Wetland Delineation and Surface Water Study
Wood County 138kV Reinforcement Project

Wood County, Ohio

Prepared For:

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1.0 EXECUTIVE SUMMARY

GPD Group completed a routine survey for wetlands and other "Waters of the United States" in October 2018 for American Transmission System, Incorporated (ATSI), a FirstEnergy company, proposed Wood County 138kV Reinforcement Project (Project). The Project is located within the City of Bowling Green and Middleton, Plain, and Center Townships in Wood County, Ohio.

The survey was completed in support of the Project which involves the construction of the Wood County 138kV Reinforcement Project to enhance electrical service in Wood County, Ohio. The Project includes the expansion of the existing 138/69kV substation in Plain Township and the construction of an approximately 5.5-mile 138kV transmission line connecting the expanded substation to the nearby Lemoyne-Midway 138kV Transmission Line. The Project will require a new 60-foot-wide right-of-way (ROW) and will primarily be supported on wood poles.

The environmental survey area investigated and documented in this report consists of a 260-foot-wide corridor (130-foot buffer) along the proposed centerline of the western alternative alignment and the eastern alternative alignment for the proposed Project (environmental survey corridor). The environmental survey corridor is approximately 380 acres in size.

The majority of the environmental survey area is located within the Maumee River Basin and is contained within the Haskins Road Ditch-Maumee River (HUC 12: 04100009-0603) and the Grassy Creek-Maumee River (HUC 12: 04100009-0901) watersheds. The northeast and southeast corners of the environmental survey area are located within the Portage River Basin and are contained within the Cedar Creek-Frontal Lake Erie watershed (HUC 12: 04100010-0703) and the Upper Toussaint Creek (HUC 12: 04100010-0601) watersheds.

The environmental survey area that was investigated is within the jurisdictional boundary of the USACE Buffalo District Office. **Figure 1** depicts the Project location on the Bowling Green North, Ohio United States Geologic Survey (USGS) 7.5-Minute Topographic Quadrangle Map.

The information in this report has been compiled as documentation of existing aquatic features and represents the professional opinion of GPD Group regarding the boundaries, general characteristics, and classifications of waters within the environmental survey area. This document is intended to establish the on-site extent of jurisdictional freshwater features and can be used to facilitate a Jurisdictional Determination. It is GPD Group's recommendation that no earthwork be conducted until such time as all appropriate regulatory agency acknowledgements, reviews, and verifications have been completed.

Based on the field investigations, four (4) stream features and three (3) pond features (in the form of stormwater detention basins) have been identified within the environmental survey area boundary. No wetland features have been identified within the environmental survey area boundary. The identified aquatic features are depicted on the Aquatic Features Location Map (**Figure 2**). The areal extent of the feature was calculated using a Geographic Information System (GIS) and is presented in **Table 2**. Representative photographs were taken of the features within the environmental survey area boundary and are provided in **Appendix B**.

2.0 INTRODUCTION

In October 2018, GPD Group conducted field studies within an approximately 380-acre environmental survey area. These field studies focused on wetlands and other "Waters of the United States" delineations and habitat assessments within a 260-foot-wide corridor (130-foot buffer) along the proposed centerline of the western alternative alignment and the eastern alternative alignment for the Project (environmental survey corridor).

The proposed project involves the construction of the Wood County 138kV Reinforcement Project to enhance electrical service in Wood County, Ohio. The project includes the expansion of the existing 138/69kV substation in Plain Township and the construction of an approximately 5.5-mile 138kV transmission line connecting the expanded substation to the nearby Lemoyne-Midway 138kV transmission line. The project will require a new 60-foot-wide right-of-way (ROW) and will likely be supported on wood poles.

The majority surrounding land use consisted of actively farmed agricultural fields with scattered residential and commercial development.

A Routine Level On-Site Determination, as outlined in the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual, was performed. Additionally, the methods outlined in the April 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0) were utilized to further ascertain the presence/absence of the three parameters that define a wetland. The Ohio Rapid Assessment Method for Wetlands (ORAM) Version 5.0 was used to provisionally rate each delineated wetland in accordance with current Ohio Environmental Protection Agency (Ohio EPA) standards, and to determine the appropriate regulatory category in which to place the wetland.

No wetlands were identified; however, in the event of the presence of wetlands, the wetland location would have been flagged in the field, and the identified feature location would have been recorded using a Trimble Geo-XH hand-held Global Positioning System (GPS) unit with sub-meter horizontal accuracy.

Streams were evaluated using either the Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams or the Methods for Assessing Habitat in Flowing Water: Using the Qualitative Habitat Evaluation Index (QHEI), published by the Ohio EPA. When appropriate, the Headwater Habitat Evaluation Index (HHEI) data sheets, Headwater Macroinvertebrate Field Evaluation Index (HMFEI) data sheets, and QHEI data sheets were completed in the field. Stream locations were flagged in the field, and all identified feature locations were recorded using a Trimble Geo-XH hand-held Global Positioning System (GPS) unit with sub-meter horizontal accuracy.

