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1-800-646-0400

**PUCO**

July 22, 2010

The Honorable Betty C. Blair  
Lorain County Commissioner  
226 Middle Avenue  
Elyria, OH 44035

**Letter of Notification  
Beaver-Brookside 138 kV Transmission Line  
Loop to Henrietta Substation Project  
Case No. 10-1017-EL-BLN**

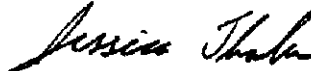
Dear Commissioner Blair,

In the above captioned project, American Transmission Systems, Inc. ("ATSI"), a subsidiary of FirstEnergy Corp., ATSI is proposing to construct a new three (3) steel pole structure and loop one (1) 138 kV circuit, the Beaver-Brookside 138 kV Transmission Line, into the new Henrietta Substation. The Project is located approximately 1,840 feet northeast of the intersection of Baumhart Road and Garfield Road in the Township of Henrietta, Lorain County Ohio.

In accordance with the provisions of Ohio Administrative Code ("OAC") Rule 4906-1-01, this project falls within the Ohio Power Siting Board's requirements for a Letter of Notification ("LON"). Therefore, in compliance with OAC 4906-11-01 of the OPSB's Rules and Regulations, we have prepared and filed the attached LON with the OPSB for their review and approval. The LON contains a description of the project, and is provided for your information.

I will be happy to answer your questions concerning this matter. You can contact me at (330) 384-5955.

Sincerely,



Jessica Thacker  
Assistant Engineer  
Energy Delivery Transmission and  
Substation Design  
FirstEnergy Service Company

Attachment

**This is to certify that the images appearing are an  
accurate and complete reproduction of a case file  
document delivered in the regular course of business.  
Technician SB Date Processed 7/23/10**

July 22, 2010

Ms. Renee J. Jenkins  
Director, Administration Department  
Secretary to the Commission  
Docketing Division  
The Public Utilities Commission of Ohio  
180 East Broad Street  
Columbus, OH 43215-3793

**Letter of Notification**  
**Beaver-Brookside 138 kV Transmission Line**  
**Loop to Henrietta Substation Project**  
**Case No. 10- -EL-BLN**

Dear Ms. Jenkins:

In accordance with Rule 4906-1-11 American Transmission Systems, Incorporated ("ATSI"), a subsidiary of FirstEnergy Corp, transmit one (1) original and eleven (11) copies of the enclosed Letter of Notification for the above captioned project. In the Beaver-Brookside 138 kV Transmission Line Loop to Henrietta Substation Project, ATSI is proposing to construct a new three (3) steel pole structure and loop one (1) 138 kV circuit, the Beaver-Brookside 138 kV Transmission Line, into the new Henrietta Substation. The Project is located approximately 1,840 feet northeast of the intersection of Baumhart Road and Garfield Road in the Township of Henrietta, Lorain County Ohio.

Please be advised of the following:

- |  |   |
|--|---|
| a) Name and address of the applicants: | American Transmission Systems, Incorporated<br>76 South Main Street<br>Akron, Ohio 44308  |
| b) Name of proposed facilities:        | Beaver-Brookside 138 kV Transmission Line<br>Loop to Henrietta Substation Project.  |
| c) Location of proposed project:       | The Project area is located approximately 1,840 feet northeast of the intersection of Baumhart Road and Garfield Road in the Township of Henrietta, Lorain County Ohio. |

Ms. Renee J. Jenkins/ Docketing

July 22, 2010

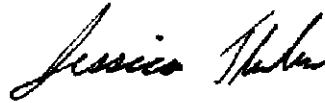
1-800-646-0400

- d) Description of proposed project: The Project involves constructing a new three (3) steel pole structure and loop one (1) 138 kV circuit, the Beaver-Brookside 138 kV Transmission Line, into the new Henrietta Substation.
- e) Applicant's representative: Jessica Thacker, Assistant Engineer  
Energy Delivery Transmission and Substation Design  
FirstEnergy Service Company  
76 South Main Street  
Akron, OH 44308-1890

After docketing this filing, please return one time-stamped copy of the Letter of Notification for our records to us in the enclosed envelope. We have provided a copy of the Letter of Notification by certified mail, with return receipt requested, to each official of the political subdivisions immediately affected by the proposed project as listed in the attached Exhibit 1. Copies of the transmittal letters addressed to the local government representatives of the Henrietta Township and Lorain County are enclosed for your file.

