quality		

 Wetland CK-06.xlsm | test_Field
 3/27/2019



APPENDIX C OEPA HHEI STREAM FORMS





ChieFP Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3):

SITE NAME/LOCATION		DRAINAGE AREA (mi²)	_
		RIVER CODE RIVER MILE	
DATE SCORER	COMMENTS		
NOTE: Complete All Items On This Form	n - Refer to "Field Evaluation Ma	nual for Ohio's PHWH Streams" for Instruction	ıs
STREAM CHANNEL NONE / NAT MODIFICATIONS:	TURAL CHANNEL	☐ RECOVERING ☐ RECENT OR NO RECOVERY	,
(Max of 32). Add total number of significations of the signification of the significant of the	ant substrate types found (Max of 8). F ERCENT TYPE SILT [3 pt] LEAF PACI LEAF PACI CLAY or H MUCK [0 pt] ARTIFICIAL (A) Substrate Perc	Met Poil X/WOODY DEBRIS [3 pts] RITUS [3 pts] ARDPAN [0 pt] ts] L [3 pts]	tric nts strate = 40
2. Maximum Pool Depth (Measure the mevaluation. Avoid plunge pools from road > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts] COMMENTS	d culverts or storm water pipes) (Che	0 cm [15 pts] pts] ER OR MOIST CHANNEL [0 pts]	-
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	> 1.0 m -	(Check ONL Y one box): 1.5 m (> 3' 3" - 4' 8") [15 pts] =3' 3") [5 pts] Wid Max	dth
COMMENTS	AVI	ERAGE BANKFULL WIDTH (Feet):	
RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m	This information must also LAIN QUALITY %NOTE: River Lo FLOODPLAIN QUALITY L R (Most Predominant per B Mature Forest, Wetland Immature Forest, Shrub of Field	eft (L) and Right (R) as looking downstream分 ank) L R Conservation Tillage or Old Urban or Industrial	
☐ ☐ Narrow <5m ☐ ☐ None COMMENTS	Residential, Park, New Fi	eld	
FLOW REGIME (At Time of Eval. Stream Flowing Subsurface flow with isolated poo		pist Channel, isolated pools, no flow (Intermittent) y channel, no water (Ephemeral)	
SINUOSITY (Number of bends p None 0.5	er 61 m (200 ft) of channel) (Check C 1.0	ONLY one box): 3.0 >3	
☐ Flat (0.5 ft/100 ft) ☐ Flat to Moderate	☐ Moderate (2 ft/100 ft) ☐ N	Moderate to Severe Severe (10 ft/100 ft)	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Complete	ted):
QHEI PERFORMED? - Tyes No QHEI Score(If Ye	es, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: CWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATE	RSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil	Map Page: NRCS Soil Map Stream Order
County: Township / City:	
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note lab sample no.	or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S	.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain	ain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
Performed? (Y/N): (If Yes, Record all observations. Voucher collections of ID number. Include appropriate field data sheets from	
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (YFrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinve	
Comments Regarding Biology:	
DRAWING AND NARRATIVE DESCRIPTION OF STRE	AM REACH (This <u>must</u> be completed):
Include important landmarks and other features of interest for site evalua	tion and a narrative description of the stream's location
FLOW S-MRK-002 Wetland Wetland Wetland	



ChieFP Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3):

SITE NAME/LOCATION HH-MRK-002 INT SITE NUMBER		DRAINAGE AREA (mi²)	
LENGTH OF STREAM REACH (ft)			
DATE SCORER			
NOTE: Complete All Items On This Form	- Refer to "Field Evaluation Ma	anual for Ohio's PHWH Streams" for Instr	uctions
STREAM CHANNEL NONE / NAT MODIFICATIONS:	URAL CHANNEL	RECOVERING TRECENT OR NO RECO	OVERY
(Max of 32). Add total number of significa TYPE BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [16 pt] COBBLE (65-256 mm) [12 pts]	nt substrate types found (Max of 8). F RCENT TYPE SILT [3 pt] LEAF PAC LEAF PAC CLAY or H MUCK [0 p ARTIFICIA	PERCENT CK/WOODY DEBRIS [3 pts] RITUS [3 pts] ARDPAN [0 pt] ots] LL [3 pts]	HHEI Metric Points Substrat Max = 4
SCORE OF TWO MOST PREDOMINATE SUBST		L NUMBER OF SUBSTRATE TYPES:	
2. Maximum Pool Depth (Measure the maevaluation. Avoid plunge pools from road > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	culverts or storm water pipes) (Ch	10 cm [15 pts]	Pool Dep Max = 30
COMMENTS	MA	XIMUM POOL DEPTH (Inches):	
3. BANK FULL WIDTH (Measured as the a > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] COMMENTS	□ > 1.0 m -	1.5 m (> 3' 3" - 4' 8") [15 pts] <=3' 3") [5 pts]	Bankful Width Max=30
	This information must also	he completed	
RIPARIAN ZONE AND FLOODPI RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None	ELOODPLAIN QUALITY L R (Most Predominant per E Mature Forest, Wetland Immature Forest, Shrub Field Residential, Park, New F	eft (L) and Right (R) as looking downstream ☆ Bank) L R Conservation Tillage or Old Urban or Industrial Field Open Pasture, Row Cro	op
□ □ None COMMENTS	Fenced Pasture	Mining or Construction	-
		loist Channel, isolated pools, no flow (Intermittent) ry channel, no water (Ephemeral)	-
None 0.5	1.0	3.0	
STREAM GRADIENT ESTIMATE			

