

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

LETTER OF NOTIFICATION

**LEROY CENTER-MAYFIELD Q3 AND Q4 138 KV
TRANSMISSION LINES RECONDUCTOR PROJECT**

OPSB CASE NO.: 23-0462-EL-BLN

June 30, 2023

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

**LETTER OF NOTIFICATION
LEROY CENTER-MAYFIELD Q3 AND Q4 138 kV TRANSMISSION LINES
RECONDUCTOR 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 (“OPSB”) as a Letter of Notification application.

4906-6-05(B): LETTER OF NOTIFICATION REQUIREMENTS

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

Leroy Center-Mayfield Q3 & Q4 138 kV Transmission Lines
Reconductor Project (“Project”)
(Reference Numbers 4019-4 and 4026-2)

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

In this Project, American Transmission Systems, Incorporated (“ATSI”), a FirstEnergy company, proposes to reconductor the 15.8-mile-long, double-circuit Leroy Center-Mayfield Q3 and Q4 138 kV transmission lines, from the Leroy Center Substation to Mayfield Substation. The Project will encompass replacing the existing 4/0 AWG 7 Strand Copper conductor with 336.4 kcmil 26/7 ACSS conductor – as in the Leroy Center-Mayfield Q1 & Q2 Transmission Lines Partial Reconductor Project (for which a Construction Certificate was issued OPSB Case No. 22-0747-EL-BLN). The Project’s scope will not include any replacement of structures.

The Project is located in an existing transmission corridor through Leroy Township in Lake County, Ohio, and Hambden, Chardon, Munson and Chester Townships in Geauga County, Ohio.

The general location of the Project is shown in Exhibit 1, a partial copy of the United States Geologic Survey Quad Map. Exhibit 2 is a copy of ESRI aerial imagery of the Project area. The general layout of the Project is shown in Exhibit 3.

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

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

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

(b) More than two miles.

The proposed Project falls under (2)(b) because it involves replacing conductor on the existing Leroy Center-Mayfield Q3 and Q4 138 kV transmission lines with larger conductor for approximately 15.8 miles long.

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

In summary, the Project is needed to address the aging conductor and hardware, as well as high loading. Detail regarding conditions affecting each of the transmission lines is set forth below.

Leroy Center-Mayfield Q3 138 kV Transmission Line

ATSI performed a Generator Deliverability analysis based on PJM’s 2020 RTEP 2025 and 2022 RTEP 2027-Summer case. The 2022 RTEP 2027 Summer case (Window 1) was modified to include the replacement and relocation of Lloyd Transformer #2 with Transformer #1 (a non-OPSB-jurisdictional project located approximately 15 miles west of Pinegrove Substation, RTEP s2649) and the results of the analysis indicated a P2-3 contingency under NERC Standard TPL001-4: 91%

thermal loading of the Leroy Center–Mayfield Q3 138 kV Transmission Line’s summer emergency rating between Leroy Center Substation and Pinegrove Substation for the Eastlake Breaker Q3S failure. This transmission line section serves approximately 21 MW of load and 4,940 customers at Pinegrove Substation. The need and solution for the Leroy Center-Mayfield Q3 138 kV Line were presented at the PJM Subregional Regional Transmission Expansion Plan (SRRTEP) Western Committee meetings on August 16, 2021, and March 17, 2023, respectively. The PJM SRRTEP-Western presentation solution slides from the March 17, 2023, meeting are included as Exhibit 4. PJM has assigned the Project RTEP supplemental number s2923.1 for the Mayfield-Pinegrove Q3 138 kV line section and s2923.2 for the Leroy Center-Pinegrove Q3 138 kV line section.

Leroy Center-Mayfield Q4 138 kV Transmission Line

The Leroy Center-Mayfield Q4 138 kV Transmission Line shares towers with the Leroy Center-Mayfield Q3 138 kV Transmission Line discussed above and serves as a backup feed to the Pinegrove Substation. Due to the increased conductor size proposed to replace the aged and deteriorated conductor and hardware as discussed further below, the need and solution was presented at the PJM SRRTEP Western Committee meetings on March 18, 2022, and March 17, 2023, respectively. The PJM SRRTEP-Western presentation solution slides from the March 17, 2023, meeting are included as Exhibit 5. PJM has assigned this portion of the Project RTEP supplemental number s2925.

As mentioned in the preceding paragraph, the Leroy Center-Mayfield Q3 and Q4 138 kV Transmission Lines share the same 119 lattice towers (one circuit on either side). The Project is approximately 15.8 miles in length, consisting of the Mayfield-Pinegrove Tap Transmission Line section, which is 8.1 miles in length, and the Leroy Center–Pinegrove Tap Transmission Line section, which is 7.7 miles in length.

The line conductors and hardware on both the Q3 and Q4 transmission lines were originally installed in the 1940s. As such, the age and condition of the conductor and hardware on both transmission lines have reached the end of useful life and need to

be replaced. The existing 4/0 AWG 7 Strand Copper conductor will be replaced with 336.4 kcmil ACSS conductor. Not only does this conductor mitigate the high-loading of Leroy Center-Pinegrove tap section of the Q3 transmission line, it also provides margin for future loading without requiring new structures or replacement of structures due to an increase in the conductor size.

The Project also requires reinforcement of some existing structures, reinforcement or replacement of bracing angles, installation of hold down weight assemblies and replacement of insulators and cold-end attachments for conductors and shield wire where needed. In addition, the Project will require relay setting adjustments at Mayfield, Leroy Center, and Pinegrove Substations.

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 transmission lines is shown in the ATSI Transmission Network Map, included as part of the confidential portion of the FirstEnergy Corp. 2023 Long-Term Forecast Report (“LTFR”). This map, incorporated by reference only, was submitted to the PUCO in Case No. 23-0504-EL-FOR under Rule 4901:5-5:04 (C)(2)(b) of the Ohio Administrative Code and shows ATSI’s 345 kV and 138 kV transmission lines and transmission substations, including the Leroy Center-Mayfield Q3 and Q4 138 kV Transmission Lines.

The general location and layout of the Project area are shown in Exhibits 1 and 2. The Leroy Center-Mayfield Q3 138 kV Transmission Line Reconductor Project is included on Pages 46 and 81; the Leroy Center-Mayfield Q4 138 kV Transmission Line is included on Page 57 in the 2023 LTFR.

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

Due to the physical condition of the conductor and the nature of the Project, no other alternatives were considered. And because the Project is within existing right-of-way and utilizes the same centerline, there are no permanent new land impacts.

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

ATSI will publish notice of the Project in the Lake County News Herald, which covers the entire Project area, including Chardon, Hambden, Munson and Chester Townships in Geauga County, within 7 days of filing this Letter of Notification application. The notice will comply with OAC Rules 4906-6-08(A)(1)-(6). In addition to the public newspaper notice, ATSI will mail letters in accordance with OAC Rule 4906-6-08(B) explaining the Project to property owners and affected tenants within and contiguous to the planned Project area, informing them of the Project's anticipated construction and restoration activities sequencing, including the anticipated start date and overall time frame. ATSI has also established a Project website: https://www.firstenergycorp.com/about/transmission_projects/ohio.html. ATSI's manager of External Affairs will advise local officials of features and the status of the proposed Project as necessary.

Finally, during all phases of this Project, the public may contact ATSI through the transmission projects hotline at 1-888-311-4737 or via email at: transmissionprojects@firstenergycorp.com.

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

Construction on the project is expected to begin as early as October 1, 2023, and be completed/in-service by June 1, 2025.

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

The general location of the Project is shown in Exhibit 1, a partial copy of the United States Geologic Survey Quad Map. Exhibit 2 is a copy of ESRI aerial imagery of the Project area. The general layout of the Project is shown in Exhibit 3.

4906-6-05(B)(8): Properties List

The Project will be located along the same centerline and within the same right-of-way as the existing lines. No new easements will need to be acquired for construction

and operation of this Project. Exhibit 6 contains a list of properties impacted by the Project.

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

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

The Project will have the following characteristics:

Voltage:	138 kV
Existing Conductor:	4/0 AWG 7 Strand Copper
New Conductor:	336.4 kcmil 26/7 ACSS
Static wire:	7#8 Alumoweld
Insulators:	138 kV porcelain or glass
ROW Width:	240 feet
Structures:	No new structures required

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

Along the existing Leroy Center-Mayfield Q3 and Q4 138 kV transmission lines corridor there are approximately twenty (20) occupied residences or institutions within 100 feet of the centerline, with the closest being approximately 50 feet from centerline; therefore, Electric and Magnetic Field (“EMF”) calculations are required by this code provision.

4906-6-05(B)(9)(b)(i): Calculated Electric and Magnetic Fields Strength Levels

The Project shares a common 240-foot-wide transmission line corridor with other transmission lines: the Leroy Center-Mayfield Q1 and Q2 138 kV transmission lines, Glenwillow-Perry S5 345 kV Transmission Line, and the Harding-Leroy Center S6 345 kV Transmission Line.

The calculations approximate the electric and magnetic fields levels based on specific assumptions utilizing the EPRI EMF Workstation 2015 program software, including that the input transmission line configuration is located on flat terrain and that the transmission circuit has balanced, three-phase circuit loading. The model also relies

on the normal, emergency, and winter rating of the transmission lines. The normal line loading represents FirstEnergy’s peak system load for the transmission lines. The emergency line loading represents the maximum line loading under contingency operation. The normal line loading represents ATSI’s peak system load for the transmission lines. The winter rating is calculated based on weather and system variables that ATSI has modeled.

Table 1 itemizes the line loading of the Leroy Center-Mayfield Q3 and Q4 138 kV Transmission Lines as well as transmission lines occupying the same right-of-way, from Leroy Center Substation to the Leroy Center-Mayfield Q1 & Q2 138 kV Transmission Lines taps for the Pawnee Substation (Str. 7057).

Table 1: Transmission Lines Loading

Line Name	Normal Loading Amps	Emergency Loading Amps	Winter Rating Amps
Leroy Center-Mayfield Q3 138 kV Transmission Line	168	340	1052
Leroy Center-Mayfield Q4 138 kV Transmission Line	157	227	1052
Leroy Center-Mayfield Q1 138 kV Transmission Line (From Leroy Center Substation to Str. 7057)	429	561	1052
Leroy Center-Mayfield Q2 138 kV Transmission Line (From Leroy Center Substation to Str. 7057)	170	291	1052
Glenwillow-Perry S5 345 kV Transmission Line	289	554	2922
Harding-Leroy Center S6 345 kV Transmission Line	238	285	2955

Table 2 provides an approximation of the magnetic and electric fields strengths within the right-of-way containing the Leroy Center-Mayfield Q3 and Q4 138 kV Transmission Lines for the structural configuration of the Project (tangent structure to tangent structure), calculated at the edge of a 240-foot-wide average right-of-way width. The calculations approximate the electric and magnetic fields based on specific assumptions utilizing the EPRI EMF Workstation 2015 program software, including that the input transmission line configuration is located on flat terrain and

that the transmission circuit has balanced, three-phase circuit loading. The model also relies on the normal, emergency, and winter rating of the transmission lines.

Table 2:

Leroy Center-Mayfield Q1, Q2, Q3, & Q4 138 kV Transmission Lines (from the Leroy Center Substation to Str. 7057 on the Leroy Center-Mayfield Q1 & Q2 138 kV Transmission Lines), Glenwillow-Perry S5 345kV Transmission Line and Harding-Leroy Center 345kV S6 Transmission Line: Tangent Structure to Tangent Structure		Electric Field (kV/m)	Magnetic Field (mG)
Normal Loading	Under Lowest Conductors	12.391	158.11
	At Right-of-Way Edges	0.095 / 3.68	25.76 / 35.6
Emergency Loading	Under Lowest Conductors	12.391	286.92
	At Right-of-Way Edges	0.095 / 3.68	36.38 / 63.2
Winter Rating	Under Lowest Conductors	12.391	1678.33
	At Right-of-Way Edges	0.095 / 3.68	77.27 / 399.50

Table 3 itemizes the line loading of the Leroy Center-Mayfield Q3 and Q4 138 kV Transmission Lines as well as transmission lines occupying the same right-of-way, from Str. 7057 of the Leroy Center-Mayfield Q1 & Q2 138 kV Transmission Lines to Mayfield Substation.

Table 3: Transmission Lines Loading

Line Name	Normal Loading Amps	Emergency Loading Amps	Winter Rating Amps
Leroy Center-Mayfield Q3 138 kV Transmission Line	168	340	1052
Leroy Center-Mayfield Q4 138 kV Transmission Line	157	227	1052
Leroy Center-Mayfield Q1 138 kV Transmission Line (From Str. 7057 to the Mayfield Substation)	311	287	480
Leroy Center-Mayfield Q2 138 kV Transmission Line (From the transmission line tap for Pawnee Substation to the Mayfield Substation)	164	281	480
Glenwillow-Perry S5 345 kV Transmission Line	289	554	2922
Harding-Leroy Center S6 345 kV Transmission Line	238	285	2955

Table 4 provides an approximation of the magnetic and electric fields strengths within the right-of-way for the above-referenced shared ROW for the structural configuration of the Project (tangent structure to tangent structure).

Table 4:

Leroy Center-Mayfield Q1, Q2, Q3, & Q4 138 kV Transmission Lines (from Str. 7057 on the Leroy Center-Mayfield Q1 & Q2 138 kV Transmission Lines Taps to the Mayfield Substation), Glenwillow-Perry S5 345kV Transmission Line and Harding-Leroy Center 345kV S6 Transmission Line: Tangent Structure to Tangent Structure		Electric Field (kV/m)	Magnetic Field (mG)
Normal Loading	Under Lowest Conductors	12.391	158.39
	At Right-of-Way Edges	0.095 / 3.68	20.03 / 35.6
Emergency Loading	Under Lowest Conductors	12.391	287.57
	At Right-of-Way Edges	0.095 / 3.68	23.50 / 63.2
Winter Rating	Under Lowest Conductors	12.391	1681.54
	At Right-of-Way Edges	0.095 / 3.68	40.93 / 399.50

4906-6-05(B)(9)(b)(ii): Alternative Design Consideration for Electric and Magnetic Fields

The strength of EMFs can potentially be reduced by several methods. These include but are not limited to installing the transmission line conductors in a compact configuration, increasing conductor heights, and, for multiple circuit transmission lines, by selecting conductor phasing that reduces the field strengths. As a transmission line reconductor project, no alternative design considerations were feasible. ATSI designs its facilities according to the requirements of the National Electrical Safety Code (“NESC”).

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

ATSI’s interim cost estimate for the proposed Project is approximately \$12,702,000; ATSI will file a supplement to this Letter of Notification if further cost evaluation suggests substantial revision to this number in the final estimate.

4906-6-05(B)(10): Social and Ecological Impacts

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

The Project is located in Leroy Township, Lake County; and Hambden, Chardon. Munson and Chester Townships, Geauga County, Ohio. There are various land uses along the route of the line, consisting of mainly agricultural and residential uses, with commercial and industrial uses to a lesser extent. Because the proposed Project involves reconductoring the existing transmission line, no significant changes or impacts to the current land use are anticipated.

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

Agricultural land (primarily cultivated cropland) exists within the Project's Area of Potential Effect ("APE"), though none of the parcels are designated as Agricultural District.

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

ATSI performed a desktop review of the Ohio Historic Preservation Office's ("OHPO") Online Mapping System ("Review") on April 11, 2023, to identify the existence of any significant archeological or cultural resource sites within 0.5 miles of the APE. The results of the search are shown in Exhibit 7.

The OHPO database catalogs all Ohio listings on the National Register of Historic Places ("NRHP"), including districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. The results of the search indicate that one (1) listed NRHP site and no NRHP-eligible sites were identified within 0.5 miles of the Project's APE. The listed NRHP site is shown in Table 5.

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. There are no OAI listed archeological resources have been previously inventoried within 0.5 miles of

the Project's APE. Nine (9) OHI listed structural resources are located within 0.5 miles of the Project's APE and are shown in Table 6. The closest OHI structure is located approximately 0.25 miles from the proposed Project's APE. Seven (7) previous cultural resource surveys were conducted within 0.5 miles of the Project area and are provided in Table 7. Two (2) OSG cemeteries are located within 0.5 miles of the Project's APE and are provided in Table 8. Two (2) OAI Boundaries are located within 0.5 miles of the Project's APE and are provided in Table 9.