Should the Ohio Power Siting Board desire further information or discussion of this submittal, please contact me at (330) 384-5955.

Sincerely,



Jessica Thacker  
Assistant Engineer  
Energy Delivery Transmission and Substation  
Design  
FirstEnergy Service Company

Attachments

**EXHIBIT 1**  
**Henrietta Substation 138 kV Transmission Line**  
**Loop Project**  
**Case No. 10- -EL-BLN**

**Lorain County**

The Honorable Betty C. Blair  
Lorain County Commissioner  
226 Middle Avenue  
Elyria, OH 44035

Mr. James R. Cordes  
Lorain County Administrator  
226 Middle Avenue  
Elyria, OH 44035

The Honorable Ted Kalo  
Lorain County Commissioner  
226 Middle Avenue  
Elyria, OH 44035

Mr. Kenneth P. Carney, P.E., P.S.  
Lorain County Engineer  
274 Hadaway St.  
Elyria, OH 44035

The Honorable Lori A. Kokoski  
Lorain County Commissioner  
226 Middle Avenue  
Elyria, OH 44035

**Henrietta Township**

Mr. Ronald W. Baumann  
Henrietta Township Trustee  
10413 Vermillion Road  
Oberlin, OH 44074

Mr. Howard A. Born, III  
Henrietta Township Trustee  
10413 Vermillion Road  
Oberlin, OH 44074

Mr. Joseph R. Knoble  
Henrietta Township Trustee  
10413 Vermillion Road  
Oberlin, OH 44074

Francis J. Knoble  
Henrietta Township Fiscal Officer  
10413 Vermillion Road  
Oberlin, OH 44074

**AMERICAN TRANSMISSION SYSTEMS, INCORPORATED  
A SUBSIDIARY OF FIRSTENERGY CORP.**

**LETTER OF NOTIFICATION**

**BEAVER-BROOKSIDE  
138 kV TRANSMISSION LINE  
LOOP TO HENRIETTA SUBSTATION**

**OPSB CASE NO.: 10-\_\_\_\_\_-EL-BLN**

**July 22, 2010**

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

**LETTER OF NOTIFICATION  
BEAVER-BROOKSIDE  
138 kV TRANSMISSION LINE  
LOOP TO HENRIETTA SUBSTATION**

The following information is being provided in accordance with the procedures delineated in Ohio Administrative Code Section 4906-11-01: Letter of Notification Requirements of the Rules and Regulations of the Ohio Power Siting Board.

**4906-11-01 (B): General Information**

**4906-11-01 (B) (1): (a) Name and Reference Number**

Name of Project: Beaver-Brookside 138 kV Transmission Line Loop to Henrietta Substation Project ("Project")

2010 LTFR Reference: This Project is identified in FirstEnergy Corp.'s 2010 Electric Long-Term Forecast Report ("LTFR") submitted to the Public Utility Commission of Ohio in Case Number 10-0504-EL-FOR.

**4906-11-01 (B) (1): (b) Brief Description of Project**

In the Beaver-Brookside 138 kV Transmission Line Loop to Henrietta Substation Project, American Transmission Systems, Incorporated ("ATSI") a subsidiary of FirstEnergy Corp., is proposing to construct a new three (3) steel pole structure to loop the Beaver-Brookside 138 kV Transmission Line into the new Henrietta Substation. The Project is located approximately 1,840 feet northeast of the intersection of Baumhart Road and Garfield Road in the Township of Henrietta, Lorain County Ohio.

The Beaver-Brookside 138 kV Transmission Line runs in a north-south direction, crossing Garfield Road approximately 1,400 feet east of the intersection of Baumhart Road and Garfield Road.

The project site is located on the west side of the Beaver-Brookside 138 kV Transmission Line, approximately 1,050 feet north of Garfield Road. At the Project site, the Beaver-Brookside 138 kV Transmission Line will be looped into the new Henrietta Substation, which is approximately 195 feet (0.04 miles) to the west of the transmission line.