In addition to wetlands and streams, an investigation for ponds located within the environmental survey area boundary was also conducted. Only stormwater detention basins were identified.

3.0 WETLAND DEFINITION

Jurisdictional freshwater wetlands are included as a subset of "Waters of the United States" as defined by 33 CFR Part 328.3. The following definition of a wetland is the regulatory definition used by the USACE for administering Section 404 of the Clean Water Act which limits activities within "Waters of the United States" including wetlands. Wetlands are:

> "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated conditions. Wetlands generally include swamps, marshes, bogs, and similar areas". (EPA, 40 CFR 230.3)

Wetland determinations are based on a three-parameter approach. An area must exhibit these three characteristics to be classified as a wetland:

1. hydrophytic vegetation
2. hydric soils
3. wetland hydrology

Hydrophytic vegetation is defined as macrophytic plant life growing in water, soil, or on a substrate that is at least periodically deficient in oxygen as a result of the presence of water. In the course of developing the wetland determination methodology, the USACE, in cooperation with the U.S. Fish and Wildlife Service (USFWS), Environmental Protection Agency (EPA), and the Natural Resources Conservation Service (NRCS), compiled a comprehensive list of wetland vegetation. A method to quantify what type of vegetation is typical "wetland vegetation" was also developed and certain species of plants were assigned a plant indicator classification/status. The indicator classification/status of a plant species is expressed in terms of the estimated probability of that species occurring in wetland conditions within a given region. The indicator classification/status within this list includes:

1. Obligate Wetland (OBL) – occur almost always in wetlands (estimated probability 99%), under natural conditions.
2. Facultative Wetland (FACW) – usually occur in wetlands (estimated probability 67% to 99%), but occasionally found in non-wetlands.
3. Facultative (FAC) – equally likely to occur in wetlands and non-wetlands (estimated probability 34% to 66%).
4. Facultative Upland (FACU) – usually occurs in non-wetlands, but occasionally found in wetlands (estimated probability 1% to 33%).
5. Upland (UPL) - occur almost always in uplands (estimated probability 1%), under natural conditions.

Plants that are OBL, FACW, and FAC are considered wetland species.

Hydric soils are those soils that are saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions within the major portion of the root zone. The National Technical Committee for Hydric Soils has developed criteria for hydric soil determinations in addition to hydric soil types. The USACE criteria for hydric soils specify that the chroma must be /1 if the soil has no mottles (marked with spots of contrasting color), and /2 or /3 if the soil is mottled. Any soil colors described within this report were determined in the field using the Munsell Soil Color Charts Year 2009 Edition.

Wetland hydrology is the permanent or periodic inundation or saturation of soil (within the root zone) for a significant period during the growing season. Many factors influence the hydrology of an area including

precipitation, topography, soil permeability, and plant cover. The frequency and duration of inundation or soil saturation are important factors in the determination of the existence of wetland hydrology. Primary indicators of wetland hydrology are inundation, soil saturation (within the root zone), water marks, sediment deposits, and drainage patterns. Secondary indicators such as oxidized root channels in the upper 12" of soil, water stained leaves, local soil survey data, and FAC-neutral vegetation test are sometimes also used to determine the presence of wetland hydrology. One primary indicator, or two secondary indicators, is required to establish the presence of wetland hydrology.

Summary

In general, an area must meet all three of the aforementioned criteria to be classified as a wetland. In certain problem areas such as seasonal wetlands that are only wet during certain times of the year or in recently disturbed (atypical) situations, areas may be considered a wetland if only two criteria are met. Additionally, in special situations, an area that meets the definition of a wetland may not be within USACE jurisdiction due to a lack of adjacency to another "Water of the United States". These isolated features fall under the jurisdiction of the Ohio EPA.

4.0 METHODS

4.1 Wetlands

Prior to performing any field studies, the Wood County Soil Survey map, the USGS 7.5-Minute Topographic Quadrangle Map, and the National Wetlands Inventory (NWI) map were analyzed in detail to determine the presence of any previously-identified freshwater wetlands within the environmental survey area boundary.

Following the literature review, further investigation included inspection on foot during the field reconnaissance portion of the project to confirm the information gathered from the literature review, and to identify any wetlands not annotated on the reviewed sources.