Table 5. List of National Historic Registered Places

Resource Name	Address	City	County	Applicable Criteria 1 and 2
South LeRoy Meeting House	13668 Painesville Warren Rd, NE of Painesville at SR 86 & Brakeman Rd, Painesville 44077	Painesville	Lake	Event

Table 6. List of OHI Listed Structural Resources

OHI Number	Present Name	Historic Use	County	Municipality
GEA0065001	Osborn Ray House	Single Dwelling	Geauga	Chardon
GEA0065101	Osborn Ray House	Single Dwelling	Geauga	Chardon
LAK0000305	Brakeman Church/Leroy Methodist Church	Church/Religious Structure	Lake	Leroy Township
GEA0006903	N/A	Church/Religious Structure	Geauga	Chesterland
GEA0045103	N/A	Single Dwelling	Geauga	Chester Township
GEA0007003	N/A	Single Dwelling	Geauga	Chesterland
GEA0006703	N/A	Single Dwelling	Geauga	Chesterland
GEA0006803	Most Holy Trinity Church	Church/Religious Structure	Geauga	Chesterland
GEA0023703	N/A	Single Dwelling	Geauga	Munson Township

Table 7. List of Previous Cultural & Historic Resource Surveys

Year	Name	County	Municipality
1979	Archaeological Report, Gea - 322 - 0.59, Gea - 306 - 11.89, Chester Township, Geauga County	Geauga	Chester Township

1992	A Report of Phase II Cultural Resources Locational Survey GEA-322/306-0.59/11.89 in Chester Township, Geauga County, Ohio	Gauga	Chester Township
1997	Pawnee 138 kV Transmission Line and Distribution Substation Project Archeological Investigation, Geauga and Lake Counties, Ohio	Gauga	N/A
1997	Phase I Cultural Resources Survey of Proposed Geauga Bikeway-Northern Section, Chardon Township, Geauga County, Ohio	Gauga	Chardon Township
2007	Phase I Archaeological Field Reconnaissance of a Proposed Cellular Phone Tower (Project # Phillip 69931) in Hambden Township, Geauga County, Ohio	Gauga	Hambden Township
2014	Archaeological Survey for the Proposed 345 kV Overhead Transmission Line Loop to and Expansion of the Leroy Substation, LeRoy Township, Lake County, Ohio	Lake	Leroy Township
2019	Phase I Cultural Resource Survey For The Proposed Sewer Line And Pump Station Along Thwing Road, Chardon, Geauga County, Ohio	Gauga	Chardon Township

Table 8. List of OSG Cemeteries

OGS ID Number	Name	County	Municipality
6310	Brakeman-Peters	Lake	Leroy Township
15692	Kniffen Road	Lake	Leroy Township

Table 9. List of OAI Boundaries

OAI ID Number	Comments
GE0022	CB Problematic; cigar box site, extent and location approximate and unknown, see OAI
GE0023	Digitized from a georeferenced map taken from the OAI; extent is approximate, see OAI

Because the proposed Project involves the replacement of conductors on existing structures, the Project is not expected to have any impacts to archaeological, historical or cultural resources.

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

Table 10 shows the list of governmental agency requirements for the Project.

Table 10.

Governmental Agency	Documents
Ohio Environmental Protection Agency (OEPA)	General NPDES Construction Storm Water Permit OHC000005
Geauga and Lake County Soil and Water Conservation District	Storm Water Pollution Prevention Plan (SWP3) – Review Application
Ohio Department of Transportation; Geauga and Lake County; Leroy, Hambden, and Chardon Townships	Driveway Entrance Permits
Ohio Department of Transportation; Geauga and Lake County; Leroy, Hambden, Chardon, Munson and Chester Townships	Roadway Occupancy Permits and Reviews
FAA	Helicopter Use Approval

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

On July 2, 2021, Jacobs, ATSI’s consultant for this Project, submitted a request to the Ohio Department of Natural Resources (“ODNR”) Office of Real Estate to conduct an Environmental Review of the Project area. As part of that Environmental Review, the ODNR conducted a search of the ODNR Division of Wildlife’s Natural Heritage Database to research the presence of any endangered, threatened, or rare species within one (1) mile of the Project’s area. The ODNR’s response on September 1, 2021, stated that the Natural Heritage Database contained five (5) state endangered species, six (6) state threatened species, four (4) state species of concern, four (4) state potentially threatened species, six (6) state special interest species, and one beech-sugar maple forest plant community within a one (1) mile radius of the Project area. A copy of ODNR’s response is included as Exhibit 8.

Jacobs also submitted a request to the U.S. Fish and Wildlife Service (“USFWS”) for an Ecological Review on July 2, 2021, to research the presence of any federal endangered, threatened, or rare species within one (1) mile of the Project area. The USFWS’s response on July 26, 2021, indicated the federal and state endangered Indiana bat (*Myotis 13ctive13t*) and the federally threatened northern long-eared bat (*Myotis septentrionalis*) are within the range of the Project. A copy of USFWS’s Ecological Review response is included as Exhibit 9. A list of all endangered,

threatened, and rare species, as identified by ODNR and USFWS, is provided in Table 11.

Table 11. List of Endangered, Threatened, and Rare Species

Common Name	Scientific Name	Federal Listed Status	State Listed Status	Affected Habitat
Mammals				
Indiana bat	<i>Myotis sodalis</i>	Endangered	Endangered	Trees and forests
Northern long-eared bat	<i>Myotis septentrionalis</i>	Endangered	Endangered	Trees and forests
Little brown bat	<i>Myotis lucifugus</i>	NA	Endangered	Trees and forests
Tricolored bat	<i>Perimyotis subflavus</i>	Proposed Endangered	Endangered	Trees and forests
Birds				
Least bittern	<i>Ixobrychus exilis</i>	NA	Threatened	Dense emergent marshlands or wetlands
Upland sandpiper	<i>Bartramia longicauda</i>	NA	Endangered	Grasslands
Northern harrier	<i>Circus cyaneus</i>	NA	Endangered	Marshes and grasslands
Sandhill Crane	<i>Grus canadensis</i>	N/A	Threatened	Grasslands, prairies & wetlands
Trumpeter swan	<i>Cygnus buccinator</i>	NA	Threatened	Marshes and lakes
Amphibians				
Blanding's turtle	<i>Emydoidea blandingii</i>	N/A	Threatened	Marshes, ponds, lakes & streams
Smooth greensnake	<i>Opheodrys vernalis</i>	NA	Endangered	Prairie and marsh meadows
Spotted Turtle	<i>Clemmys guttata</i>	N/A	Threatened	Marshes, ponds, fens & bogs
Mussels				
Eastern pondmussel	<i>Ligumia nasuta</i>	NA	Endangered	Rivers
Fish				
Brook trout	<i>Salvelinus fontinalis</i>	NA	Endangered	Spring fed streams
Iowa darter	<i>Etheostoma exile</i>	NA	Threatened	Lakes and streams
Lake chubsucker	<i>Erimyzon sucetta</i>	NA	Threatened	Lakes and streams

Plants				
Winged cudweed	<i>Pseudognaphalium macounii</i>	NA	Endangered	Forest edges, disturbed areas

The response from ODNR indicated that the portion of the Project north of Chardon Road (U.S. 6) is within the vicinity of records for the northern long-eared bat and the little brown bat (*Myotis lucifugus*). Because presence of state endangered bat species has been established in the area, summer tree cutting is not recommended. ODNR also indicates that the Project is also within the range of the Indiana bat and tricolored bat (*Perimyotis subflavus*). Tree clearing is not anticipated because the Project is within existing right-of-way (ROW); however, if minor tree clearing is required it will be conducted between October 1st and March 31st to avoid impacts to these species. Therefore, no adverse effects to these species are anticipated.

Jacobs conducted a desktop habitat assessment to determine if there are potential hibernaculum(a) present within 0.25-mile the Project area. Jacobs followed the current USFWS “Range-wide Indiana Bat Survey Guidelines” when conducting this assessment and utilized data obtained from the ODNR Mines of Ohio Viewer, ODNR geologic maps, topographic maps, and aerial photographs. The closest mining feature to the Project was a historic quarry located approximately 0.7 miles from the Project. No active surface mines are located within 0.25 miles of the Project. During the desktop analysis, no potential karst features were identified within 0.25 miles of the Project area. During the field survey of the Project, no evidence of potential hibernacula consisting of caves, rock outcrops, mines, cliffs, or karst features were observed. In addition to the field survey, coordination with ODNR did not identify any known bat hibernacula within a one-mile radius of the Project. Based on the desktop habitat review and the results of the field survey, it does not appear likely that potential hibernacula exist within 0.25-mile of the Project area.

The response from ODNR indicated the Project is within the range of the eastern pondmussel (*Ligumia nasuta*), a state endangered mussel and three state listed fish: the Iowa darter (*Etheostoma exile*), the lake chubsucker (*Erimyzon sucetta*), and the

brook trout (*Salvelinus fontinalis*). No impact to this species is expected because no in-stream work is proposed.

The Project area is within range of the state endangered smooth greensnake (*Opheodrys vernalis*), state-threatened spotted turtle (*Clemmys guttata*) and Blanding's turtles (*Emydoidea blandingii*); however, ODNR stated that due to the project habitat and type of work proposed, impact to these species is not likely.

The Project area is within range three state-threatened birds that utilize wetland habitats. The least bittern (*Ixobrychus exilis*) utilizes inland marshes and dense emergent wetlands, therefore impacts to those habitats should be avoided during the nesting period of May 1st to July 31st. The sandhill crane (*Grus canadensis*) requires a rather large tract of wet meadow, shallow marsh, or bog for nesting. ODNR states that if its habitat (grassland, prairie, or wetland) will be impacted, construction should occur outside of its nesting period of April 1st to September 1st. The trumpeter swan (*Cygnus buccinator*) prefers large marshes and lakes ranging in size from 40 to 150 acres. ODNR states that if its habitat (large marshes, lakes, or shallow water wetlands) will be impacted, construction should occur outside of its nesting period of April 15th to June 15th. During the field survey, no large tracts of undisturbed wet meadows, shallow marshes, bogs or waterbodies with interspersed with areas of standing water were identified which would be potentially suitable nesting habitat for the least bittern, sandhill crane or trumpeter swan. Due to the lack of potentially suitable nesting habitat, impacts to these bird species are not likely to occur.

The response from ODNR indicated the Project is within range of two state-endangered birds that utilize grassland habitat. The upland sandpiper (*Bartramia longicauda*) utilizes dry grasslands, including native grasslands, seeded grasslands, hayfields, and grazed and un-grazed pastures, so impacts to these habitats should be avoided during the nesting period of April 15th to July 31st. The northern harrier (*Circus cyaneus*) utilizes large marshes and grasslands, therefore impacts to these habitats should be avoided during the nesting period of May 15th to August 1st.

Based on previous discussions with ODNR, it was suggested that locations near residential houses, grasslands within existing ROWs surrounded by forested areas, and smaller grasslands areas less than 1-acre in size were not likely suitable habitat for these bird species. Using this ODNR guidance, Jacobs performed a general habitat survey for the Project to classify the general vegetative communities within the Project's limits of disturbance (LOD).

Jacobs' ecologists walked the Project's Environmental Survey Boundary (ESB) to classify the general vegetative communities within the Project's LOD. The majority of the Project LOD is existing gravel access road, semi-maintained herbaceous ROW, old field areas, regularly mowed residential yards, and palustrine emergent wetland areas. Based on ODNR-DOW guidance and the field survey, the majority of the Project survey corridor is maintained ROW areas surrounded by woodlot which are not considered suitable habitat for grassland nesting species.

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

The ODNR Office of Real Estate researched the presence of any unique ecological sites, geological features, animal assemblages, scenic rivers, state wildlife areas, parks or forest, national wildlife refuges, or other protected natural areas within one (1) mile of the Project Area. Exhibit 8, ODNR's Office of Real Estate's response dated September 1, 2021, listed the following areas within a one (1) mile radius of the Project area: a cave or cavern, Big Creek Park (Geauga Co. Park District), Whitlam Woods (Geauga Co. Park District), Hell Hollow Wilderness Area (Lake Metroparks), Girdled Road Reservation (Lake Metroparks), Soubusta Sugarbush (Cleveland Museum of Natural History), Koelliker Fen (Cleveland Museum of Natural History), and the Holden Arboretum. A portion of Big Creek Park with recreational trails crosses the existing ROW. A portion of the parcel containing Koelliker Fen crosses the existing ROW and was surveyed, but the fen was not observed. Based on aerial imagery, Koelliker Fen appears to be approximately 0.12 miles from the Project area. The remaining areas identified by ODNR do not appear to be within 0.25 miles of the Project area.

Jacobs conducted a wetland and waterway delineation for this project in August through November 2021 and August of 2022, and the report is provided in Exhibits 10 and 10A. A total of 109 wetlands, 28 streams, and 12 ponds were delineated within the Project ESB. Of the 109 wetlands, 102 were Palustrine Emergent wetlands (PEM), three were Palustrine Scrub Shrub wetland (PSS) wetlands, one was a Palustrine Unconsolidated Bottom wetland (PUB), and three were PEM/PSS wetland complexes. Of the 109 wetlands, 77 were identified as Category 1 wetlands and 32 were identified as Category 2 wetlands. No Category 3 wetlands were identified within the ESB. Categories were based on the Ohio Environmental Protection Agency (OEPA) Ohio Rapid Assessment Method (ORAM) scores, which were scored on a variety of factors such as size, surrounding land use, disturbance, invasive species, and vegetation growth. The 28 streams, totaling 7,828 linear feet within the ESB, included six ephemeral streams, 14 intermittent streams, and eight perennial streams. Six streams were assessed using the OEPA's Qualitative Habitat Evaluation Index (QHEI) methodology and 22 streams were assessed using the OEPA's Headwater Habitat Evaluation Index (HHEI) methodology. Additionally, 12 ponds were identified that totaled 7.08 acres within the ESB.

All streams will be crossed above the ordinary high-water mark to avoid impacts and no in-stream work is proposed for the Project. Additionally, ATSI will utilize best management practices to avoid any indirect impact to streams and wetlands through its use of erosion and sediment controls. Streams will either be avoided or bridged (no work below the ordinary high-water mark), and wetlands will be traversed using low ground pressure equipment and/or matted through.

Due to the nature of reconductoring work, no permanent impacts to wetlands are anticipated. Twenty-two structures are in wetlands, so the associated work area will have unavoidable temporary wetland impacts. Through the initial design phase, ATSI avoided the placement of access roads within wetlands to the extent practical. Approximately 2.316 acres of wetland will be temporarily disturbed during

construction by the installation of timber matting for access road crossings and work pads (Table 12).

Table 12. Temporary wetland impacts.

Wetland ID	Location		Cowardin Type	Total Area (ac)	Temporary Impact (ac)
	Latitude	Longitude			
Wetland LP-001	41.68444	-81.14236	PEM	8.43	0.531
Wetland LP-002	41.67680	-81.14284	PEM	5.24	0.135
Wetland LP-003	41.66898	-81.14284	PEM	2.68	0.053
Wetland LP-005	41.65615	-81.14276	PEM	1.06	0.004
Wetland LP-006	41.65373	-81.14269	PEM	0.26	0.015
Wetland LP-007	41.65368	-81.14273	PEM	0.93	0.004
Wetland LP-019	41.63274	-81.17109	PEM	3.43	0.052
Wetland LP-020	41.63258	-81.17142	PEM	0.18	0.034
Wetland LP-037	41.61459	-81.20062	PEM	0.05	0.018
Wetland LP-063	41.59572	-81.22851	PEM	0.31	0.027
Wetland PM-04	41.59224	-81.23372	PEM	0.06	0.034
Wetland PM-06	41.59112	-81.23531	PEM	0.26	0.075
Wetland PM-07	41.58989	-81.23679	PEM	1.32	0.090
Wetland PM-08	41.58706	-81.24098	PEM	3.82	0.333
Wetland PM-09	41.58514	-81.24383	PEM	3.30	0.208
Wetland PM-11	41.57937	-81.25163	PEM	0.07	0.003
Wetland PM-12	41.57820	-81.25242	PEM	0.14	0.001
Wetland PM-14	41.57306	-81.25845	PEM	5.51	0.419
Wetland PM-18	41.56568	-81.26697	PEM	0.29	0.029
Wetland PM-23E	41.55662	-81.27791	PEM	0.27	0.008
Wetland PM-23S	41.55650	-81.27808	PEM	0.08	0.001
Wetland PM-24	41.55537	-81.27979	PEM	0.22	0.085
Wetland PM-25	41.55462	-81.28028	PEM	0.18	0.022
Wetland PM-27	41.55372	-81.28122	PEM	0.06	<0.001
Wetland PM-28	41.55166	-81.28387	PEM	0.08	0.003
Wetland PM-31	41.54858	-81.28788	PEM	0.17	0.005
Wetland PM-38	41.53913	-81.30339	PEM	0.18	0.009
Wetland PM-40	41.53608	-81.30975	PEM	0.08	0.039
Wetland PM-45	41.53356	-81.31390	PEM	0.43	0.002
Wetland PM-47	41.53073	-81.31866	PEM	0.21	0.022
Wetland PM-48	41.52995	-81.31971	PEM	0.02	0.002
Wetland PM-49	41.52904	-81.32136	PEM	0.64	0.024
Wetland PM-50	41.52838	-81.32234	PEM	0.71	0.015
Wetland PM-51	41.52771	-81.32365	PEM	0.01	0.003

Wetland PM-52	41.52731	-81.32437	PEM	0.10	0.009
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Additionally, a review of the online FEMA Flood Insurance Rate Mapping was performed. A small portion of the Leroy Center-Mayfield existing ROW is within a FEMA 100-year floodplain in Geauga County. Based on current Project work limits, however, there would be any work performed within this regulated floodplain 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 NESC as adopted by the Public Utilities Commission of Ohio (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 application is being provided concurrently with its docketing with the Board to the following officials of Leroy Township, Lake County; and Hambden Chardon, Munson and Chester townships in Geauga County, Ohio.