The transmission line loop will extend approximately 195 feet from one new structure installed along the centerline of the existing transmission line to the substation take-off structure. The new 138 kV transmission structure will consist of a three (3) steel pole structure. The portion of the transmission line that will be coming from the south and connect into the Henrietta Substation will now become the Brookside-Henrietta 138 kV Transmission Line, and the portion of the transmission line that will go from the Henrietta Substation to the north will now become the Beaver-Henrietta 138 kV Transmission Line.

ATSI owns the Beaver-Brookside 138 kV Transmission Line and will own the new line loops and associated structures as well as the new Henrietta Substation. The general location of the Project is shown in Exhibit 1, which is a partial copy of the United States Geologic Survey, Lorain, Erie and Huron Counties Ohio Quad Map, ID number 41082-C3. Exhibit 2 shows the general layout of the proposed Project.

**4906-11-01 (B) (1): (c) Why the Project Meets the Requirements for a Letter of Notification**

The Project meets the requirements for a Letter of Notification because the Project is within the types of project defined by Items (1) (d) and (4) (a) of the Application Requirement Matrix for Electric Power Transmission Lines in Appendix A of 4906-1-01 of the Ohio Administrative Code. These items state:

- (1) Rerouting or extension or new construction of single or multiple circuit electric power transmission line(s) as follows:*

*(d) Line(s) one hundred twenty-five kV and above but less than three hundred kV, and not greater than 0.2 miles in length.*

*And,*

*(4) Replacing electric power transmission line structure(s) with a different type of structure(s) or adding structure(s) within an existing electric power transmission line and:*

*(a) Two miles or less of new right-of-way required.*

The proposed Project involves installing one 138 kV transmission line loop, and associated structures, into the new Henrietta Substation approximately 195 feet (0.04 miles) long.

**4906-11-01 (B) (2): Need for the Project**

The proposed Project is needed to supply ATSI's new Henrietta Substation. The Henrietta Substation is being installed to mitigate voltage collapse and voltage overloads on the area's 69 kV system. During forecasted high system load periods, the loss of a single element of the transmission system could require 31 MVA of load to be dropped from the City of Amherst's municipal electric system to eliminate criteria violations. By installing the new Henrietta 138/69 kV Substation, the need to drop load from the City of Amherst's municipal electric system is eliminated and allows for future growth in the area.

**4906-11-01 (B) (3): Location Relative to Existing or Proposed Lines**

The location of the Project relative to existing or proposed transmission lines is shown in the FirstEnergy System Facilities map, included as the last page of Chapter 3 of the confidential portion of the FirstEnergy Corp. 2010 Long-Term Forecast Report submitted to the PUCO in case no. 10-504-EL-FOR under rules 4901:5-5:04 (C) of the Ohio Administrative Code. This map shows ATSI's 345 kV and 138 kV transmission lines and transmission substations, including the location of the Beaver-Brookside 138 kV Transmission Line. The project area is located approximately 7 inches (11 by 17 inch printed version) from the left edge of the map box and 6 ¾ inches (11 by 17 inch printed version) from the bottom of the map box. The general location of the Project is shown on Exhibit No. 1. The general layout of the Project is shown in Exhibit No. 2.



**4906-11-01 (B) (4): Alternatives Considered**

One alternative considered for this project was to reconductor two 69 kV lines connecting to the City of Amhearth's municipal electric system substation and install a capacitor bank at the substation. This option would have fixed the issues in the short term, but in approximately three to four years more work would need to be done to sustain the projected load growth in the area. Another option was to upgrade the City of Amhearth's municipal electric system service to 138 kV. The City of Amhearth was not ammenable to upgrading to 138 kV service at this time.

**4906-11-01 (B) (5): Construction Schedule**

Construction on the Project is expected to begin on or about March 1, 2011 and is expected to be completed and placed in-service by June 1, 2011.