For any suspected wetland areas, the wetland determination is performed based upon the Routine Level On-Site method as outlined in the 1987 USACE Manual. This method consists of collecting a data point within an area that exhibits wetland characteristics. Within this area vegetation is identified, hydrology is assessed, and soils to a depth of at least 18 inches are identified and described. This method is accepted by the USACE and takes into consideration the three wetland parameters (1. Vegetation, 2. Soils, 3. Hydrology) covering both normal and atypical situations. Subsequently, an upland data point within an area adjacent to the delineated wetland, which did not exhibit wetland characteristics, is collected in the same manner, to provide contrasting evidence.

4.1.1 Vegetation

All habitat types within the environmental survey area boundary are identified and the distribution of individual plant species is noted. The existing vegetation is analyzed with respect to percentage of cover for each species. This involves estimation of existing plant species composition by direct observation. Wetlands, as stated previously, are usually characterized by the predominance of hydrophytic plant species. Conversely, upland areas would be dominated by more xerophytic species, or plants better adapted to drier soil conditions. A mesic zone, or the transition between wetland and upland habitat, is often comprised of a mixture of FACW, FAC, and FACU species.

With respect to the vegetation, the USACE Manual places great emphasis on the presence of hydrophytic plant species as an indicator of wetland conditions. It is determined which species are dominant within each plant community. The determination of whether or not an herbaceous species is dominant is based on percentage of cover. Vegetative dominance is calculated as described in the 1989 Federal Manual for Identifying and Delineating Jurisdictional Wetlands (50/20 method).

The species indicator classification/status is determined and recorded for each dominant plant species found at the site. This information is used in conjunction with their percentage of cover to determine whether a prevalence of wetland species exists in any of the vegetation communities occurring within the environmental survey area boundary. Species indicator classification/status information is obtained from the USACE's The National Wetland Plant List: 2013 wetland ratings for the State of Ohio (Lichvar, 2013).

4.1.2 Soils

During the field investigation of the environmental survey area, a spade shovel is used to dig soil test pits to accurately document the extent of hydric soil conditions. The test pits are dug to a depth of approximately 18 inches and the soil is examined for color, texture, and moisture content.

Soil color is determined in the field using the 2009 Edition of the Munsell Soil Color Charts. Hydric soils are identified by color/chroma. The Munsell designation indicates the soil color as removed from the test pit. Hydric soil determinations are made in strict accordance with USACE criteria.

Weather conditions during the soil identification procedures for this investigation varied during the field investigation from approximately 80°F and sunny to approximately 50°F and overcast with light rain occurring intermittently.

4.1.3 Hydrology

Hydrology indicators [including inundation, soil saturation (within the root zone), water marks, sediment deposits, etc.] are used in conjunction with vegetation and soil characteristics to establish the presence/absence of freshwater wetlands. The environmental survey area is also evaluated for signs of past human disturbances to determine whether any identified features had been created by man (man-induced wetland) or if the hydrologic regime of the feature had been recently altered. While hydrology is the driving force in wetland creation, it is often the least exact and most difficult to identify in the field. Field indicators are often used to assess the hydrology of an area, especially during times when surface water is not present, or during times of low groundwater, as it might otherwise be difficult to identify.

4.1.4 Wetland Evaluation

ORAM Version 5.0 is used to rate any wetland observed within the environmental survey area boundary in accordance with current Ohio EPA standards, and to determine the appropriate regulatory category in which to place the wetland. This assessment is also used to assess the overall ecological quality and the level of function of a particular wetland. The numeric score obtained from the ORAM field form is not, and should not be considered, an absolute number with intrinsic meaning. The numeric score does, however, allow for relative comparisons between wetlands to be made.

Interim Scoring Break Points for Wetland Regulatory Categories for ORAM

Category	**ORAM v5.0 score**		
1	0	-	29.9
1 or 2 gray zone	30	-	34.9
Modified 2	35	-	44.9
2	45	-	59.9
2 or 3	60	-	64.9
3	65	-	100

In general, Category 1 wetlands are those wetlands that support minimal wildlife habitat, and minimal hydrological and recreational functions. Category 1 wetlands do not provide critical habitat for threatened or endangered species or contain rare or otherwise sensitive species. Category 2 wetlands support moderate wildlife habitat or hydrological functions. Category 2 wetlands may include the presence of native plant species, but generally do not support threatened or endangered wildlife. Category 3 wetlands support superior wildlife habitat and hydrologic functions. Category 3 wetlands also can have high levels of diversity with a high proportion of native species producing high functional value.

Any wetland observed within the environmental survey area boundary is also identified to their respective Cowardin *et al.* (1979) classification. In brief, this method requires that the delineator classify systems based on the areal extent of vegetative cover. If vegetation covers 30% or more of the substrate, classes are distinguished on the basis of the life form of the plants that constitute the uppermost layer of vegetation and that possess an areal coverage 30% or greater.