ADDITIONAL STREAM INFORMATION (This Information Must Also	be Completed):
QHEI PERFORMED? - Tyes No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: CWH Name: EWH Name: MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE EN	Distance from Evaluated Stream
USGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Townsl	nip / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note lab	sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (μmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not,	please explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
	collections optional. NOTE: all voucher samples must be labeled with the sit sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Of Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquation Comments Regarding Biology:	
Include important landmarks and other features of interest for	OF STREAM REACH (This <u>must</u> be completed): site evaluation and a narrative description of the stream's location
FLOW 5-MBK-002	X 5- MRK-001



ChieFP Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):



HH-MRK-003 PER SITE NUMBER	RIVER BASIN	DRAINAGE AREA (m	i²\
LENGTH OF STREAM REACH (ft)			
DATE SCORER			
NOTE: Complete All Items On This Form	ı - Refer to "Field Evaluation Man	ual for Ohio's PHWH Streams" for	Instructions
STREAM CHANNEL NONE / NAT MODIFICATIONS:	URAL CHANNEL	☐ RECOVERING ☐ RECENT OR NO	RECOVERY
(Max of 32). Add total number of significations of the control of	ant substrate types found (Max of 8). Find SILT [3 pt] SILT [3 pt] LEAF PACK/ FINE DETRI' CLAY or HAR MUCK [0 pts ARTIFICIAL (A) Substrate Percen	WOODY DEBRIS [3 pts] TUS [3 pts] RDPAN [0 pt] [3 pts] [4 gg (B)	HHEI Metric Points Substrate Max = 40
SCORE OF TWO MOST PREDOMINATE SUBS	TRATE TYPES: TOTAL	NUMBER OF SUBSTRATE TYPES:	
2. Maximum Pool Depth (Measure the measure	d culverts or storm water pipes) (Chec	cm [15 pts]	Pool Depth Max = 30
COMMENTS	MAX	MUM POOL DEPTH (Inches):	
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13') [30 pts]		5 m (> 3' 3" - 4' 8") [15 pts]	Bankfull Width Max=30
COMMENTS	AVE	RAGE BANKFULL WIDTH (Feet):	
RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank)	FLOODPLAIN QUALITY L R (Most Predominant per Bai	t (L) and Right (R) as looking downstream	<u>`</u>
☐ ☐ Wide >10m ☐ ☐ Moderate 5-10m ☐ ☐ Narrow <5m ☐ ☐ None	Mature Forest, Wetland Immature Forest, Shrub or Field Residential, Park, New Fiel Fenced Pasture	Old Conservation Tilla Urban or Industria Open Pasture, Ro	I w Crop
☐	Immature Forest, Shrub or Field Residential, Park, New Field Fenced Pasture (Uation) (Check ONLY one box): State (Interstitial)	Old Conservation Tilla Old Conservation Tilla Open Pasture, Ro Mining or Construct St Channel, isolated pools, no flow (Intermichannel, no water (Ephemeral)	I w Crop ction

ADDITIONAL STREAM	INFORMAT	ION (This In	formation N	Must Also be	Completed)	<u>:</u>		
QHEI PERFO	RMED? -	JYes □N	o QHEI Sc	ore	(If Yes, A	ttach Co	ompleted QHEI Form)	
DOWNSTRE		•	•					
							stance from Evaluated Stream	
_							stance from Evaluated Stream	
LJ EWH Name:						DIS	stance from Evaluated Stream	
MAPPING: A	ТТАСН СОР	IES OF MAPS	S, INCLUDIN	G THE ENTIR	<u>E</u> WATERSH	ED ARE	EA. CLEARLY MARK THE SITE LOCATION	
USGS Quadrangle Nan	ne:			NF	RCS Soil Map	o Page:_	NRCS Soil Map Stream Order	
County:				_ Township	/ City:			
MISCELLAN	EOUS							
Base Flow Conditions?	(Y/N):	Date of I	ast precipita	ition:			Quantity:	
Photograph Information	n:							
Elevated Turbidity? (Y/I	N):	Canop	y (% open):					
Were samples collected	d for water ch	nemistry? (Y/	N):	(Note lab sa	mple no. or id	d. and a	ttach results) Lab Number:	
Field Measures: Ter	mp (°C)	Dissolve	d Oxygen (m	ng/l)	pH (S.U.)		Conductivity (µmhos/cm)	
Is the sampling reach re	epresentative	e of the strea	m (Y/N)	If not, plea	ase explain:			
, 3			(' /					
Additional comments/do	escription of	pollution imp	acts:					
BIOTIC EVA	LUATION							
Performed? (Y/N):	-				-		TE: all voucher samples must be labeled with Headwater Habitat Assessment Manual)	the site
Fish Observed? (Y/N)_ Frogs or Tadpoles Obs		\ /—			\ /—		/oucher? (Y/N) bserved? (Y/N) Voucher? (Y/N)	
Comments Regarding E	Biology:							
DRAWIN	IO AND N	A D.D. A TIV	- DECOR	IDTION OF	OTDEAM	DEA	OH /This mane (be seemed a d).	
							CH (This <u>must</u> be completed): carrative description of the stream's location	on
morado importar	The state of the s	and carer is		1			iamata a documption of the outlant of local	
	1		183.5	, /	Flow			
	+ 2			1 YX	4			
				3/1/				
•		~Fallow	Field~	1/4/	etland			
FLOW -		T takes		Y 4- V	ict in			
	- &			/4/	6			
			./>	1	- 11			
			~	^	Fallow F	Field~	,	
	-	N.	CAR .	The state of the s				
		1	10	concrete l	ridge			