**4906-11-01 (B) (6): Area Map**

Exhibit No. 1 is a map depicting the general location of the project site. To locate and view the project site from the Columbus, Ohio area, travel north on Interstate 71 for approximately 77.7 miles. Take exit 186 for US-250 W toward Ashland/Wooster. Turn left at US-250 W and go 1.7 miles. Turn right to merge onto US-250 W/US-42 N toward Norwalk/Medina and proceed 1 mile. Turn left at US-250 W and go 1.8 miles. Turn right at OH-511 N/Troy St. and go 7.6 miles. Turn right at Co Hwy 500/OH-511 N. Take the first left onto OH-511 N and proceed 21.7 miles. Turn left at Baumhart Rd and go 1.9 miles then turn right at Garfield Road. The Project area will be on the north side of the road in approximately 0.3 miles at the end of the long drive.

**4906-11-01 (B) (7): Property Owner List**

The Project will be located on existing right of way and property owned by ATSI, a FirstEnergy Corp. subsidiary.

## **4906-11-01 (C): Technical Features of the Project**

### **4906-11-01 (C) (1): Operating Characteristics**

The new transmission line loop will be designed and constructed for 138 kV operations. The transmission line loop will have the following characteristics:

Voltage: 138 kV  
Conductor: 605 kcmil 24/7 ACSR  
Static Wire: 7#8 Alumoweld  
Insulators: Polymer Horizontal Post  
Structure types: Exhibit No. 3 – Loop Structure

### **4906-11-01 (C) (2): (a) Calculated Electric and Magnetic Fields**

The following table itemizes the line loading of the transmission line loops being installed in the proposed Project. The normal line loading is based on the maximum load to be served to the new Henrietta Substation and the normal configuration of the transmission system. The emergency line loading is based on the maximum load to be served to the new Henrietta Substation with a single element outage of the transmission system that produces the highest loads in the new line loop. The winter rating amps is based on the continuous maximum conductor ratings (MCR) of the circuits for an ambient temperature of zero degrees centigrade (32 deg. F), wind speed of 1.3 miles per hour, and a circuit design operating temperature of 100 degrees centigrade (212 deg. F).

Line Name	Normal Loading Amps	Emergency Loading Amps	Winter Rating Amps
Beaver-Henrietta 138 kV Transmission Line	495	580	1099
Brookside-Henrietta 138 kV Transmission Line	155	255	1099

The following EMF calculations were performed using the EPRI EXPOCALC program software. This program software assumes the input transmission line configuration is located on flat terrain. Also, a balanced, three-phase circuit loading is assumed. The model utilized the normal, emergency, and winter rating

of the transmission line loops with a minimum ground clearance of 24 feet. Only the new line loop was modeled.

EMF CALCULATIONS		Electric Field kV/meter	Magnetic Field mGauss
Normal Loading	Under Lowest Conductors	0.73	47.5
	At Right-of-Way Edges	0.15	5.2
Emergency Loading	Under Lowest Conductors	0.73	56.6
	At Right-of-Way Edges	0.15	7.0
Winter Rating	Under Lowest Conductors	0.73	119.7
	At Right-of-Way Edges	0.15	20.7

#### **4906-11-01 (C) (2): (b) EMF Discussion**

##### **Background Information**

Electric and magnetic fields (EMFs) are naturally occurring in the environment and can be found in the Earth's interior and in the human body. EMFs are generated essentially anywhere there is a flow of electricity, including electrical appliances and power equipment. Electric fields are associated with the voltage of the source; magnetic fields are associated with the flow of current in a wire. The strength of these fields decreases rapidly with distance from the source. EMFs associated with electricity use are not disruptive to cells like x-rays or ultraviolet rays from the sun. These fields are thought to be too weak to break molecules or chemical bonds in cells. Extensive research has been conducted over the past three decades to determine whether EMFs are associated with adverse health effects. A number of independent scientific panels have reviewed the research and have stated that there is no basis to conclude that EMFs cause adverse health effects nor has it been shown that levels in everyday life are harmful.

##### **Recent Developments**

As a part of the National Energy Policy Act of 1992, the Electric and Magnetic Fields Research and Public Information Dissemination (EMF RAPID) program was initiated within the five-year effort under the National EMF Research Program. The culmination of this five-year effort resulted in a final RAPID

Working Group report, which was released for public review in August 1998. The Director of the National Institutes of Environmental Health Sciences (NIEHS) then prepared a final report to Congress after receiving public comments.