Lake County

Commissioner
John R. Hamercheck, President
Lake County Commissioners
105 Main Street
Painesville, Ohio 44077

Commissioner John Plecnik
Lake County Commissioners
105 Main Street
Painesville, Ohio 44077

Commissioner Richard Regovich
Lake County Commissioners
105 Main Street
Painesville, Ohio 44077

Mr. James R. Gills, P.E., P.S.
Lake County Engineer
105 Main Street, Suite A205
Painesville, Ohio 44077

Mr. Jason W. Boyd,
Lake County Administrator
105 Main Street, Building A
Painesville OH 44077

Mr. David J. Radachy, Director
Lake County Planning and
Community Development Department
105 Main Street
Painesville, Ohio 44077

Ms. Gretchen Skok DiSanto,
Board of Park Commissioner
Lake Metroparks
11211 Spear Road
Painesville OH 44077

Leroy Township

Ms. Heather Shelton, Chairman
Leroy Township Trustees
6500 Taylor Road
Leroy Township, OH 44077

Mr. Jason Rodgers, Trustee
Leroy Township Trustees
13537 Carter Road
Leroy Township, Ohio 44077

Mr. Rich Van Pelt,
Vice-Chairman
Leroy Township Trustees
6522 Indian Point Road
Leroy Township, OH 44077

Ms. Alexandra C. Brown,
Fiscal Officer, Leroy Township
7699 Jennings Drive
Leroy Township, Ohio 44077

Geauga County

Commissioner James W. Dvorak,
President
Geauga County Commissioners
470 Center Street, Building No.4
Chardon, Ohio 44024

Mr. Gerry Morgan,
Geauga County Administrator
470 Center Street, Building No.4
Chardon, Ohio 44024

Commissioner Ralph Spidalieri,
Vice President
Geauga County Commissioners
470 Center Street, Building No.4
Chardon, Ohio 44024

Commissioner
Timothy C. Lennon
Geauga County Commissioners
470 Center Street, Building No.4
Chardon, Ohio 44024

Mr. Joe Cattell, P.E., P.S.
Geauga County Engineer
12665 Merritt Road
Chardon, Ohio 44024

Ms. Caterina Cocca-Fulton,
Chairman, Geauga County
Planning Commission
12611 Ravenwood Drive
3rd Floor, Suite #380
Chardon, Ohio 44024

Mr. John Oros, Executive Director
Gauga Park District
9160 Robinson Road
Chardon, Ohio 44024

Hambden Township

Mr. Keith McClintock, Trustee
Hambden Township
13887 Gar Hwy,
Chardon, OH 44024

Ms. Pam Carson, Trustee
Hambden Township
13887 Gar Hwy,
Chardon, OH 44024

Mr. Paul Molan, Trustee
Hambden Township
13887 Gar Hwy,
Chardon, OH 44024

Mr. Mike Romans, Fiscal Officer
Hambden Township
13887 Gar Hwy,
Chardon, OH 44024

Chardon Township

Mr. Michael Brown, Trustee
Chardon Township
9949 Mentor Road
Chardon, OH 44024

Mr. Charles Strazinsky, Jr.,
Trustee, Chardon Township
9949 Mentor Road
Chardon, OH 44024

Mr. Timothy M. McKenna,
Trustee
Chardon Township
9949 Mentor Road
Chardon, OH 44024

Ms. Ilona Daw-Krizman,
Fiscal Officer,
Chardon Township
9949 Mentor Road
Chardon, OH 44024

Munson Township

Mr. Jim McCaskey, Chairman,
Trustee, Munson Township
12210 Auburn Road,
Chardon, OH 44024

Mr. Andrew J. Bushman,
Trustee, Munson Township
12210 Auburn Road
Chardon, OH 44024

Ms. Irene H. McMullen, Vice,
Trustee, Munson Township
12210 Auburn Road
Chardon, OH 44024

Mr. Todd Ray, Fiscal Officer,
Munson Township
12210 Auburn Road
Chardon, OH 44024

Chester Township

Mr. Joseph Mazzurco, Trustee
Chester Township
12701 Chillicothe Road
Chesterland, OH 44026

Mr. Craig S. Richter, Trustee,
Chester Township
12701 Chillicothe Road
Chesterland, OH 44026

Mr. Ken Radtke, Jr., Trustee
Chester Township
12701 Chillicothe Road
Chesterland, OH 44026

Ms. Patricia Jarrett,
Fiscal Officer, Chester Township
12701 Chillicothe Road
Chesterland, OH 44026

Libraries

Ms. Aurora Martinez, Director
Morley Public Library
184 Phelps Street
Painesville, OH 44077

Mr. Eric Coulbourne, Manager
Geauga West Public Library
13455 Chillicothe Road
Chesterland, OH 44026

Ms. Judy Lasco, Manager
Geauga County Public Library,
Chardon Branch
110 E Park Street
Chardon, OH 44024

An exemplar copy of the transmittal letters to these officials is included with this LON application as proof of compliance under OAC Rule 4906-6-07(B) to provide the Board with proof of notice to local officials in OAC 4906-6-07(A)(1) and to libraries per OAC 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 OPSB with proof of compliance with the notice requirements in OAC Rule 4906-6-07(A)(3).

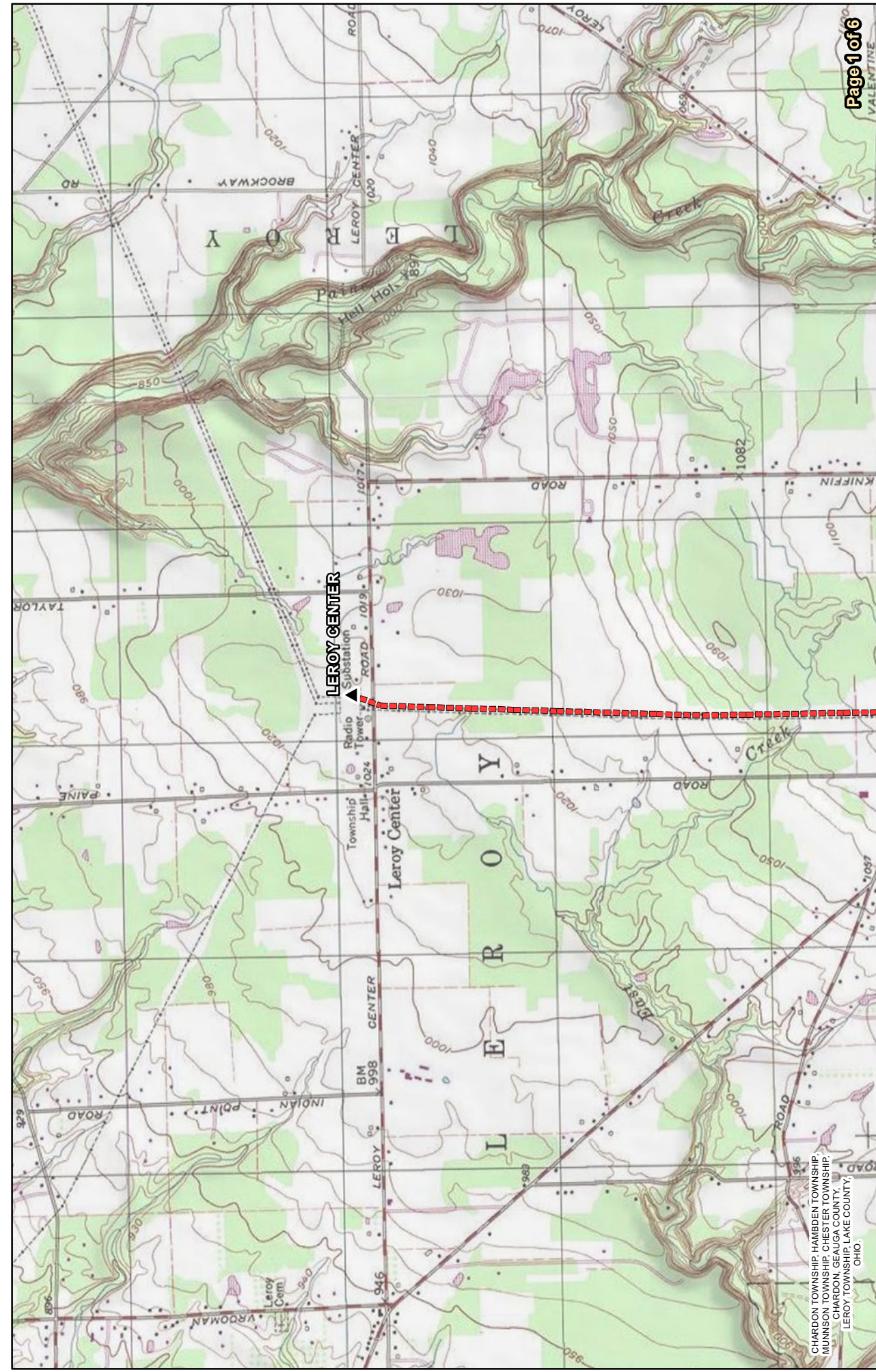
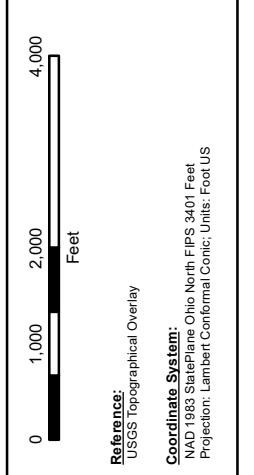
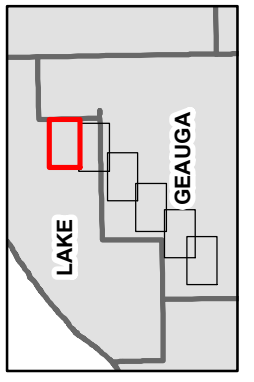


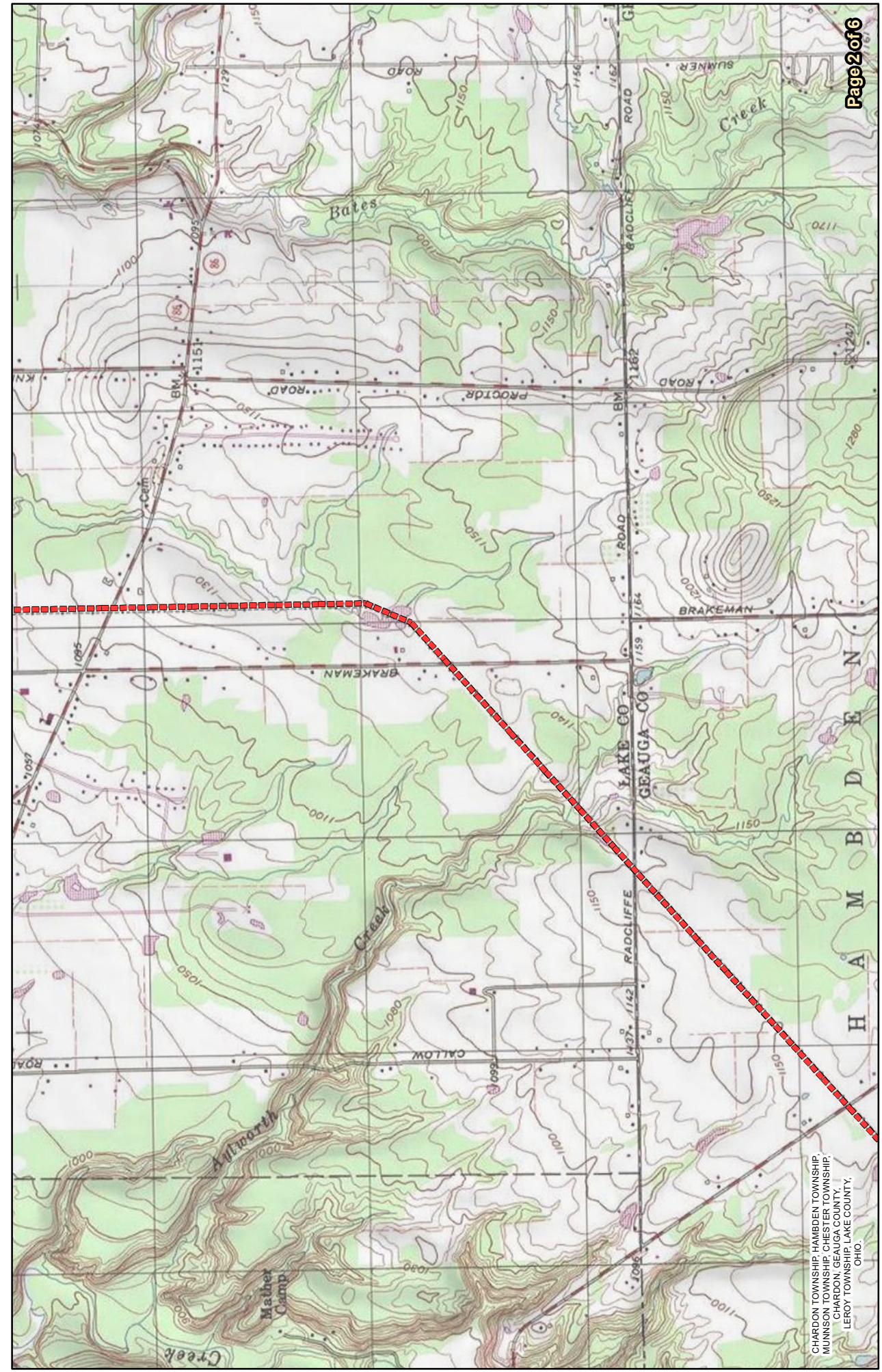
EXHIBIT 1
Leroy Center-Mayfield Q3 and Q4 138 kV
Transmission Lines Reconductor Project



LEGEND:

- ▲ Substation
- 138 kV Transmission Lines

CHARDON TOWNSHIP, HAMBLEN TOWNSHIP,
MUNSON TOWNSHIP, CHESTER TOWNSHIP,
MUNSON TOWNSHIP, CHARDON TOWNSHIP,
CHARDON, GEAUGA COUNTY,
LEROY TOWNSHIP, LAKE COUNTY,
OHIO.

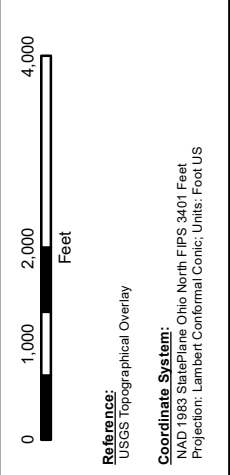
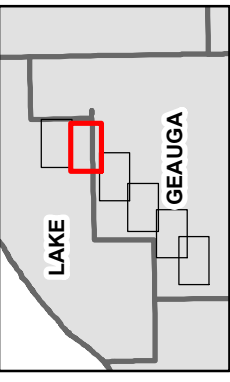


CHARLTON TOWNSHIP, HAMDEN TOWNSHIP,
 MUNNION TOWNSHIP, CHESTER TOWNSHIP,
 CHARDON, GEauga COUNTY,
 LEROY TOWNSHIP, LAKE COUNTY,
 OHIO.