APPENDIX D

REPRESENTATIVE STREAMS AND WETLANDS PHOTOGRAPHS





WETLANDS

Client Name:

American Transmission Systems, Inc.

Site Location:

Crissinger-Kirby138 kV Transmission Line Loop & Crissinger Substation Expansion Project

Project No.

60598782

Photo No. 1

Date/Location:

March 18, 2019

Description:

Wetland CK-01

PEM



Facing North



Facing East



Facing West



Facing South



Soil Pit



WETLANDS

Client Name:

American Transmission Systems, Inc.

Site Location:

Crissinger-Kirby138 kV Transmission Line Loop & Crissinger Substation Expansion Project

Project No.

60598782

Photo No. 2

Date/Location:

March 18, 2019

Description:

Wetland CK-02

PEM



Facing North



Facing East



Facing West



Facing South



Soil Pit



WETLANDS

Client Name:

American Transmission Systems, Inc.

Site Location:

Crissinger-Kirby138 kV Transmission Line Loop & Crissinger Substation Expansion Project

Project No.

60598782

Photo No. 3

Date/Location:

March 18, 2019

Description:

Wetland CK-03a

PFO



Facing North



Facing East



Facing West



Facing South



Soil Pit



WETLANDS

Client Name:

American Transmission Systems, Inc.

Site Location:

Crissinger-Kirby138 kV Transmission Line Loop & Crissinger Substation Expansion Project

Project No.

60598782

Photo No. 4

Date/Location:

March 18, 2019

Description:

Wetland CK-03b

PSS



Facing North



Facing East



Facing West



Facing South



Soil Pit



WETLANDS

Client Name:

American Transmission Systems, Inc.

Site Location:

Crissinger-Kirby138 kV Transmission Line Loop & Crissinger Substation Expansion Project

Project No.

60598782

Photo No. 5

Date/Location:

March 18, 2019

Description:

Wetland CK-04

PEM

Modified Category 2



Facing North



Facing East



Facing West



Facing South



Soil Pit



WETLANDS

Client Name:

American Transmission Systems, Inc.

Site Location:

Crissinger-Kirby138 kV Transmission Line Loop & Crissinger Substation Expansion Project

Project No.

60598782

Photo No. 6

Date/Location:

March 18, 2019

Description:

Wetland CK-05

PEM



Facing North



Facing East



Facing West



Facing South



Soil Pit



WETLANDS

Client Name:

American Transmission Systems, Inc.

Site Location:

Crissinger-Kirby138 kV Transmission Line Loop & Crissinger Substation Expansion Project

Project No.

60598782

Photo No. 7

Date/Location:

March 18, 2019

Description:

Wetland CK-06

PSS



Facing North



Facing East



Facing West



Facing South



Soil Pit



PHOTOGRAPHIC RECORD STREAMS

Client Name:

American Transmission Systems, Inc.

Site Location:

Crissinger-Kirby138 kV Transmission Line Loop & Crissinger Substation Expansion Project

Project No.

60598782

Photo No. 8

Date:

March 18, 2019

Description:

Stream CK-01

Intermittent

Modified Class 2



Facing Upstream



Facing Downstream



Substrate



PHOTOGRAPHIC RECORD STREAMS

Client Name:

American Transmission Systems, Inc.

Site Location:

Crissinger-Kirby138 kV Transmission Line Loop & Crissinger Substation Expansion Project

Project No.

60598782

Photo No. 9

Date:

March 18, 2019

Description:

Stream CK-02

Intermittent

Modified Class 2



Facing Upstream



Facing Downstream



Substrate



PHOTOGRAPHIC RECORD STREAMS

Client Name:

American Transmission Systems, Inc.

Site Location:

Crissinger-Kirby138 kV Transmission Line Loop & Crissinger Substation Expansion Project

Project No. 60598782

Photo No. 10

Date:

March 18, 2019

Description:

Stream CK-03

Perennial

Modified Class 2



Facing Upstream



Facing Downstream



Substrate

Kirby-Roberts 138 kV Transmission Line Loop to Crissinger Substation Project Case Number 19-0803-EL-BLN

Exhibit 17 Access Map