The boundary of any wetland identified within the environmental survey area boundary is flagged and recorded in the field with a Trimble Geo-XH hand-held GPS with sub-meter horizontal accuracy. The boundary data that is collected is spatially accurate to <1.0 meter and conforms to the most recent USACE criteria for wetland delineation boundary surveys.

4.2 Streams

Prior to performing any field studies, the Wood County Soil Survey map, the USGS 7.5-Minute Topographic Quadrangle Map, and the NWI map were analyzed in detail to determine the presence of any previously-identified streams within the environmental survey area boundary.

Following the literature review, further investigation included inspection on foot during the field reconnaissance portion of the project to confirm the information gathered from the literature review, and to identify any streams not annotated on the reviewed sources.

If any streams are identified within the environmental survey area boundary, their drainage area is calculated using the USGS StreamStats for Ohio website (USGS StreamStats Ohio, 2010) to first determine if the stream is considered a Primary Headwater Habitat (PHWH) Stream (<1.0mi^2), or a non PHWH Stream (>1.0mi^2). If the stream is determined to be a PHWH Stream, the Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams is used to assign a Headwater Habitat Evaluation Index (HHEI) score for the stream. The HHEI evaluation requires the examination of three habitat variables (channel substrate composition, bankfull width, and maximum pool depth) to sufficiently separate PHWH streams into Class I, Modified Class I, Class II, Modified Class II, and Class III PHWH streams. Once an HHEI score is established for a stream, the decision making flowchart from the Field Evaluation Manual for Ohio's PHWH streams is reviewed to determine the appropriate designation of stream class. Following the flowchart, where it was warranted, further evaluation for potential Rheocrene Biotic Communities may be required. This evaluation includes conducting a Headwater Macroinvertebrate Field Evaluation Index (HMFEI) and an investigation of the aquatic vertebrates (fish and amphibians) utilizing the stream. The flow regime of the stream is determined in the field based on stream morphology and site conditions at the time of the investigation.

If a stream is identified as a Non-PHWH Stream (drainage area >1.0mi^2), the stream is characterized by completing a Qualitative Habitat Evaluation Index (QHEI) assessment (Rankin, 1989). The QHEI field method requires the examination of six stream habitat characteristics. The evaluation and rating of these six habitat characteristics can yield a qualitative score from 7-100. A low score is indicative of a stream with relatively low ecological/habitat value for fish or macroinvertebrates, etc. A score near the middle of the range is indicative of moderate habitat, and a score near the high end of the range could indicate an exceptional stream community. The six stream habitat characteristics that are evaluated included substrate quality, in-stream cover, channel morphology, riparian zone quality, pool/glide and riffle/run quality, and stream gradient.

Similar to the wetlands, the centerline of streams within the environmental survey area is recorded in the field with a Trimble Geo-XH hand-held GPS with sub-meter horizontal accuracy.

4.3 Ponds

Prior to performing any field studies, the Wood County Soil Survey map, the USGS 7.5-Minute Topographic Quadrangle Map, and the NWI map were analyzed in detail to determine the presence of any previously-identified ponds within the environmental survey area boundary.

Following the literature review, further investigation included inspection on foot during the field reconnaissance portion of the project to confirm the information gathered from the literature review, and to identify any ponds not annotated on the reviewed sources.

Ponds were identified as those areas with permanent inundation and lacking hydrophytic vegetation indicators.

5.0 FINDINGS

5.1 Wetlands

5.1.1 Literature Review

Prior to performing field studies, the USGS 7.5-Minute Topographic Quadrangle Map (**Figure 1**), Wood County Soil Survey map (**Figure 3**), and NWI map (**Figure 4**) were analyzed in detail to determine the possible distribution of any previously-identified freshwater wetlands within the environmental survey area. The NWI map depicted several riverine unconsolidated bottom (R5UB) features either crossing or flowing alongside of the proposed alignments. No evidence of freshwater wetland features was depicted within the environmental survey area on the topographic map.

The Wood County, Ohio (USDA-NRCS, 2009) Soil Survey Geographic (SSURGO) database indicates that there are thirteen (13) soil units mapped within the environmental survey area boundary. Of these soil units, ten (10) appear on the State Soil Data Access (SDA) Hydric Soil List maintained by the U.S. Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS, 2018). The soil map is included as **Figure 3**. Additional information pertaining to the soil units identified within the environmental survey area are presented in the table below.