EXHIBIT 1

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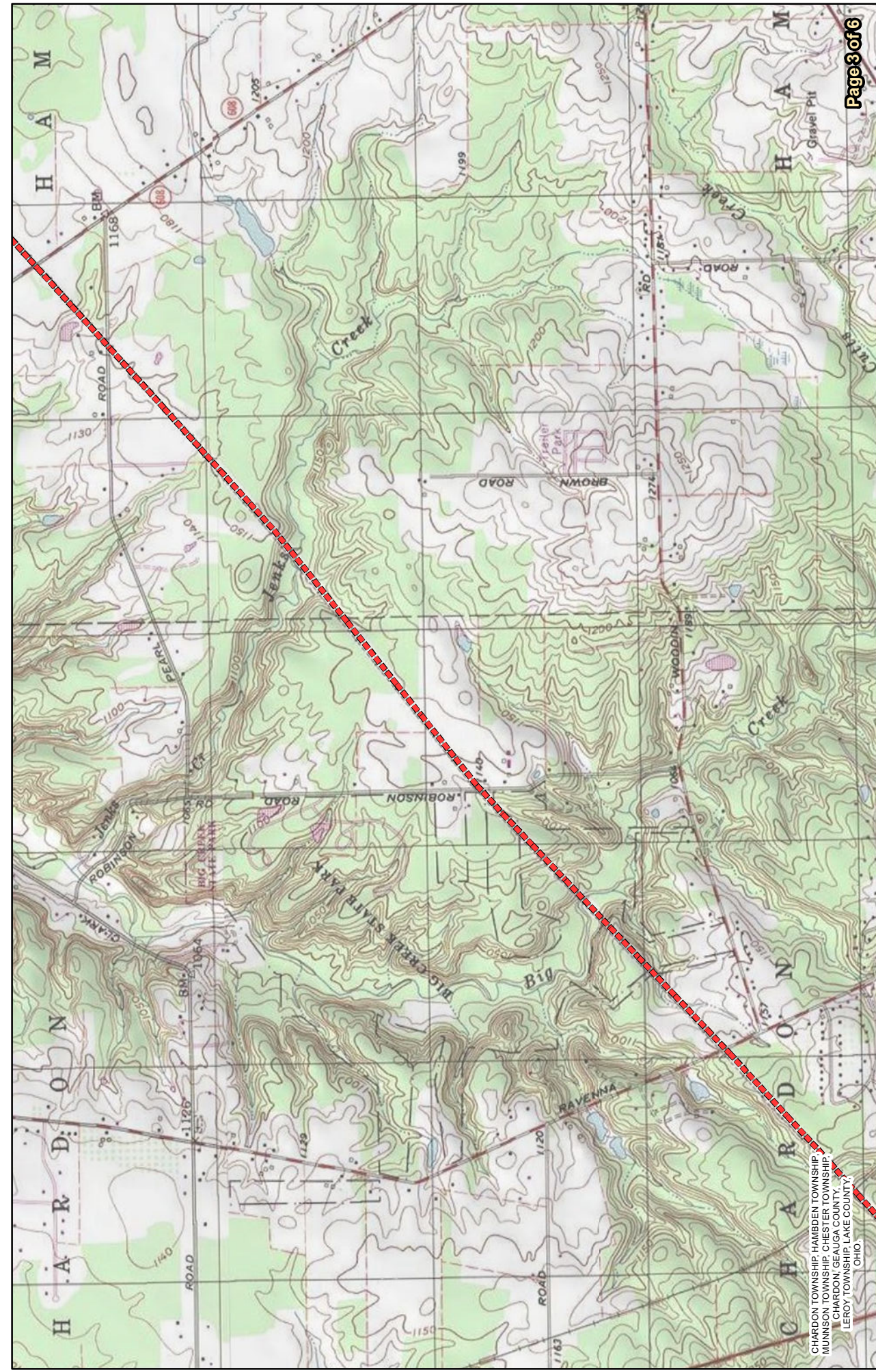
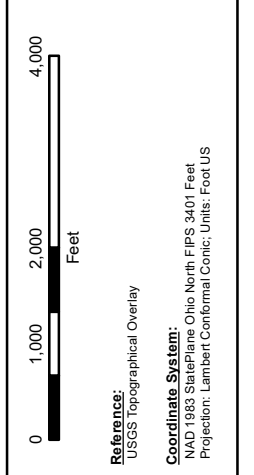
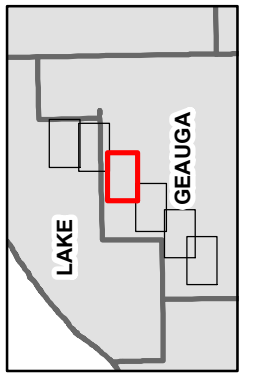


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CHARDON TOWNSHIP, HAMBDEN TOWNSHIP,
MUNSON TOWNSHIP, CHESTER TOWNSHIP,
CHARDON, GEauga COUNTY,
LERoy TOWNSHIP, LAKE COUNTY,
OHIO.

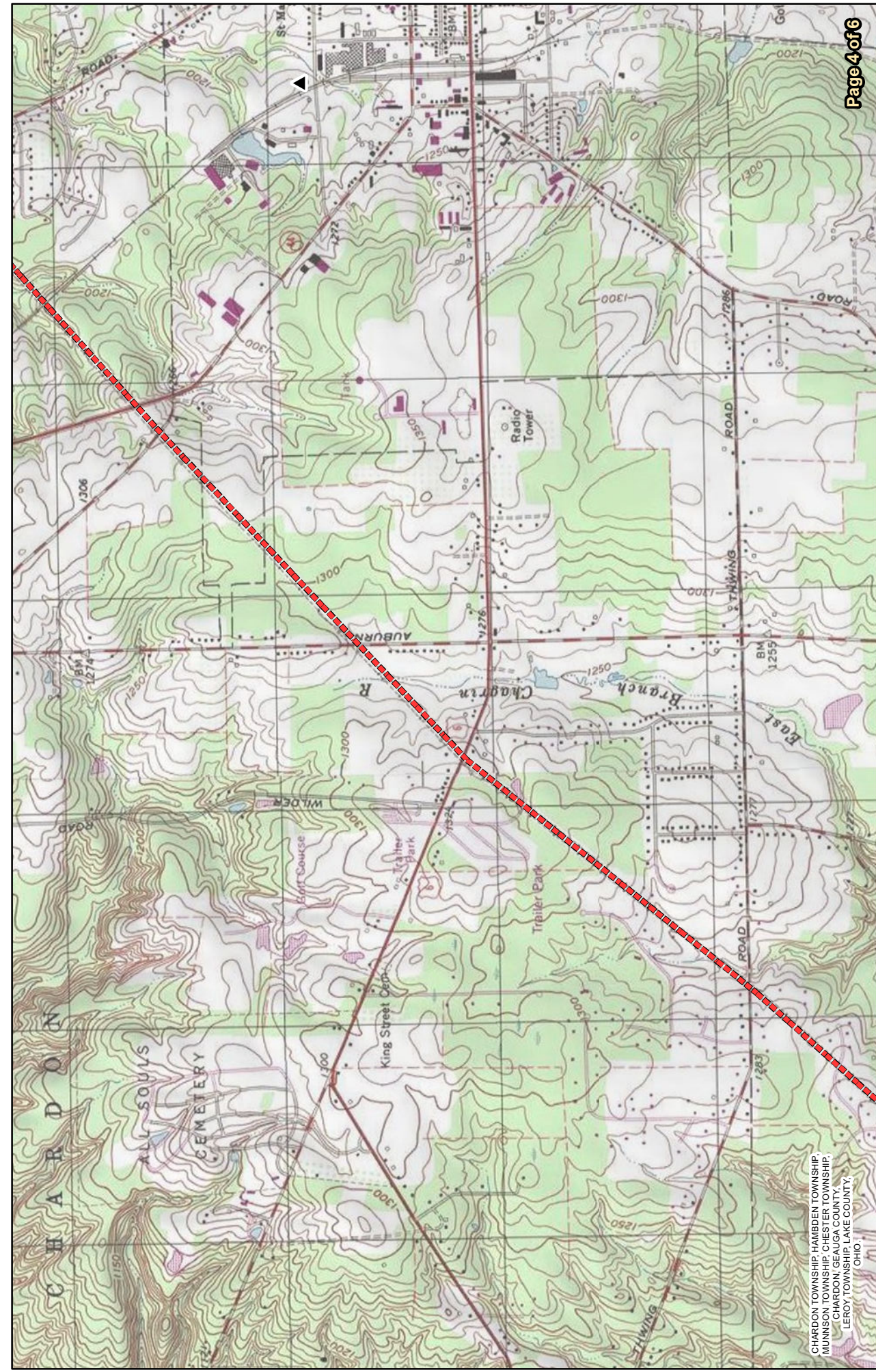
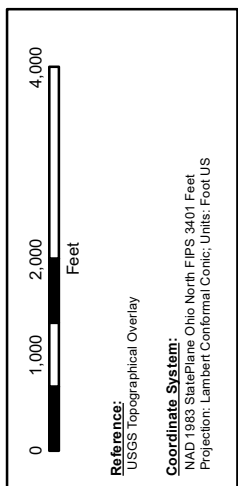
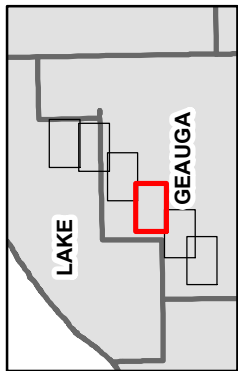


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 Transmission Lines Reconductor Project



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CHARLTON TOWNSHIP, HAMBLEN TOWNSHIP,
 MUMFORD TOWNSHIP, CHESTER TOWNSHIP,
 CHARDON TOWNSHIP, LAKESIDE TOWNSHIP,
 LEROY TOWNSHIP, LAKE COUNTY,
 OHIO.

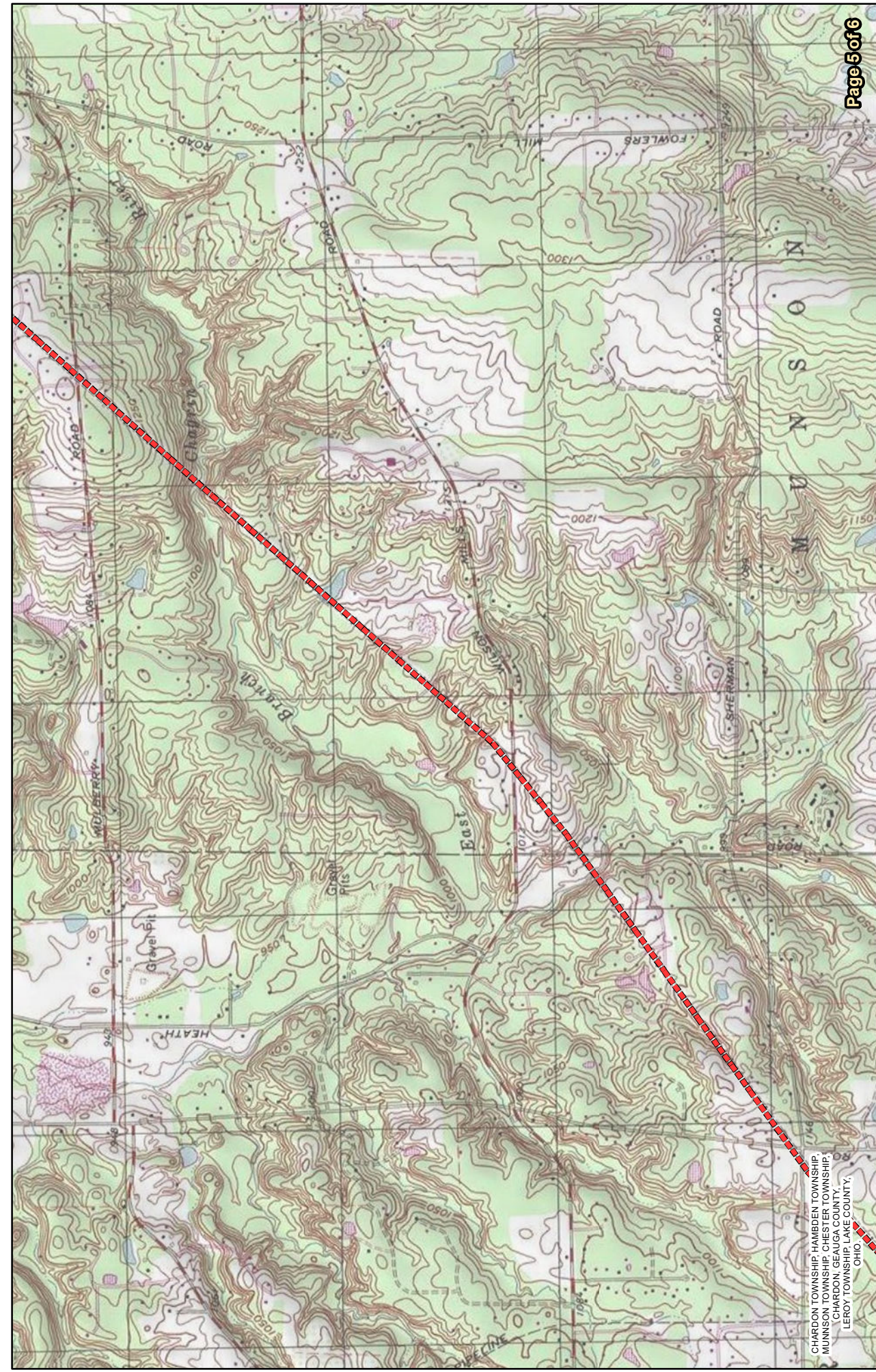
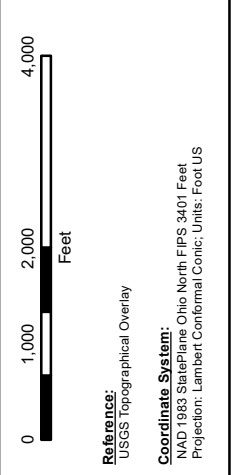
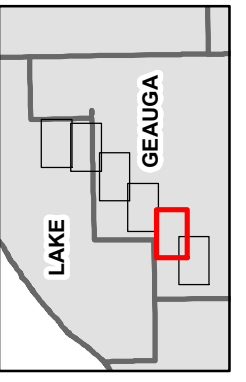


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 LEROY TOWNSHIP, LAKE COUNTY,
 OHIO

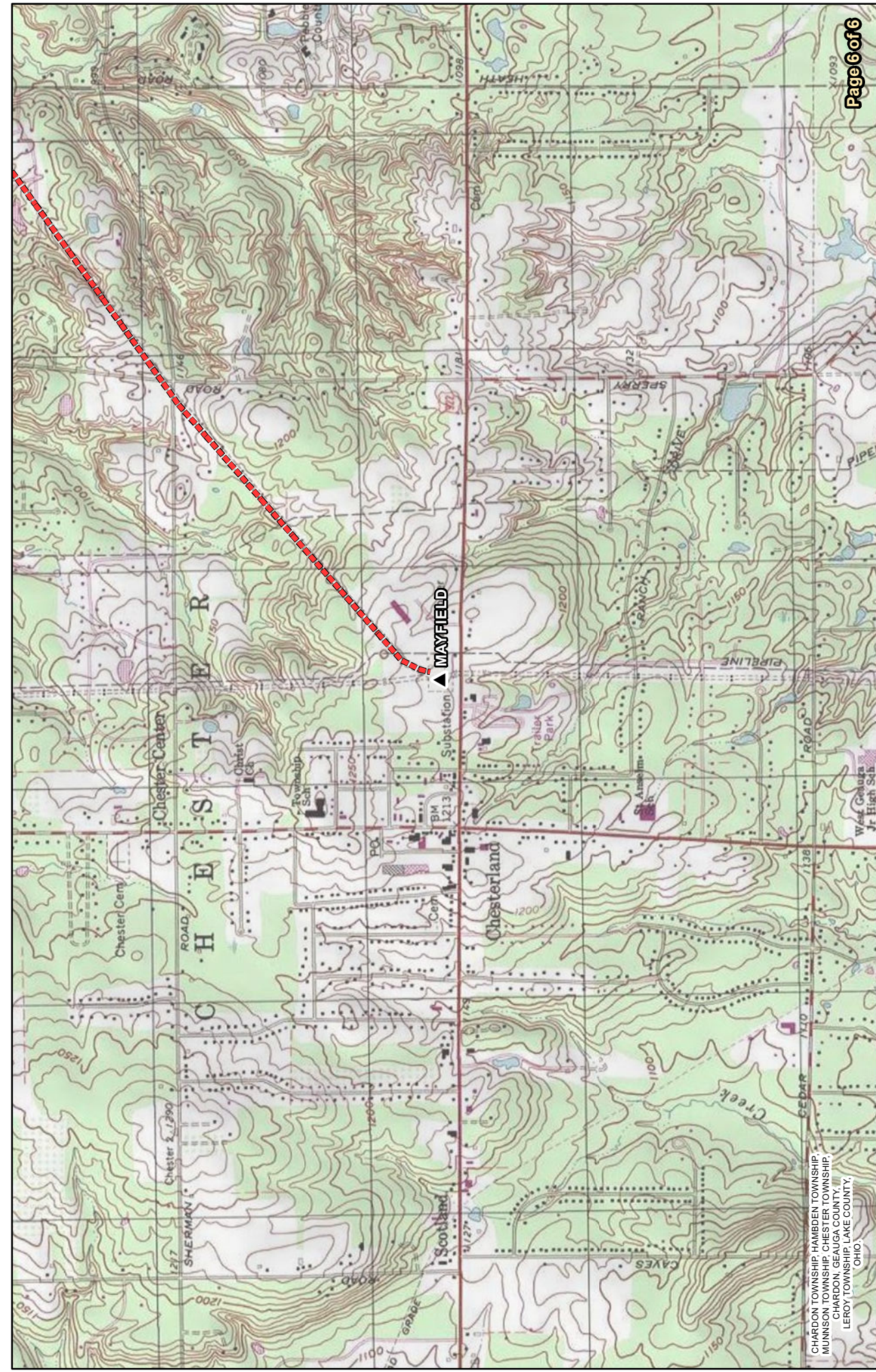
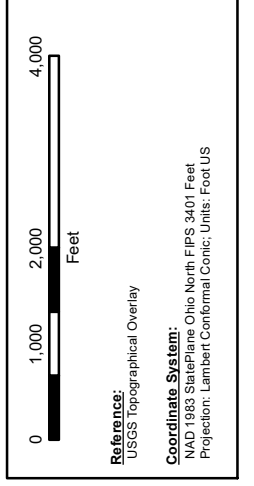
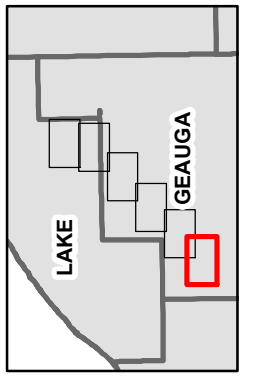


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 OHIO.