The NIEHS' Director's final report, released to Congress on May 4, 1999, concluded that extremely low frequency electric and magnetic fields (ELF-EMF) exposure cannot be recognized at this time as entirely safe because of weak scientific evidence that exposure may pose a leukemia hazard. The Director further stated that the conclusion of this report is insufficient to warrant aggressive regulatory concern.

Sources for Additional Information

The following websites sponsored by federal agencies or other organizations provide additional information on EMF:

- Centers for Disease Control/National Institute for Occupational Safety and Health: <http://www.cdc.gov/niosh/topics/emf/>
- National Institute of Environmental Health Sciences (NIEHS) EMF Rapid Program: <http://www.niehs.nih.gov/emfrapid/home.htm>

**4906-11-01 (C) (3): Estimated Costs**

The estimated capital costs by FERC Accounts for the proposed Project are:

Account	Cost
350 Land Rights	\$ 0
354 Towers and Fixtures	\$ 63,000
355 Poles and Fixtures	\$ 61,100
356 Overhead Conductors & Devices	\$ 13,640
<u>Removal, Engineering, Siting and Overhead</u>	<u>\$ 14,000</u>
Total	\$ 154,176

## **4906-11-01 D: Socioeconomic Data**

### **4906-11-01 (D) (1): Land Use**

The Project area is located in an agricultural, residential and wooded area. Neighboring land use in the area of the proposed Project includes residences and agricultural activities. Based on the U.S. Bureau of Census estimates, the 2000 population of the Henrietta Township was 1,923 and Lorain County, Ohio was 284,664.

### **4906-11-01 (D) (2): Agricultural Land**

The placement of the new structures will not impact agricultural land use on the ATSI owned property or surrounding area.

### **4906-11-01 (D) (3): Archaeological or Cultural Resources**

As part of ATSI's investigation of the project site, a search of the Ohio Historic Preservation Office (OHPO) National Register of Historic Places on-line database was conducted. This search did not identify the existence of any historic sites within the project area. Properties in the OHPO database include all Ohio listings on the National Register of Historic Places as well as districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture.

**4906-11-01 (D) (4): (a) Documentation of Letter of Notification Transmittal**

This Letter of Notification is being provided concurrently to the following officials of Henrietta Township and Lorain County, Ohio.

**Lorain County**

The Honorable Betty C. Blair  
Lorain County Commissioner  
226 Middle Avenue  
Elyria, OH 44035

The Honorable Lori A. Kokoski  
Lorain County Commissioner  
226 Middle Avenue  
Elyria, OH 44035

The Honorable Ted Kalo  
Lorain County Commissioner  
226 Middle Avenue  
Elyria, OH 44035

Mr. James R. Cordes  
Lorain County Administrator  
226 Middle Avenue  
Elyria, OH 44035

Mr. Kenneth P. Carney, P.E., P.S.  
Lorain County Engineer  
274 Hadaway St.  
Elyria, OH 44035

**Henrietta Township**

Mr. Ronald W. Baumann  
Henrietta Township Trustee  
10413 Vermillion Road  
Oberlin, OH 44074

Mr. Howard A. Born, III  
Henrietta Township Trustee  
10413 Vermillion Road  
Oberlin, OH 44074

Mr. Joseph R. Knoble  
Henrietta Township Trustee  
10413 Vermillion Road  
Oberlin, OH 44074

Francis J. Knoble  
Henrietta Township Fiscal Officer  
10413 Vermillion Road  
Oberlin, OH 44074

Copies of the transmittal letters to these officials have been included with the transmittal letter submitting this Letter of Notification to the Ohio Power Siting Board.

**4906-11-01 (D) (4): (b) Public Information Program**

Ohio Edison's Manager of External Affairs will advise local officials of features and the status of the proposed transmission line Project as necessary.

**4906-11-01 (D) (5): Current or Pending Litigation**

There is no known current or pending litigation involving this Project.

**4906-11-01 (C) (6): Local, State, and Federal Requirements**

There are no known local, state, or federal requirements that must be met prior to commencement of construction on the proposed transmission line Project.