Table 1 – Soil Summary

SYMBOL	MAP UNIT NAME	TAXONOMY	DRAINAGE CLASS	HYDRIC
AmA	Aurand fine sandy loam, 0-2% slopes	Fine-loamy, mixed, active, mesic Aquic Argiudolls	Somewhat poorly drained	**Yes**
AnA	Aurand loam, 0-2% slopes	Fine-loamy, mixed, active, mesic Aquic Argiudolls	Somewhat poorly drained	**Yes**
HoA	Hoytville clay loam, 0-1% slopes	Fine, illitic, mesic Mollic Epiaqualfs	Very poorly drained	**Yes**
McA	Mermill fine sandy loam, 0-1% slopes	Fine-loamy, mixed, active, mesic Mollic Epiaqualfs	Very poorly drained	**Yes**
MfA	Mermill-Aurand complex, 0-1% slopes	Fine-loamy, mixed, active, mesic Mollic Epiaqualfs	Very poorly drained	**Yes**
NmA	Nappanee sandy loam, 0-2% slopes	Fine, illitic, mesic Aeric Epiaqualfs	Somewhat poorly drained	No
OtB	Ottokee-Spinks loamy fine sands, 2-6% slopes	Mixed, mesic Aquic Udipsamments	Moderately well drained	No
RbA	Randolph loam, 0-2% slopes	Fine, mixed, active, mesic Aeric Endoaqualfs	Somewhat poorly drained	**Yes**
RfA	Rimer and Tedrow, till substratum, loamy fine sands, 0-2% slopes	Loamy, mixed, active, mesic Aquic Arenic Hapludalfs	Somewhat poorly drained	**Yes**
SdA	Seward and Ottokee, till substratum, loamy fine sands, 0-2% slopes	Coarse-loamy over clayey, mixed over illitic, active, mesic Oxyaquic Hapludalfs	Moderately well drained	**Yes**
SdB	Seward and Ottokee, till substratum, loamy fine sands, 2-6% slopes	Coarse-loamy over clayey, mixed over illitic, active, mesic Oxyaquic Hapludalfs	Moderately well drained	**Yes**
TeA	Tedrow loamy fine sand, 0-2% slopes	Mixed, mesic Aquic Udipsamments	Somewhat poorly drained	**Yes**
TeB	Tedrow loamy fine sand, 2-6% slopes	Mixed, mesic Aquic Udipsamments	Somewhat poorly drained	No

Notes: State Soil Data Access (SDA) Hydric Soil List (Accessed October 2018)
Soil Designations as seen on **Figure 3**

5.1.2 Field Reconnaissance

Following the literature review, further investigation included inspection on foot during the field reconnaissance portion of the project to confirm the information gathered from the literature review, and to identify any wetlands

not annotated on the reviewed sources. The riverine unconsolidated bottom (R5UB) features identified on the NWI map were determined to be either streams (See Section 5.2 for information on identified streams) or non-jurisdictional ditches during the field reconnaissance. No evidence of wetland features were identified within the environmental survey area during the field reconnaissance.

5.2 Streams

5.2.1 Literature Review

Prior to performing field studies, the USGS 7.5-Minute Topographic Quadrangle Map (**Figure 1**), Wood County Soil Survey map (**Figure 3**), and NWI map (**Figure 4**) were analyzed in detail to determine the possible distribution of any previously-identified streams within the environmental survey area boundary. Several intermittent streams were shown either crossing or flowing alongside of the proposed alignments.

5.2.2 Field Reconnaissance

Following the literature review, further investigation included inspection on foot during the field reconnaissance portion of the project to confirm the information gathered from the literature review, and to identify any streams not annotated on the reviewed sources.

Four (4) perennial stream was identified within the environmental survey area boundary during the field reconnaissance activities. These streams are designated Stream 1-3 and Packer Creek. The streams are illustrated on the Aquatic Features Location Map (**Figure 2**). **Appendix A** contains the HHEI field forms completed during the investigation and **Appendix B** contains representative photographs of the streams. A detailed summary of the identified streams is presented in the table below.

TABLE 2. STREAM SUMMARY **TOTAL ON-SITE STREAM LENGTH (FT) 20,034**

ID	PHOTO	DRAINAGE AREA (MI^2)	USACE FLOW CHARACTERISTICS/ HYDROLOGY[A]	HABITAT ASSESSMENT (SCORE)	401 WQC FOR NWP ELIGIBILITY	OEPA AQUATIC LIFE USE DESIGNATION[B]	ON-SITE LENGTH (FT)
Stream 1	1-3	0.89	RPW - Perennial	HHEI (27)	Ineligible	Modified Class I	13,284
Receiving Waters: Stream 1 originates within the environmental survey area as it becomes a perennial water feature with the environmental survey area. Additionally, the entire length of Stream 1 within in the environmental survey area is confined within an agricultural and roadside ditches. Stream 1 flows north for approximately 2.5-mile before turn west where it flows out of the environmental survey area. Outside of the environmental survey area, Stream 1 continues flowing west and then northwest for a total of 2.1 miles before flowing into the Maumee River. **Adjacent Land Use:** The surrounding land use consists of actively farmed agricultural fields.							
Stream 2	4-5	0.57	RPW - Perennial	HHEI (51)	Potentially Eligible	Modified Class II	826
Receiving Waters: Stream 2 originates within the environmental survey area, and the entire length of Stream 2 within the survey area is confined within an agricultural ditch. Stream 2 flows north and then east where it exists the environmental survey area. Stream 2 flows east and north before flowing into Stream 3 outside of the environmental survey area. **Adjacent Land Use:** The surrounding land use consists of actively farmed agricultural fields.							
Stream 3	6-9	0.46	RPW - Perennial	HHEI (48)	Potentially Eligible	Modified Class II	5,664
Receiving Waters: Stream 3 enters the environmental survey area from the south and flows north and west before exiting the environmental survey area. Outside of the environmental survey area, Stream 3 continues flowing north approximately 9.7-mile before flowing into the Maumee River. The entire length of Stream 3 within in the survey area is confined within an agricultural and roadside ditches.							