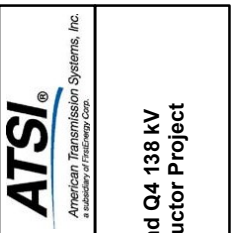
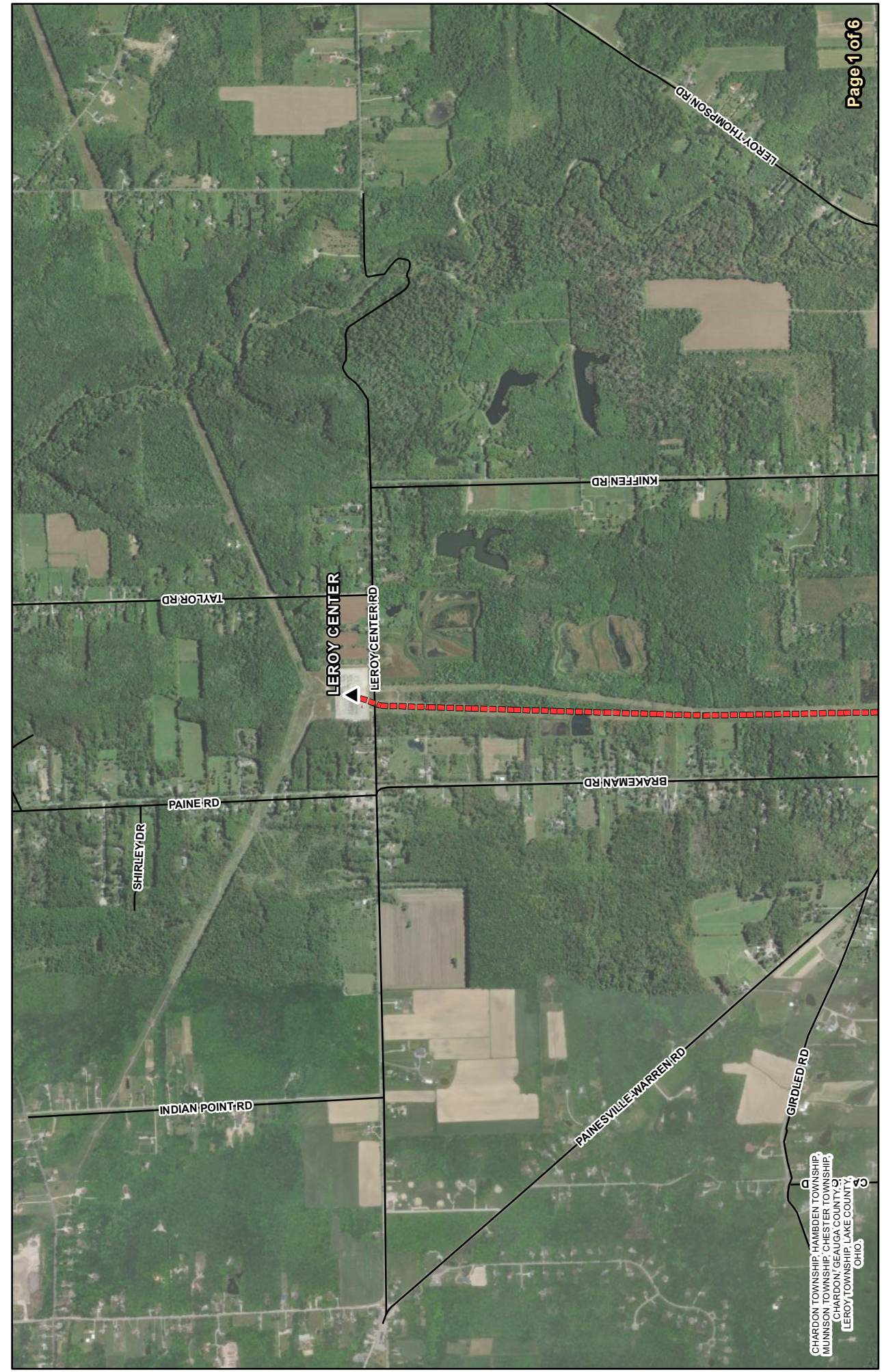
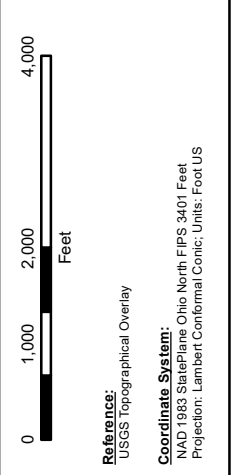
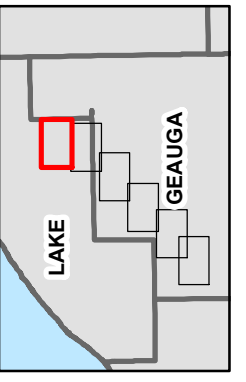


EXHIBIT 1

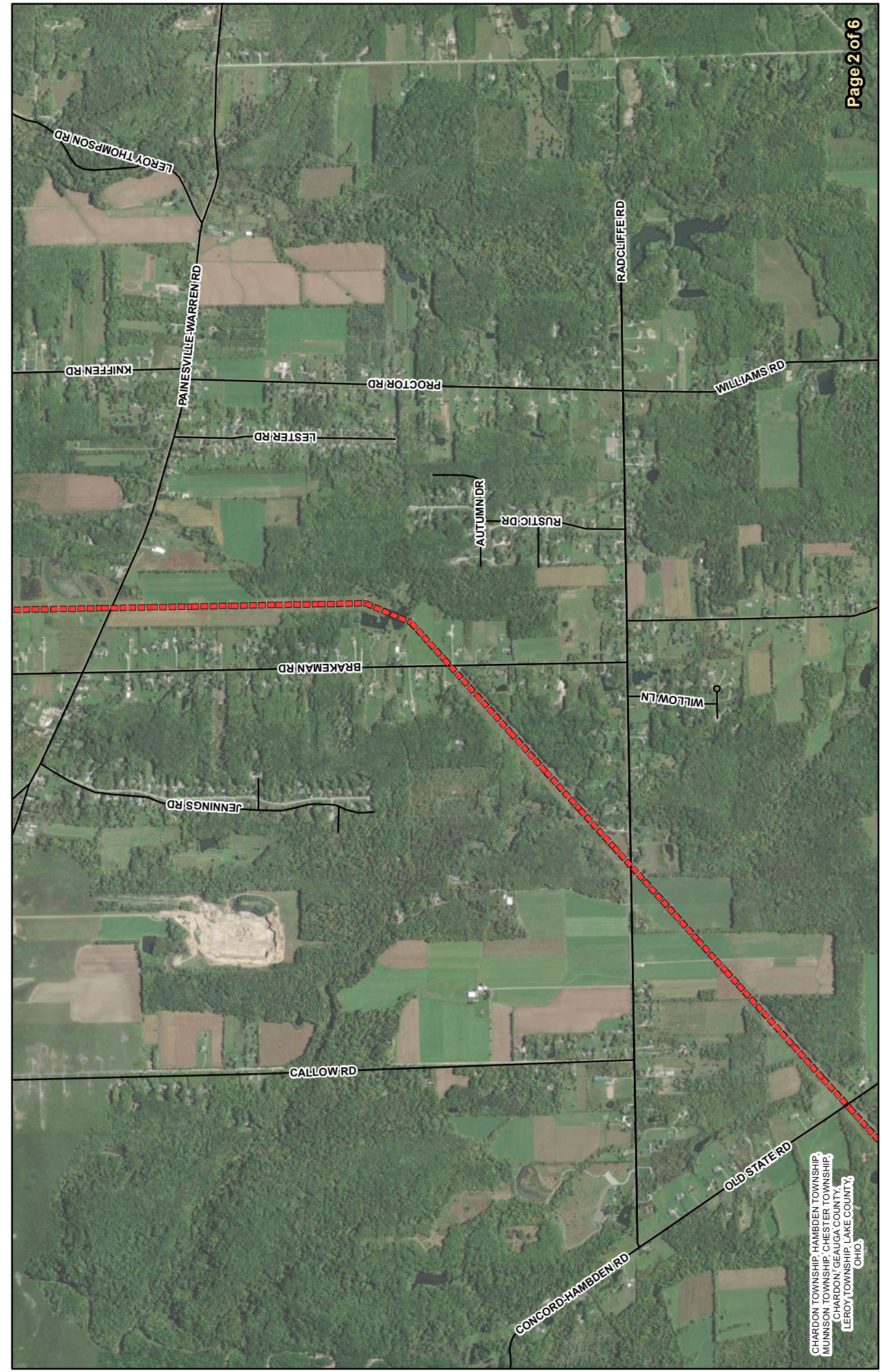
Leroy Center-Mayfield Q3 and Q4 138 kV Transmission Lines Reconductor Project



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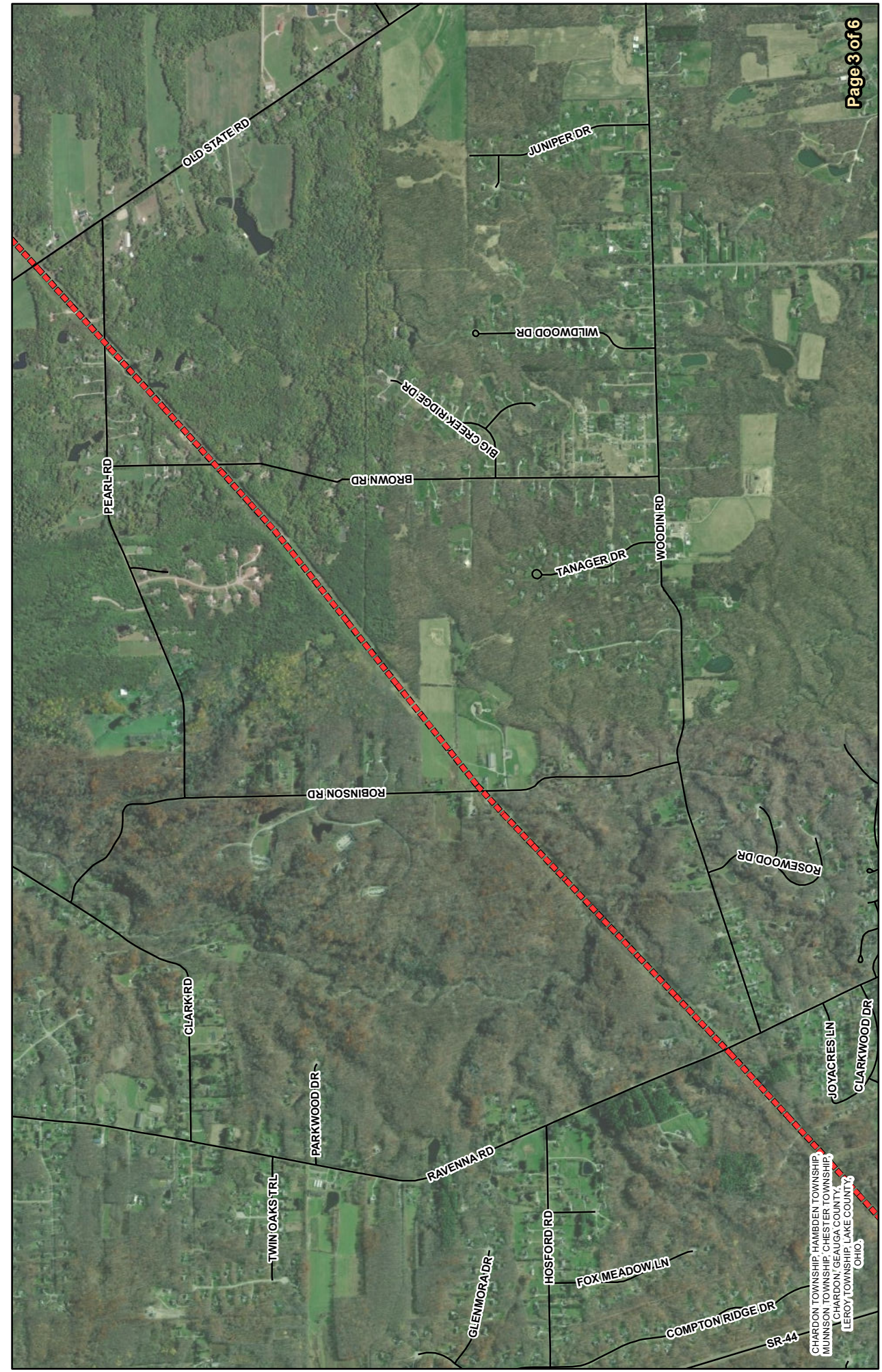
- ▲ Substation
- Leroy Center-Mayfield Q3 & Q4 138 kV Transmission Lines
- Roads

CHARDON TOWNSHIP, HAMBLEN TOWNSHIP,
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CHARDON, GEAUGA COUNTY, OHIO
LEROY TOWNSHIP, LAKE COUNTY,
OHIO



CHARDON TOWNSHIP, HAMBDEN TOWNSHIP,
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 OHIO

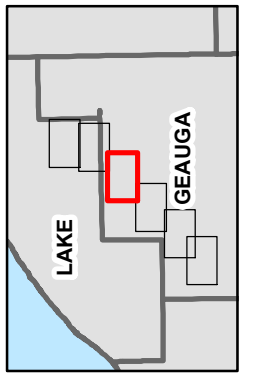
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	<p>LEGEND:</p> <ul style="list-style-type: none"> ▲ Substation --- 138 kV Transmission Lines — Roads <p>Reference: USGS Topographical Overlay</p> <p>Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet Projection: Lambert Conformal Conic; Units: Foot US</p> <p>0 1,000 2,000 4,000 Feet</p>
<p>LEGEND:</p> <ul style="list-style-type: none"> ▲ Substation --- Leroy Center-Mayfield Q3 & Q4 138 kV Transmission Lines — Roads 	



ATSI
 American Transmission Systems, Inc.
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EXHIBIT 1

Leroy Center-Mayfield Q3 and Q4 138 kV
 Transmission Lines Reconductor Project



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 Feet

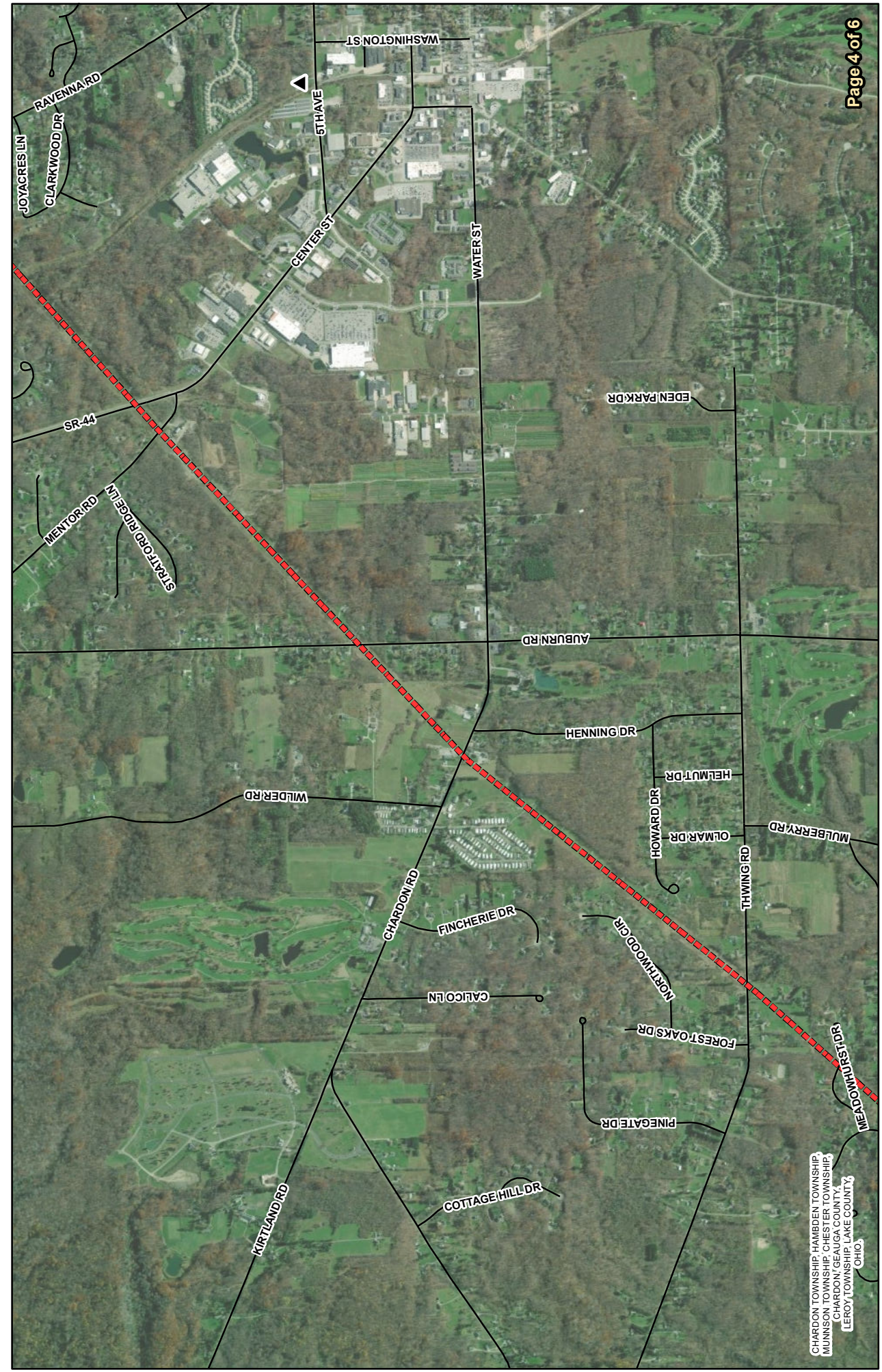
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 USGS Topographical Overlay