**4906-11-01 (E): Environmental Data**

**4906-11-01 (E) (1): Endangered, Threatened, and Rare Species Investigation**

A written request was submitted to the Ohio Department of Natural Resources (ODNR) on May 18, 2010 to research the presence of any endangered, threatened, or rare species within the Project area. The ODNR's response of May 25, 2010, attached as Exhibit No. 4, indicated that they have no records of rare or endangered species within one mile of the identified Project area.

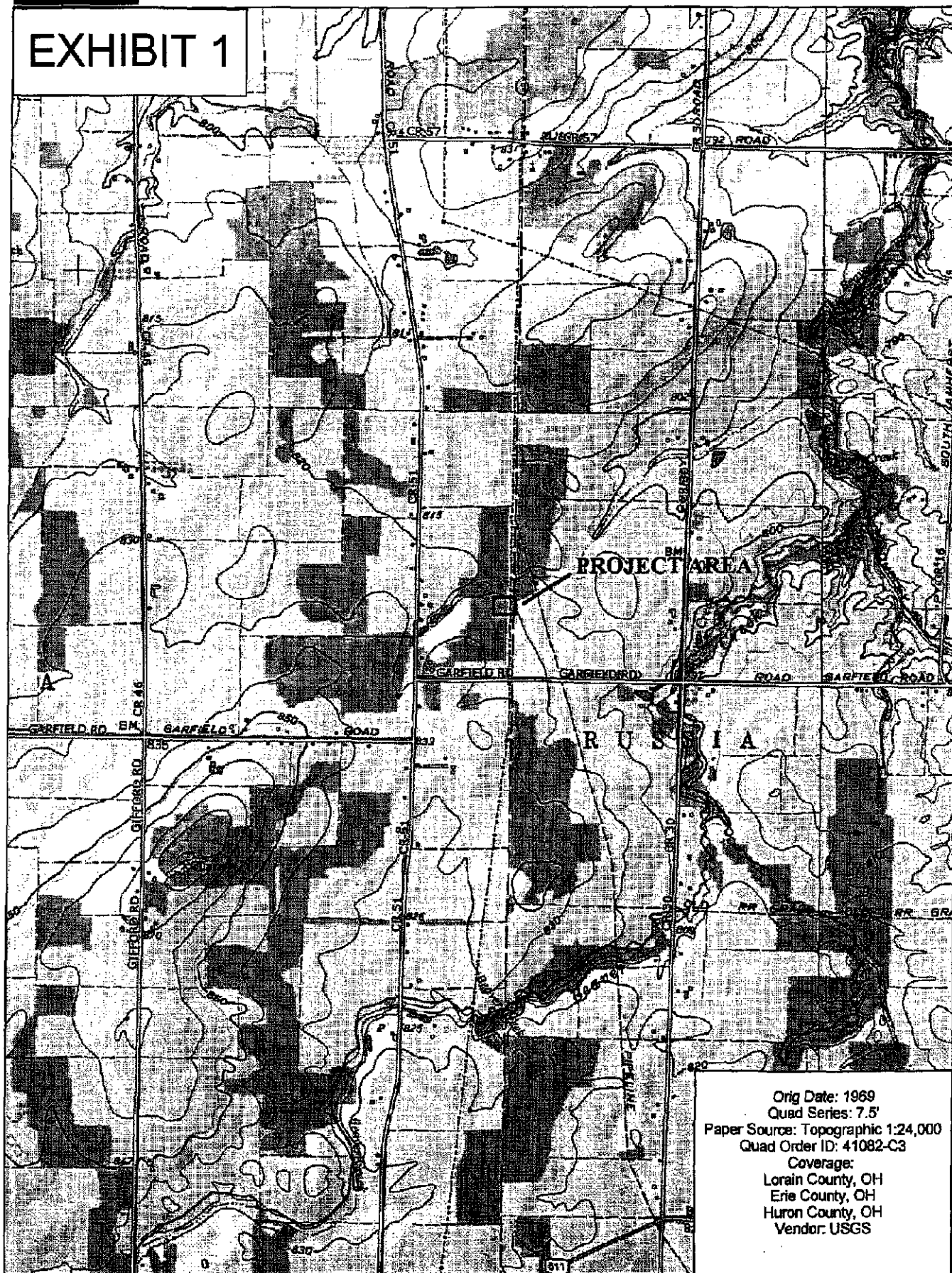
**4906-11-01 (E) (2): Areas of Ecological Concern**

The project is located in an open area along an established transmission line right-of-way. Visual observations of the project area did not indicate areas of ecological concern near the project.