TABLE 2. STREAM SUMMARY **TOTAL ON-SITE STREAM LENGTH (FT) 20,034**

ID	PHOTO	DRAINAGE AREA (MI^2)	USACE FLOW CHARACTERISTICS/ HYDROLOGY[A]	HABITAT ASSESSMENT (SCORE)	401 WQC FOR NWP ELIGIBILITY	OEPA AQUATIC LIFE USE DESIGNATION[B]	ON-SITE LENGTH (FT)
Adjacent Land Use: The surrounding land use consists of actively farmed agricultural fields.							
Packer Creek	10	0.65	RPW - Perennial	HHEI (39)	Potentially Eligible	Modified Class II	260
Receiving Waters: Packer Creek enters the environmental survey area from the west and flows east before exiting the environmental survey area. Outside of the environmental survey area, Packer Creek continues flowing northeast approximately 27-miles before flowing into the Toussaint River which ultimately discharges into Lake Erie. **Adjacent Land Use:** The surrounding land use consists of actively farmed agricultural fields.							

[A] Subject to verification by the USACE (TNW=Traditional Navigable Water, RPW=Relatively Permanent Water)
[B] Provisional designations based on habitat assessment forms and/or HMFEI.

5.3 Ponds

5.3.1 Literature Review

Prior to performing field studies, the USGS 7.5-Minute Topographic Quadrangle Map (**Figure 1**), Wood County Soil Survey map (**Figure 3**), and NWI map (**Figure 4**) were analyzed in detail to determine the presence of any previously-identified ponds within the environmental survey area boundary. Two (2) palustrine unconsolidated bottom (PUB) features were depicted on the NWI map within the environmental survey area. These features were identified as Pond 1 and Pond 2 during the field reconnaissance. No other evidence of pond features was identified within the environmental survey area boundary on the reviewed sources.

5.3.2 Field Reconnaissance

Following the literature review, further investigation included inspection on foot during the field reconnaissance portion of the project to confirm the information gathered from the literature review, and to identify any ponds not annotated on the reviewed sources. No natural pond features were identified within the environmental survey area during the field reconnaissance activities; however, three (3) constructed ponds (stormwater detention basins) were identified with the environmental survey area.

TABLE 3. POND SUMMARY **TOTAL ON-SITE POND ACREAGE (AC) 0.88**

ID	PHOTO	DESIGNED FUNCTION	FUNCTIONING AS DESIGNED?	ESTIMATED TOTAL ACREAGE	ON-SITE ACREAGE
Pond 1	11	Stormwater Retention/ Detention	Yes	0.45	0.26
Pond 2	12	Stormwater Retention/ Detention	Yes	0.61	0.39
Pond 3	13	Stormwater Retention/ Detention	Yes	2.82	0.23
Additional Information: Pond 1, Pond 2, and Pond 3 are stormwater detention basins. Stormwater control features that are constructed to convey, treat, or store stormwaters and that were created in dryland are not considered to be "waters of the United States" in accordance with the Clean Water Act. The USACE will make the final determination of "jurisdiction" in accordance with the Clean Water Act concerning all on-site aquatic features.					

6.0 CONCLUSIONS

Based upon the field reconnaissance activities, four (4) streams and three (3) pond features were identified within the environmental survey area. No freshwater wetland features were identified within the environmental survey area. The streams were designated Stream 1, Stream 2, Stream 3 and Packer Creek and the ponds were designated Pond 1, Pond 2, and Pond 3. Delineated aquatic features are depicted on the Aquatic Features Location Map (**Figure 2**).

Criteria have been evaluated in order to determine whether the aquatic feature located within environmental survey area is "adjacent" or "isolated". Specifically, the definition of "adjacent", as provided in 33 CFR Part 328.4, was used to determine if the aquatic feature was bordering, contiguous, or neighboring ("adjacent") other "Waters of the United States".