Coordinate System:
 NAD 1983 StatePlane Ohio North FIPS 3401 Feet
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LEGEND:

- ▲ Substation
- Leroy Center-Mayfield Q3 & Q4 138 kV Transmission Lines
- Roads

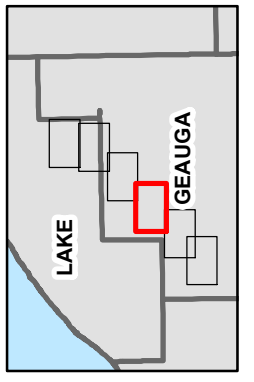
CHARLTON TOWNSHIP, HAMBREN TOWNSHIP,
 MUNSING TOWNSHIP, CHESTER TOWNSHIP,
 CHARLTON TOWNSHIP, LAKE COUNTY,
 LEROY TOWNSHIP, LAKE COUNTY,
 OHIO



ATSI
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EXHIBIT 1

Leroy Center-Mayfield Q3 and Q4 138 kV Transmission Lines Reconductor Project



LEGEND:

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- 138 kV Transmission Lines
- Roads

Reference:
 USGS Topographical Overlay

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 NAD 1983 StatePlane Ohio North FIPS 3401 Feet
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0 1,000 2,000 4,000 Feet

LEGEND:

- ▲ Substation
- Leroy Center-Mayfield Q3 & Q4 138 kV Transmission Lines
- Roads

CHARDON TOWNSHIP, HAMBLEN TOWNSHIP,
 MUNSON TOWNSHIP, CHESTER TOWNSHIP,
 CHARDON, GEAUGA COUNTY,
 LEROY TOWNSHIP, LAKE COUNTY,
 OHIO

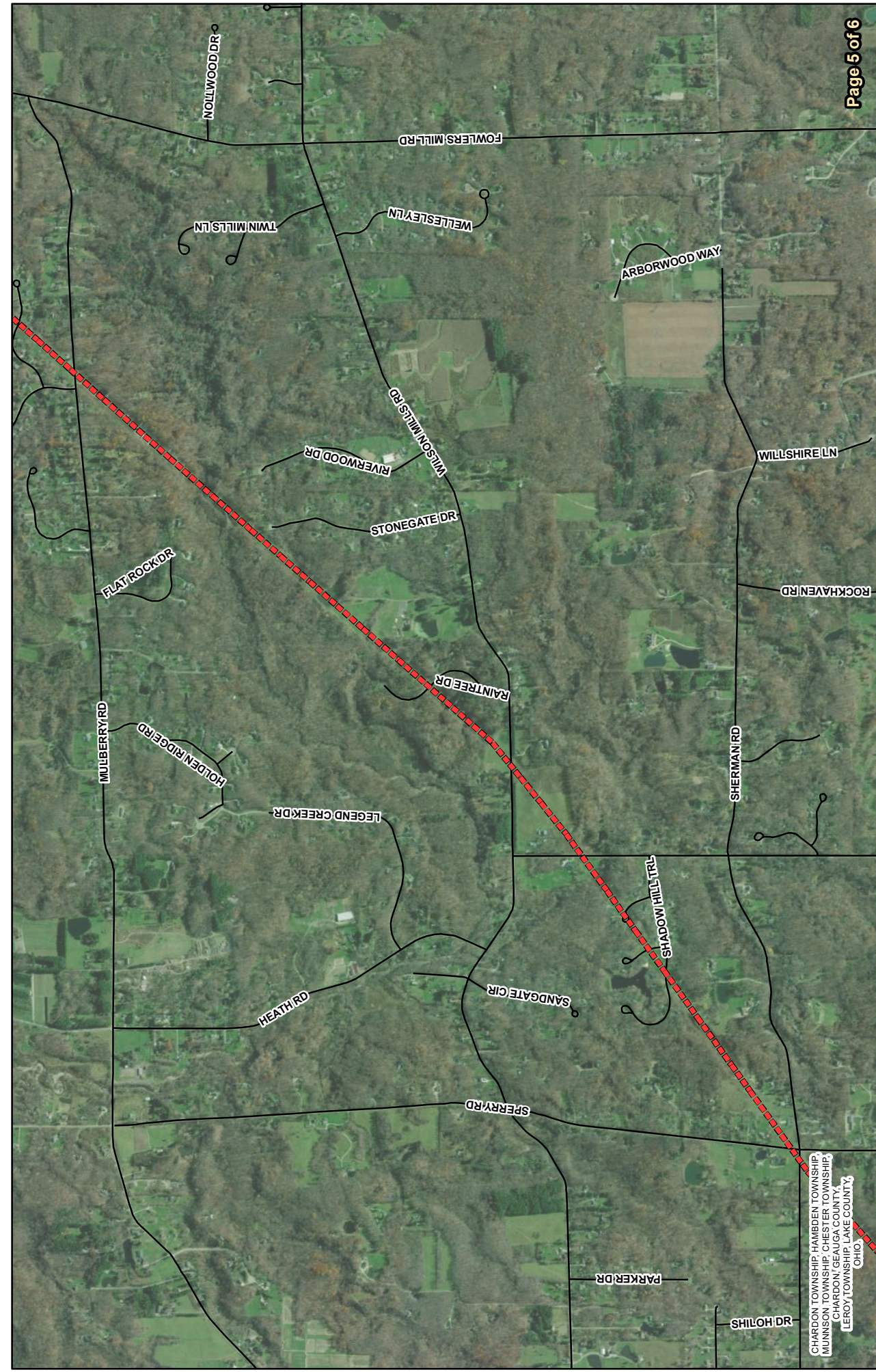
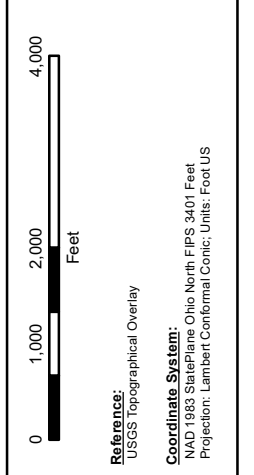
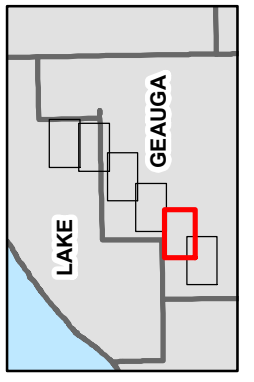


EXHIBIT 1

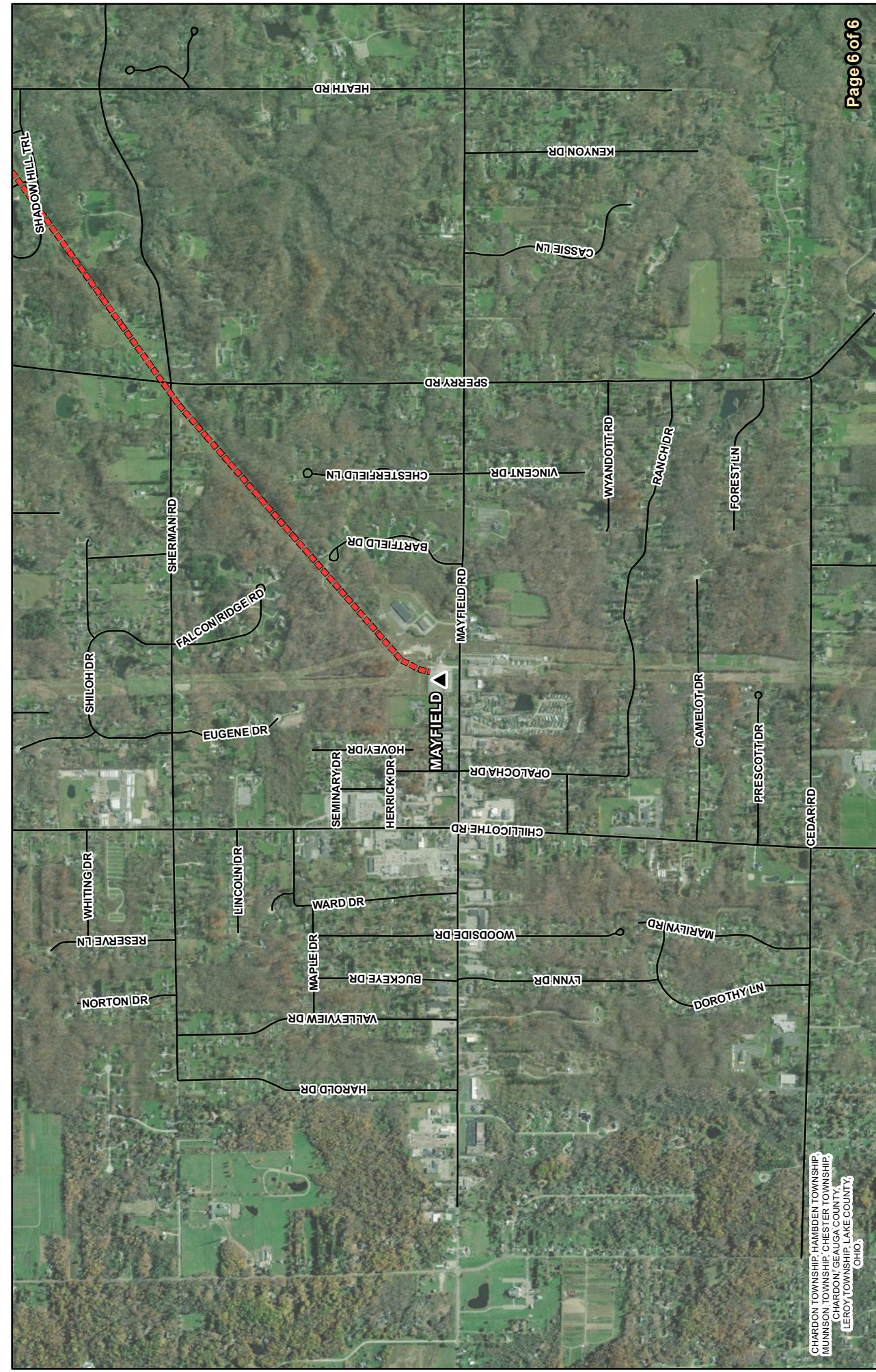
Leroy Center-Mayfield Q3 and Q4 138 kV Transmission Lines Reconductor Project



LEGEND:

- ▲ Substation
- Leroy Center-Mayfield Q3 & Q4 138 kV Transmission Lines
- Roads

CHARDON TOWNSHIP, HAMBREN TOWNSHIP,
 CHUNSON TOWNSHIP, CHESTER TOWNSHIP,
 CHARDON, GEAUGA COUNTY,
 OHIO
 LEROY TOWNSHIP, LAKE COUNTY,

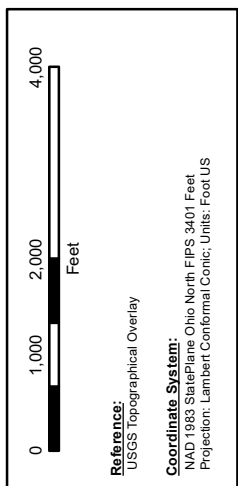
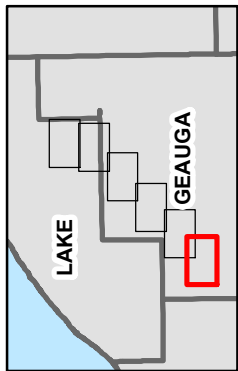


CHARDON TOWNSHIP, HAMBURG TOWNSHIP,
 MUNSON TOWNSHIP, CHESTER TOWNSHIP,
 CHARDON, GEauga COUNTY,
 LEROY TOWNSHIP, LAKE COUNTY,
 OHIO



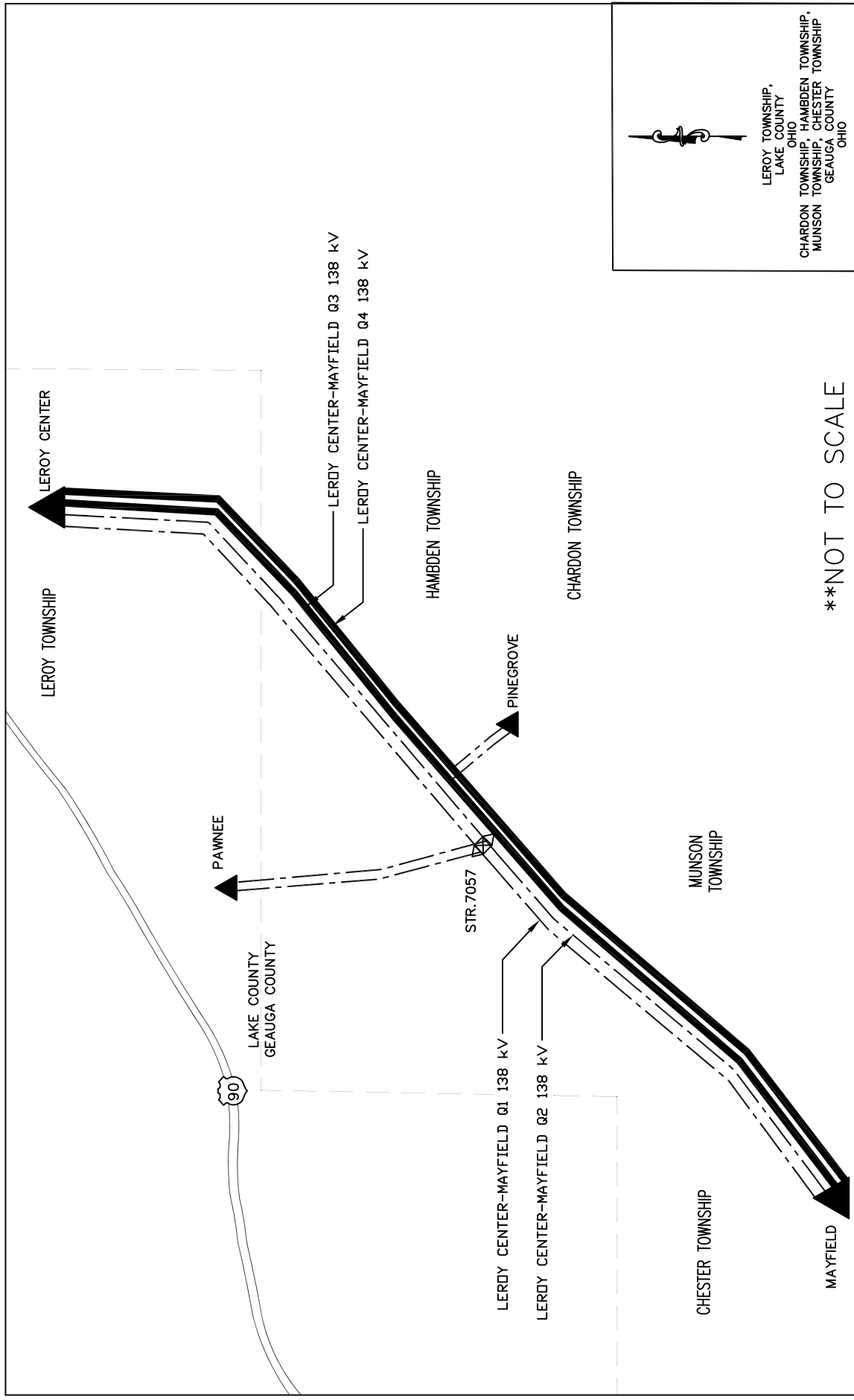
EXHIBIT 1


Leroy Center-Mayfield Q3 and Q4 138 kV Transmission Lines Reconductor Project



LEGEND:

- ▲ Substation
- 138 kV Transmission Lines
- Roads




 LEROY TOWNSHIP,
 LAKE COUNTY
 OHIO
 CHARDON TOWNSHIP, HAMBDEN TOWNSHIP,
 MUNSON TOWNSHIP, CHESTER TOWNSHIP,
 GEAGA COUNTY
 OHIO

**NOT TO SCALE

ATSI[®]
 American Transmission Systems, Inc
a subsidiary of FirstEnergy Corp.

LEROY CENTER-MAYFIELD Q3 AND Q4 138 kV
 TRANSMISSION LINES RECONDUCTOR PROJECT

GENERAL LAYOUT

EXHIBIT 3

LEGEND

-  EXISTING CONDUCTOR
-  NEW CONDUCTOR
-  EXISTING STEEL LATTICE TOWER STRUCTURE
-  SUBSTATION
-  EXISTING ROADS

Need Number: ATSI-2021-016
Process Stage: Solution Meeting – 03/17/2023
Presently Presented: Need Meeting – 08/16/2021

Supplemental Project Driver(s):
*Equipment Material Condition, Performance, and Risk
 Infrastructure Resilience*

Specific Assumption Reference(s):

Global Factors

- System Reliability and Performance
- Load at risk in planning and operational scenarios
- Increase line loading limits
- Age/condition of transmission line conductors

Line Condition Rebuild/Replacement

- Transmission lines with loading at 80% or greater

Problem Statement

- The Leroy Center – Mayfield Q3 138 kV line loads to 89% under contingency conditions in the latest RTEP Case.
- The Leroy Center – Mayfield Q3 138 kV line feeds 4,938 customers and 21 MW at the Pinegrove Substation.
- The existing conductor is 4/0 CU and can cause protection issues due to not being able to handle the short circuit current for faults.
- Age/condition of transmission line conductors and hardware (mid 1940s).



Need Number: ATSI-2021-016
Process Stage: Solution Meeting – 03/17/2023

Proposed Solution:

- Reconductor approximately 7.7 miles 138 kV line section from Mayfield to Pinegrove with 336 ACSS, insulators and cold end attachments will be replaced, as needed.
- Relay setting changes at Mayfield

Estimated Cost: \$16.0M

Projected In-Service: 06/01/2025

- Reconductor approximately 8.1 miles 138 kV line section from Leroy Center to Pinegrove with 336 ACSS, insulators and cold end attachments will be replaced, as needed.

- Relay setting changes at Leroy Center

Estimated Cost: \$15.7M

Projected In-Service: 06/01/2024

Transmission Line Ratings:

- Leroy Center – Mayfield 138 kV Line
 - Before Proposed Solution: 148 MVA SN/ 151 MVA SE
 - After Proposed Solution: 252 MVA SN / 291 MVA SE

Alternatives Considered:

- No alternatives considered for this project to reconductor the line

Total Estimated Project Cost: \$31.7M

Status: Engineering

Model: 2020 Series 2025 Summer RTEP 50/50



Need Number: ATSI-2022-008

Process Stage: Solution Meeting – 03/17/2023

Presently Presented: Need Meeting – 03/18/2022

Supplemental Project Driver(s):

*Equipment Material Condition, Performance, and Risk
Infrastructure Resilience*

Specific Assumption Reference(s):

Global Factors

- System Reliability and Performance
- Increasing negative trend in maintenance findings
- Age/condition of transmission line conductors and hardware

Line Condition Rebuild/Replacement

- End of Life Methodology

Problem Statement

- The Leroy Center – Mayfield Q4 138 kV Line (~16.1 miles) originally constructed mid-1940’s, and all structures are similar vintage:
 - 54 of 119 structures inspected had measurable cold end attachment plate wear with instances of mounting holes being 75% worn.
- Age/condition of transmission line conductors and hardware (mid 1940s).





ATSI Transmission Zone M-3 Process

Leroy Center - Mayfield Q4 138 kV

Need Number: ATSI-2022-008

Process Stage: Solution Meeting – 03/17/2023

Proposed Solution:

- Reconductor approximately 16.1 miles of the Leroy Center – Mayfield Q4 138 kV Line with 336 ACSs. Replace tower structures, insulators and hardware as needed to address condition items and support new conductor.
- Revise relay settings at Mayfield, Leroy Center, and Pinegrove

Transmission Line Ratings:

Leroy Center – Mayfield Q4 138 kV Line

- Before Proposed Solution: 148 MVA SN/ 151 MVA SE
- After Proposed Solution: 252 MVA SN / 291 MVA SE

Alternatives Considered:

- No alternatives considered for this project to reconductor the line

Estimated Project Cost: \$33.5M

Projected In-Service: 03/01/2027

Status: Engineering

Model: 2020 Series 2025 Summer RTEP 50/50



Exhibit 6
Property Owners Served Notice of the Letter of Notification
Leroy Center-Mayfield Q3 and Q4 138 kV Transmission Lines Reconductor Project
Case No. 23-0462-EL-BLN

Parcel Number(s)	Easement Status
11-600700, 11-602601, 06-600100, 06-600400, 11-600800, 11-602200, 11-600300, 11-600900	Owned in Fee
06-035900	Existing
21-177231, 21-106300	Existing
11-037500, 11-037400	Existing
10-082510	Existing
06-038500	Existing
10-108320	Existing
11-388900	Existing
06-120797	Existing
15-102552	Existing
06-053800	Existing
15-101764	Existing
06-001900	Existing
15-102101, 15-101768	Existing
07-A-007-0-00-053-0	Existing
15-101873	Existing
06-120153	Existing
22-026201	Existing
11-389184	Existing
06-066710	Existing
06-034500	Existing
06-099100	Existing
06-005140	Existing
06-037124	Existing

Parcel Number(s)	Easement Status
21-176476	Existing
07-A-002-L-00-023-0	Existing
22-024408	Existing
06-026250, 06-120601	Existing
15-017100	Existing
11-193000	Existing
15-102151	Existing
15-102158	Existing
22-026221, 22-024407	Existing
22-000680	Existing
07-A-002-L-00-012-0	Existing
21-097040	Existing
11-062100	Existing
07-A-007-0-00-027-0	Existing
06-099000	Existing
07-A-007-0-00-025-0	Existing
06-003010	Existing
06-120793	Existing
06-121106	Existing
07-A-002-F-00-029-0	Existing
11-321600	Existing
07-A-012-0-00-021-0	Existing
21-083350	Existing
22-024401	Existing
06-060000	Existing
06-038600	Existing
15-101812	Existing

Parcel Number(s)	Easement Status
06-009750	Existing
06-120117	Existing
11-389110	Existing
15-102557	Existing
11-276700	Existing
11-389189	Existing
06-042200	Existing
06-078550	Existing
06-082950	Existing
06-121043	Existing
07-A-002-F-00-016-0	Existing
07-A-002-F-00-013-0	Existing
21-005580, 21-005570	Existing
06-086650	Existing
06-093600	Existing
11-384400	Existing
06-025800	Existing
07-A-002-L-00-016-0	Existing
15-011800, 15-011700	Existing
11-119600	Existing
06-082050	Existing
07-A-007-0-00-016-0	Existing
22-024414	Existing
06-051500	Existing
15-088260	Existing
11-340400	Existing
06-707443	Existing

Parcel Number(s)	Easement Status
06-037126	Existing
11-063200	Existing
21-043810	Existing
07-A-002-P-00-014-0	Existing
06-080200	Existing
06-026500	Existing
21-048020	Existing
22-701002	Existing
15-057800	Existing
06-121044	Existing
06-087550	Existing
06-074500	Existing
11-389117	Existing
06-120850	Existing
21-086967, 21-086966	Existing
07-A-007-0-00-020-0	Existing
06-072600	Existing
11-217700	Existing
10-157000	Existing
07-A-006-0-00-014-0, 07-A-006-0-00-040-0	Existing
11-308800	Existing
07-A-012-0-00-012-0	Existing
06-120894, 06-120895	Existing
07-A-006-0-00-032-0	Existing
07-A-003-V-00-027-0	Existing
06-022800	Existing
06-095500	Existing

Parcel Number(s)	Easement Status
21-176904	Existing
06-060580	Existing
11-048200	Existing
22-000070	Existing
11-389114	Existing
06-012030	Existing
15-102575	Existing
06-053400	Existing
21-095300	Existing
06-110330	Existing
07-A-002-F-00-010-0	Existing
11-388881	Existing
07-A-003-V-00-039-0, 07-A-003-V-00-038-0	Existing
06-119270	Existing
21-053850	Existing
07-A-006-0-00-025-0, 07-A-006-0-00-024-0	Existing
06-120415	Existing
07-A-003-V-00-032-0	Existing
15-026700	Existing
07-A-003-V-00-005-0	Existing
06-032850, 06-011901	Existing
06-105850	Existing
22-020950	Existing
06-084250	Existing
15-101795	Existing
15-102160	Existing
21-104650	Existing

Parcel Number(s)	Easement Status
11-125970	Existing
21-056500	Existing
06-034600	Existing
06-103210	Existing
11-221790	Existing
21-128000	Existing
11-143700	Existing
06-030600	Existing
06-120275	Existing
06-120222	Existing
06-037128	Existing
06-120425	Existing
11-256350	Existing
15-101913, 15-101761	Existing
11-025550	Existing
06-121041	Existing
06-034100	Existing
06-072500	Existing
22-024304	Existing
22-024410	Existing
07-A-007-0-00-058-0, 07-A-007-0-00-055-0, 07-A-007-0-00-056-0, 07-A-007-0-00-013-0	Existing
06-121042	Existing
21-064400, 21-064500	Existing
11-056200	Existing
06-038790	Existing
15-030700, 15-030600	Existing
06-023200	Existing

Parcel Number(s)	Easement Status
06-113400	Existing
07-A-003-O-00-006-0	Existing
07-A-003-O-00-005-0	Existing
11-202020	Existing
22-022850	Existing
07-A-002-L-00-025-0	Existing
11-367500, 11-367400	Existing
11-127380	Existing
11-388661	Existing
21-016200	Existing
15-101908	Existing
07-A-003-V-00-030-0, 07-A-003-V-00-010-0	Existing
21-080120	Existing
06-030500	Existing
11-376500	Existing
15-101803	Existing
06-099500	Existing
07-A-007-0-00-026-0	Existing
07-A-007-0-00-028-0	Existing
22-025300	Existing
06-117800	Existing
07-A-006-0-00-030-0	Existing
06-054600	Existing
07-A-003-E-00-017-0, 07-A-003-O-00-003-0	Existing
07-A-003-O-00-004-0, 07-A-003-O-00-002-0	Existing
21-133005	Existing
21-176902	Existing
07-A-003-V-00-016-0	Existing

Parcel Number(s)	Easement Status
22-013400	Existing
06-072230	Existing
11-128600	Existing
06-081500	Existing
11-389116	Existing
06-120734, 06-048820	Existing
06-039900, 06-120872	Existing
15-062700	Existing
06-120125	Existing
06-038450	Existing
06-037136	Existing
06-037135	Existing
21-034550	Existing
21-033300	Existing
11-062600	Existing
07-A-002-L-00-008-0	Existing
07-A-006-0-00-036-0	Existing
15-102264	Existing
15-101825	Existing
11-389236	Existing
15-101811, 15-101814	Existing
06-041950	Existing
22-024413	Existing
22-024600	Existing
22-021950	Existing
15-101797, 15-101888	Existing
06-121028, 06-120139, 21-177286	Existing
21-080150	Existing

Parcel Number(s)	Easement Status
11-299300	Existing
06-105620	Existing
06-120279, 06-041200	Existing
15-102556	Existing
11-144610	Existing
21-133009	Existing
07-A-002-L-00-019-0	Existing
21-168550	Existing
07-A-007-0-00-029-0, 07-A-006-0-00-021-0	Existing
06-114430	Existing
07-A-002-F-00-008-0	Existing
06-120809	Existing
15-094200	Existing
07-A-003-V-00-013-0	Existing
06-078350	Existing
22-024409	Existing
21-133011	Existing
06-085100	Existing
11-082550	Existing
06-120756, 06-041300	Existing
07-A-007-0-00-061-0	Existing
15-101791	Existing
06-060010, 06-120766	Existing
07-A-003-V-00-026-0, 07-A-003-V-00-015-0, 07-A-003-V-00-011-0	Existing
07-A-003-V-00-031-0	Existing
11-138800	Existing
06-010200	Existing

Parcel Number(s)	Easement Status
21-087500	Existing
06-120796	Existing
22-011900	Existing
06-048800	Existing
06-120627	Existing
06-035660	Existing
06-051540, 06-120751	Existing
06-080500	Existing
11-282700	Existing
06-021550	Existing
07-A-007-0-00-052-0	Existing
22-026206	Existing
06-120767	Existing
06-038490	Existing
15-102549	Existing
21-086961	Existing
06-119600	Existing
06-113500	Existing
22-026207	Existing
07-A-012-0-00-005-0	Existing
11-389115	Existing
06-016000	Existing
06-078400	Existing
06-061500, 06-120857	Existing
22-024411	Existing
21-145530	Existing
21-033100	Existing

Parcel Number(s)	Easement Status
21-033200	Existing
22-026198	Existing
06-120801	Existing
07-A-002-F-00-021-0	Existing
21-150750	Existing
15-101813	Existing
21-146200	Existing
06-066750	Existing
21-166200, 21-176480	Existing
11-181700	Existing
22-024303, 22-024306	Existing
11-322900	Existing
21-089700	Existing
06-045510	Existing
21-086978	Existing
11-057210, 11-389177	Existing
21-126360	Existing
21-176903	Existing
11-082200	Existing
07-A-007-0-00-018-0	Existing
07-A-002-P-00-015-0	Existing
10-165113	Existing
11-026400	Existing
06-005150	Existing
07-A-002-F-00-004-0	Existing
07-A-007-0-00-001-0	Existing
06-037138	Existing
11-019950	Existing

Parcel Number(s)	Easement Status
15-102042	Existing
21-176368, 21-100140	Existing
07-A-003-V-00-003-0	Existing
11-014300	Existing
06-059900	Existing
11-389109	Existing
21-101480	Existing
11-321400	Existing
15-101958, 15-011000	Existing
06-120795	Existing
06-101301	Existing
11-049700	Existing
11-234400	Existing
11-314180	Existing
22-024406	Existing
22-023400	Existing
06-120236	Existing
06-083750	Existing
07-A-003-V-00-023-0	Existing
06-120423	Existing
06-001820	Existing
21-101460	Existing
21-034350	Existing
22-022770	Existing
11-207000	Existing
06-120115	Existing
06-114200, 06-120735	Existing

Parcel Number(s)	Easement Status
22-024404	Existing
11-109250	Existing
07-A-007-0-00-059-0	Existing
11-389186	Existing
22-026197	Existing
07-A-003-V-00-009-0	Existing
07-A-003-V-00-035-0	Existing
21-156150	Existing
06-120238	Existing
15-102146	Existing
07-A-002-P-00-022-0	Existing
06-038760	Existing
21-045500	Existing
06-120151	Existing
22-013904	Existing
15-101827	Existing
21-042500, 21-042600	Existing
07-A-007-0-00-019-0	Existing
07-A-002-F-00-024-0, 07-A-002-F-00-023-0, 07-A-002-F-00-022-0, 07-A-002-F-00-006-0	Existing
11-166600	Existing
06-051510	Existing
21-061600	Existing
15-102554	Existing
06-077400	Existing
06-120241	Existing
06-072750	Existing
06-120794	Existing

Parcel Number(s)	Easement Status
06-072800	Existing
22-024405	Existing
07-A-002-L-00-020-0, 07-A-002-L-00-015-0	Existing
21-086970	Existing
06-074300	Existing
07-A-007-0-00-031-0	Existing
21-104660	Existing
15-101826	Existing
11-015250	Existing
06-040200	Existing
07-A-007-0-00-060-0	Existing
11-389208, 11-388856	Existing
11-091050	Existing
06-079550	Existing
06-037133	Existing
15-101762	Existing
07-A-007-0-00-024-0	Existing
06-048830	Existing
06-018400	Existing
06-037141	Existing
06-102730	Existing
22-026195	Existing
15-102553	Existing
11-388659	Existing
21-096600	Existing
06-011000	Existing
15-030800, 15-030900	Existing
06-076550	Existing

Parcel Number(s)	Easement Status
11-110800	Existing
15-070300	Existing
07-A-007-0-00-062-0	Existing
06-077350	Existing
06-100200	Existing
11-245940	Existing
22-024301	Existing
06-023250	Existing
07-A-006-0-00-015-0	Existing
22-026196	Existing
06-078600	Existing
06-088200, 06-088300	Existing
07-A-007-0-00-023-0	Existing
10-108400	Existing
06-076750	Existing
11-074800	Existing
07-A-002-F-00-014-0	Existing
06-051205	Existing
15-102551	Existing
06-120150	Existing
15-101806	Existing
06-120232	Existing
11-388660	Existing
07-A-002-F-00-019-0	Existing
11-019400	Existing
06-004500	Existing
21-161900	Existing
11-388652	Existing