Stream 1, Stream 2, and Stream 3 were determined to be contiguous to the Maumee River (OAC 3745-1-11, Table 11-2), and therefore "adjacent". Packer Creek (OAC 3745-1-23, Table 23-2) was determined to be contiguous to Lake Erie, and therefore "adjacent".

Pond 1, Pond 2, and Pond 3 are stormwater detention basins. Stormwater control features constructed to convey, treat, or store stormwaters that are created in dryland are not considered to be "waters of the United States" in accordance with the Clean Water Act.

The USACE will make the final determination of "jurisdiction" in accordance with the Clean Water Act concerning all on-site aquatic features. It is GPD Group's recommendation that no earthwork be conducted until such time as all appropriate regulatory agency acknowledgements, reviews, and verifications have been completed.

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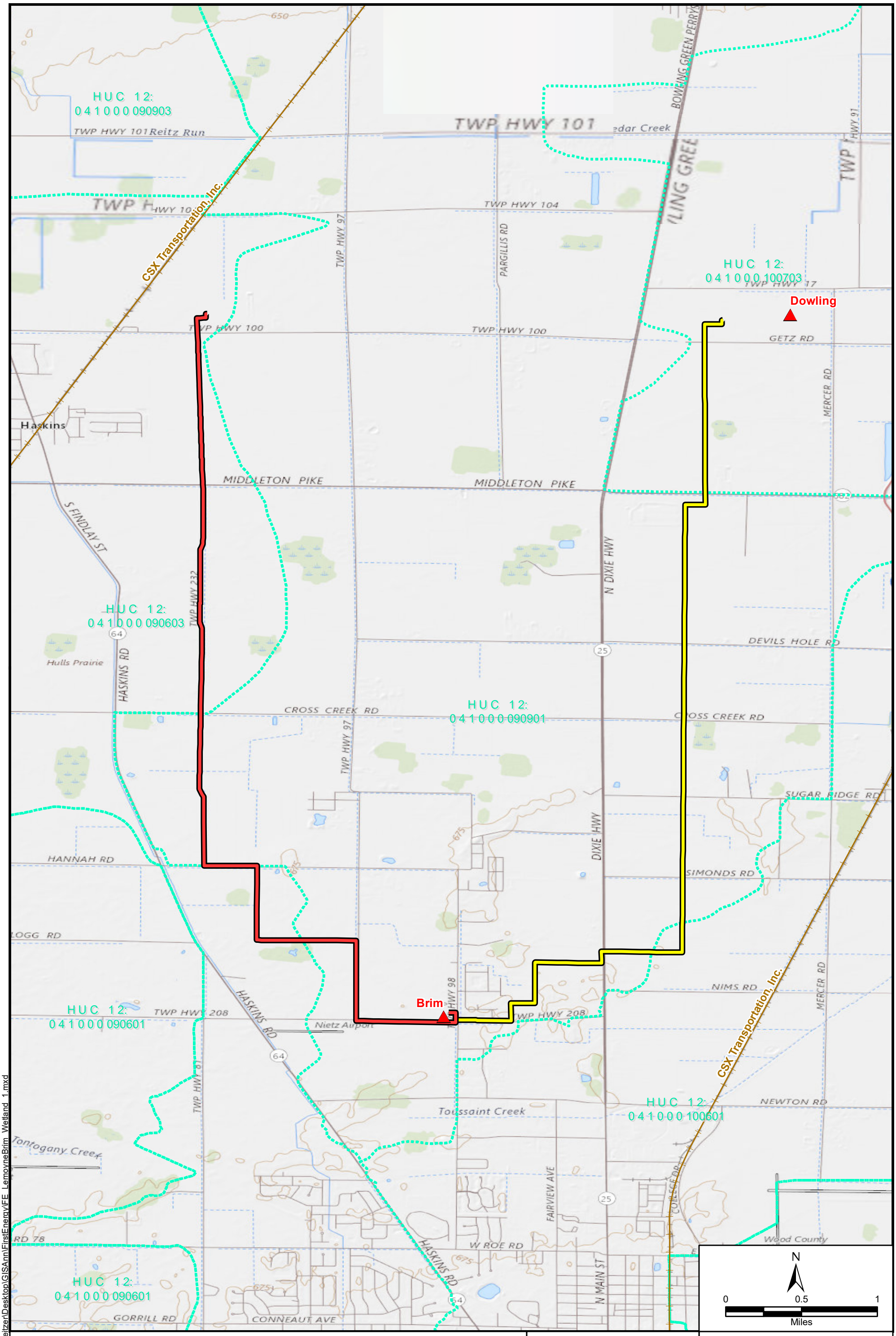
Figures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TWP HWY 101
Reitz Run
Cedar Creek
BOWLING GREEN PERRYSBURG
TWP HWY 91
CSX Transportation, Inc.
TWP HWY 104
TWP HWY 97
PARGILLIS RD
HUC 12:
041000100703
TWP HWY 17
Dowling
TWP HWY 100
GETZ RD
MERCER RD
Haskins
MIDDLETON PIKE
S FINDLAY ST
TWP HWY 232
N DIXIE HWY
HUC 12:
041000090603
64
DEVILS HOLE RD
25
Hulls Prairie
HASKINS RD
CROSS CREEK RD
HUC 12:
041000090901
SUGAR RIDGE RD
DIXIE HWY
675
HANNAH RD
SIMONDS RD
NIMS RD
Brim
TWP HWY 98
TWP HWY 208
Nietz Airport
HUC 12:
041000090601
TWP HWY 67
Toussaint Creek
NEWTON RD
HUC 12:
041000100601
Tontogany Creek
FAIRVIEW AVE
W ROE RD
N MAIN ST
Wood County
RD 78
GORRILL RD
CONNEAUT AVE
N
0
0.5
1
Miles
Existing Substation
Western Alternative Route
Eastern Alternative Route
Watershed (HUC 12)
ATSI
American Transmission Systems, Inc.
a subsidiary of FirstEnergy Corp.
Figure 1
Topographic Map
Wood County 138kV
Reinforcement Project
GPD Group
Path: C:\Users\aschweitzer\Desktop\GISAnn\FirstEnergy\FE_LemoyneBrim_Wetland_1.mxd
Source: GPD Group; BMCD; ESRI; Bowling Green North, Ohio USGS Topographic Map
Issued: November 29, 2018