Parcel Number(s)	Easement Status
07-A-002-L-00-013-0	Existing
07-A-002-L-00-010-0	Existing
21-048200	Existing
06-026000	Existing
15-065200, 15-065130	Existing
07-A-006-0-00-001-0	Existing
21-052600	Existing
11-320500	Existing
07-A-006-0-00-023-0	Existing
07-A-006-0-00-038-0	Existing
22-003700	Existing
22-026200	Existing
11-217200	Existing
06-037145	Existing
15-057400	Existing
07-A-002-F-00-009-0	Existing
06-109550	Existing
11-008650	Existing
07-A-003-V-00-014-0	Existing
06-086400	Existing
07-A-007-0-00-040-0, 07-A-007-0-00-041-0	Existing
06-120754	Existing
21-048700	Existing
07-A-002-F-00-027-0	Existing
22-026199	Existing
21-128075	Existing
15-024620	Existing

Parcel Number(s)	Easement Status
06-120234	Existing
11-388663	Existing
15-101763	Existing
11-350500	Existing
21-131600	Existing
21-068800	Existing
11-289700	Existing
07-A-002-F-00-015-0	Existing
07-A-007-0-00-054-0	Existing
11-006900	Existing
07-A-002-L-00-021-0	Existing
07-A-007-0-00-057-0	Existing
15-102555	Existing
11-333100	Existing
06-090300	Existing
06-051200	Existing
22-001900	Existing
07-A-007-0-00-063-0	Existing
11-281881	Existing
11-389183	Existing
06-014200	Existing
15-096500	Existing
06-019650	Existing
11-388684, 11-388658	Existing
11-388689, 11-388653	Existing
11-093900	Existing
15-005100	Existing

Parcel Number(s)	Easement Status
06-090000	Existing
15-037160	Existing
07-A-002-F-00-018-0	Existing
11-389235	Existing
07-A-002-F-00-028-0	Existing
15-102161	Existing
06-037151	Existing
06-015230, 06-015240	Existing
11-389112, 11-389111	Existing
07-A-006-0-00-022-0	Existing
21-139460, 21-139450, 21-139450	Existing
11-388899	Existing
06-093400	Existing
06-086600	Existing
06-120233	Existing
22-024403, 22-024402	Existing
11-388662	Existing
06-038300	Existing
21-086972	Existing
06-121045	Existing
06-120637	Existing
06-120760, 06-092300, 06-092500	Existing
21-176900	Existing
06-028600	Existing
11-253960	Existing
21-113450	Existing
06-074450	Existing

Parcel Number(s)	Easement Status
06-075900	Existing
21-142050	Existing
15-017300	Existing
07-A-006-0-00-012-0	Existing
06-056150	Existing
15-101810	Existing
22-026233	Existing
21-062300	Existing
11-389170	Existing
21-041350, 21-176371	Existing
11-161900, 11-275800, 11-162000	Existing
06-120792	Existing
15-101774	Existing
21-146100	Existing
06-097400	Existing
11-162400, 11-162300	Existing
11-042400	Existing
21-142060	Existing
07-A-007-0-00-014-0	Existing
15-101773	Existing
21-048900	Existing
11-326350	Existing
06-120235, 06-120526	Existing
06-067700	Existing
21-166571	Existing
11-234600, 11-234800, 11-234700	Existing
11-105800	Existing

Parcel Number(s)	Easement Status
11-242200, 11-242100	Existing
06-037152	Existing
07-A-006-0-00-028-0, 07-A-006-0-00-029-0	Existing
11-389185	Existing
06-055700	Existing
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11-213110	Existing
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Parcel Number(s)	Easement Status
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15-064700	Existing
15-102162, 15-087160, 15-017400	Existing
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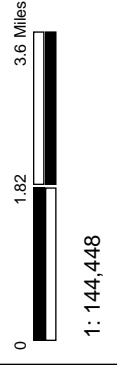
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22-012400	Existing
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Parcel Number(s)	Easement Status
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Legend

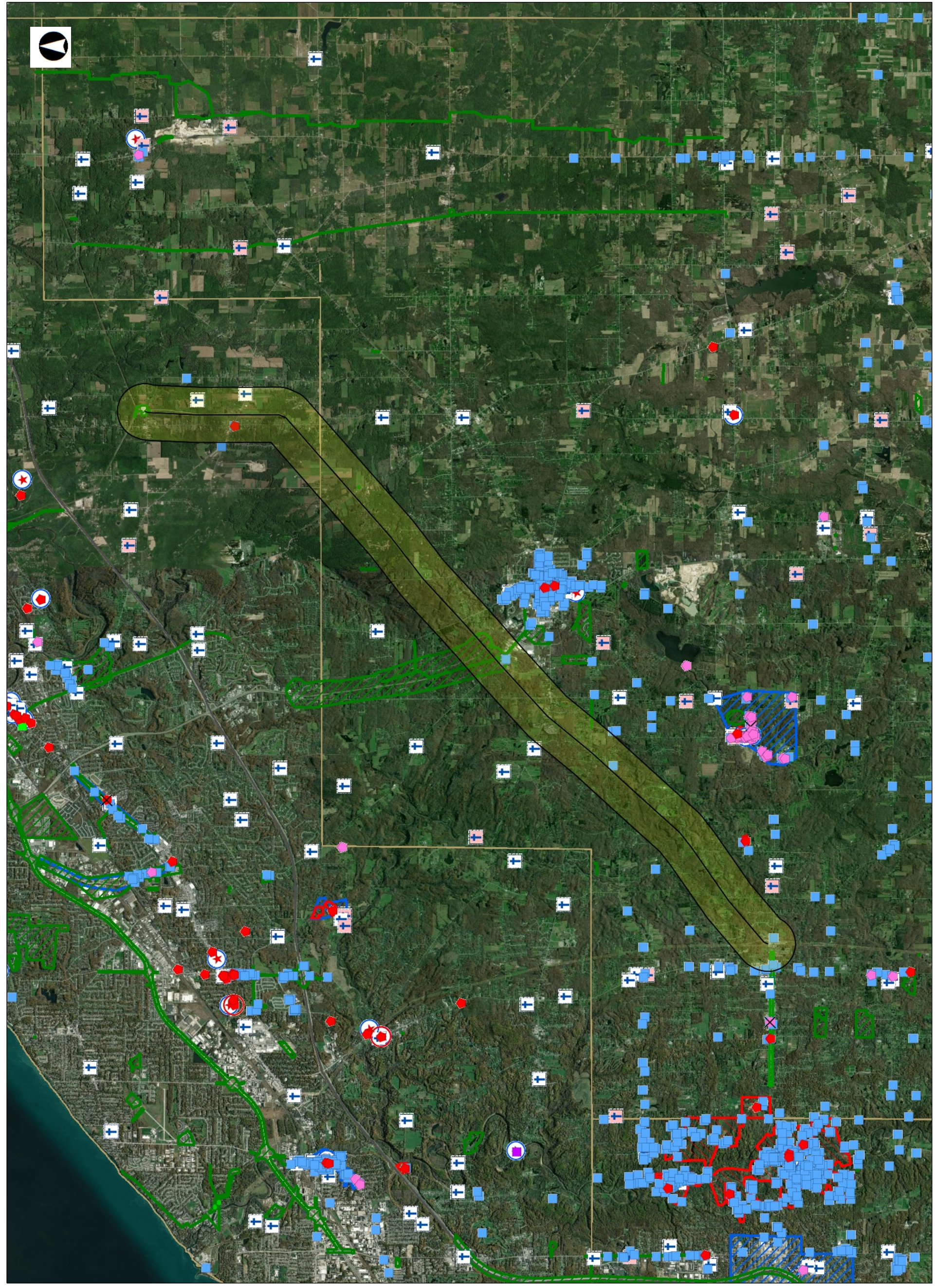
- NR Listings**
- Listed
 - National Historic Landmark
 - Delisted
- Determinations of Eligibility**
- DOE
 - Demolished
- Historic Structures**
- Historic Bridges
 - Historic Tax Credit Projects
 - Local Designations
 - OGS Cemeteries
- Confident**
- Not Confident
- Historic Markers**
- Dams
 - UTM Zone Split
 - NR Boundaries
 - Local Districts
- Previously Surveyed Areas**
- Phase 1
 - Phase 2
 - Phase 3
- Historic Previously Surveyed**
- Highways
 - Counties
 - NPS Parks
 - Wayne National Forest



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This 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 not be available in all areas. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

Datum: [Datum]
 Projection: WGS_1984_Web_Mercator_Auxiliary_Sp here





Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR

MARY MERTZ, DIRECTOR

Office of Real Estate

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

September 1, 2021

Brian Robertson
 Jacobs Engineering Group, Inc.
 2 Crowne Point Court, Suite 100
 Cincinnati, Ohio 45241

Re: 21-0646; Leroy Center-Mayfield 138 kV Transmission Line Reconductoring Project

Project: The proposed project involves the reconductoring of approximately 20 miles of existing transmission lines within existing right-of-way (ROW) that is primarily 250 feet wide.

Location: The proposed project is located in Geauga and Lake Counties, Ohio.

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

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

Simple willow-herb (*Epilobium strictum*), E
 Woodland horsetail (*Equisetum sylvaticum*), P
 Green cotton-grass (*Eriophorum viridicarinatum*), T
 Water avens (*Geum rivale*), P
 Ground juniper (*Juniper communis*), E
 Small purple fringed orchid (*Platanthera psycodes*), T
 Pasture blue grass (*Poa saltuensis* ssp. *saltuensis*), E
 Balsam poplar (*Populus balsamifera*), E
 Winged cudweed (*Pseudognaphalium macounii*), E
 Autumn willow (*Salix serissima*), P
 Canada buffalo-berry (*Shepherdia canadensis*), P
 Hobblebush (*Viburnum lantanoides*), T
 Beech sugar maple forest plant community
 Longnose dace (*Rhinichthys cataractae*), SC
 Marsh bluet (*Enallagma eribium*), T
 Riffle snaketail (*Ophiogomphus carolus*), T
 Caddisfly (*Psilotreta indecisa*), T

Canada warbler (*Cardellina canadensis*), SI
Hermit thrush (*Catharus guttatus*), SI
Dark-eyed junco (*Junco hyemalis*), SI
Cerulean warbler (*Setophaga cerulea*), SC
Magnolia warbler (*Setophaga magnolia*), SI
Winter wren (*Troglodytes hiemalis*), SI
Blue-headed vireo (*Vireo solitarius*), SI
Woodland jumping mouse (*Napaeozapus insignis*), SC
Deer mouse (*Peromyscus maniculatus*), SC
Cave or cavern
Big Creek Park – Geauga Co. Park District
Whitlam Woods – Geauga Co. Park District
Hell Hollow Wilderness Area – Lake Metroparks
Girdled Road Reservation – Lake Metroparks
Soubusta Sugarbush – Cleveland Museum of Natural History
Koelliker Fen – Cleveland Museum of Natural History
Holden Arboretum – Holden Arboretum

The review was performed on the project area specified in the 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. Additional comments on some of the features may be found in pertinent sections below.

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.

Statuses are defined as: E = state endangered; T = state threatened; P = state potentially threatened; SC = state species of concern; SI = state special interest; U = state status under review; X = presumed extirpated in Ohio; FE = federal endangered, and FT = federal threatened.

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 portion of the project north of Chardon Road (US 6) is within the vicinity of records for the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened species, and the little brown bat (*Myotis lucifugus*), a state endangered species. Because presence of state endangered bat species has been established in the area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area. However, limited summer tree cutting inside this buffer may be acceptable after further consultation with DOW (contact Erin Hazelton at Erin.hazelton@dnr.ohio.gov).

In addition, the entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state

endangered species. During the spring and summer (April 1 through September 30), these bat species predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. The DOW recommends tree cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with $DBH \geq 20$ if possible.

The DOW also recommends that a desktop habitat assessment is conducted, followed by a field assessment if needed, to determine if a potential hibernaculum is present within the project area. Direction on how to conduct habitat assessments can be found in the current USFWS “*Range-wide Indiana Bat Survey Guidelines*.” If a habitat assessment finds that a potential hibernaculum is present within 0.25 miles of the project area, please send this information to Erin Hazelton for project recommendations. If a potential or known hibernaculum is found, the DOW recommends a 0.25-mile tree cutting and subsurface disturbance buffer around the hibernaculum entrance, however, limited summer or winter tree cutting may be acceptable after consultation with the DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact these species.

The project is within the range of the eastern pondmussel (*Ligumia nasuta*), a state endangered mussel. Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact these species.

The project is within the range of the Iowa darter (*Etheostoma exile*), a state endangered fish, the lake chubsucker (*Erimyzon sucetta*), a state threatened fish, and the brook trout (*Salvelinus fontinalis*), a state threatened fish. Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact these species.

The project is within the range of the smooth greensnake (*Opheodrys vernalis*), a state endangered species. This species is primarily a prairie inhabitant, but also found in marshy meadows and roadside ditches. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the Blanding's turtle (*Emydoidea blandingii*), a state threatened species. This species inhabits marshes, ponds, lakes, streams, wet meadows, and swampy forests. Although essentially aquatic, the Blanding's turtle will travel over land as it moves from one wetland to the next. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the spotted turtle (*Clemmys guttata*), a state threatened species. This species prefers fens, bogs and marshes, but also is known to inhabit wet prairies, meadows, pond edges, wet woods, and the shallow sluggish waters of small streams and ditches. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the least bittern (*Ixobrychus exilis*), a state threatened bird. This secretive marsh species prefers dense emergent wetlands with thick stands of cattails, sedges, sawgrass or other semiaquatic vegetation interspersed with woody vegetation and open water. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through 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 northern harrier (*Circus hudsonis*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the sandhill crane (*Grus canadensis*), a state threatened species. Sandhill cranes are primarily a wetland-dependent species. On their wintering grounds, they will utilize agricultural fields; however, they roost in shallow, standing water or moist bottomlands. On breeding grounds they require a rather large tract of wet meadow, shallow marsh, or bog for nesting. If grassland, prairie, or wetland habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 1 through August 31. If this habitat will not be impacted, this project is not likely to have an impact on this species.

The project is within the range of the trumpeter swan (*Cygnus buccinator*), a state threatened bird. Trumpeter swans prefer large marshes and lakes ranging in size from 40 to 150 acres. They like shallow wetlands one to three feet deep with a diverse mix of plenty of emergent and submergent vegetation and open water. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through June 15. If this habitat will not be impacted, this project is not likely to have an impact on this species.

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

Natural Areas and Preserves: The Division of Natural Areas and Preserves has the following comment.

One rare plant species, winged cudweed (*Pseudognaphalium macounii*, state endangered), has been previously found within the Leroy Center-Mayfield 138 kv transmission line reconductoring footprint. Due to the possible disruption of this species, a pre-construction survey of the proposed project site should be conducted to ensure that the plant and any other rare species within the proposed construction limits are not impacted. If there are any questions about Ohio flora or if survey assistance is required, please contact the Division of Natural Areas and Preserves' Chief Botanist, Rick Gardner. Mr. Gardner can be contacted directly at richard.gardner@dnr.ohio.gov or 614/265-6419.

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 Mike Pettegrew at mike.pettegrew@dnr.ohio.gov if you have questions about these comments or need additional information.

Mike Pettegrew
Environmental Services Administrator (Acting)

From: [Ohio, FW3](#)
To: [Robertson, Brian/CIN](#)
Subject: [EXTERNAL] Leroy Center - Mayfield 138 kV Trans Line Reconductoring Project, Geauga & Lake Counties, Ohio
Date: Monday, July 26, 2021 3:50:32 PM

TAILS# 03E15000-2021-TA-1773

Dear Mr. Robertson,

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

Federally Threatened and Endangered Species: Due to the project type, size, location, and the proposed implementation of seasonal tree cutting (clearing of trees ≥ 3 inches diameter at breast height between October 1 and March 31) to avoid impacts to the endangered Indiana bat (*Myotis sodalis*) and threatened northern long-eared bat (*Myotis septentrionalis*), we do not anticipate adverse effects to any other federally endangered, threatened, or proposed species, or proposed or designated critical habitat. Should the project design change, or additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, coordination with the Service should be initiated to assess any potential impacts.

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


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

Thank you for your efforts to conserve listed species and sensitive habitats in Ohio. We recommend coordinating with the Ohio Department of Natural Resources due to the potential for the proposed project to affect state listed species and/or state lands. Contact Mike

Pettegrew, Acting Environmental Services Administrator, at (614) 265-6387 or at mike.pettegrew@dnr.state.oh.us.

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

Sincerely,

A handwritten signature in blue ink, appearing to read "Patrice M. Ashfield". The signature is fluid and cursive, with a large initial "P" and "A".

Patrice M. Ashfield
Field Office Supervisor