CSX Transportation, Inc.

King Rd

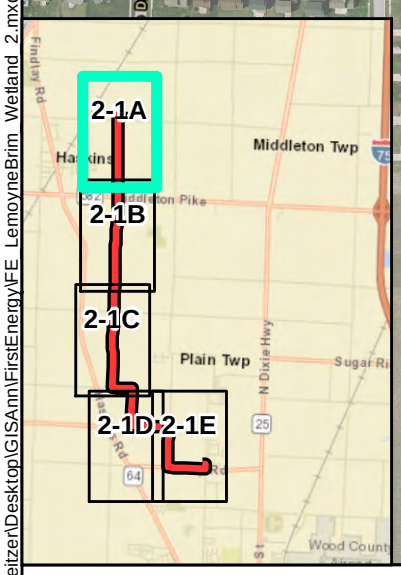
King Rd

King Rd

Stream 1

Richard Dr

Genson Dr



N

0 500 1,000

Scale in Feet

Western Alternative Route

Survey Area

Existing Substation

Existing 69kV Tranmsission Line

Existing 138kV Tranmsission Line

Existing 345kV Tranmsission Line

Delineated Stream

Non-Jurisdictional Ditch

Detention Basin

ATSI®

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Figure 2-1A
Aquatic Resources Map

Wood County 138kV
Reinforcement Project

GPD Group
Path: C:\Users\aschweitzer\Desktop\GISAnn\FirstEnergyFE_LemoyneBrim_Wetland_2.mxd

Issued: November, 29 2018

Middleton Pike

582

Middleton Pike

Middleton Pike

Asmus Rd

Stream 1

Asmus Rd

Asmus Rd

Asmus Rd

Haskins Rd

64

Way

2-1A

2-1B

2-1C

2-1D

2-1E

Haskins

Middleton Twp

Plain Twp

N Dixie Hwy

Findlay Rd

Sugar Ri

St

Wood Count

25

64

N

0 500 1,000

Scale in Feet

Western Alternative Route

Survey Area

Existing Substation

Existing 69kV Tranmsission Line

Existing 138kV Tranmsission Line

Existing 345kV Tranmsission Line

Delineated Stream

Non-Jurisdictional Ditch

Detention Basin

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Figure 2-1B
Aquatic Resources Map

Wood County 138kV
Reinforcement Project

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Cross Creek Rd

Haskins Rd

Stream 1

Stream 2

Hannah Rd

2-1A

2-1B

2-1C

2-1D

2-1E

Middleton Twp

Plain Twp

Western Alternative Route

Survey Area

Existing Substation

Existing 69kV Tranmsission Line

Existing 138kV Tranmsission Line

Existing 345kV Tranmsission Line

Delineated Stream

Non-Jurisdictional Ditch

Detention Basin

N

0 500 1,000

Scale in Feet

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Figure 2-1C
Aquatic Resources Map

Wood County 138kV
Reinforcement Project

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Figure 2-1D
Aquatic Resources Map

Wood County 138kV
Reinforcement Project

Issued: November, 29 2018

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Summary: Application for a Certificate of Environmental Compatibility and Public Need (Part 5 of 8) electronically filed by Mr. Robert J Schmidt on behalf of American Transmission Systems Inc.