**4906-11-01 (E) (3): Additional Information**

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

# EXHIBIT 1



Orig Date: 1969  
Quad Series: 7.5'  
Paper Source: Topographic 1:24,000  
Quad Order ID: 41082-C3  
Coverage:  
Lorain County, OH  
Erie County, OH  
Huron County, OH  
Vendor: USGS

**Data use subject to license.**

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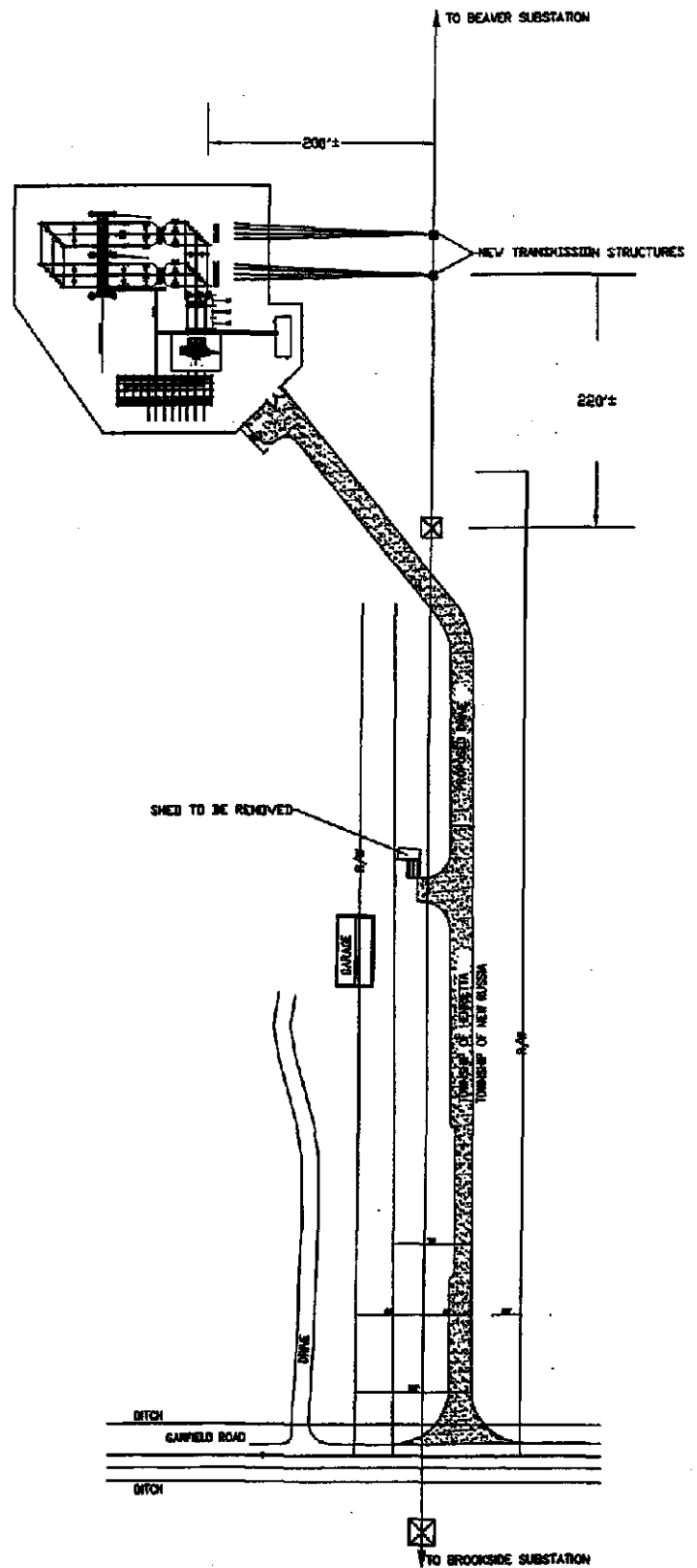
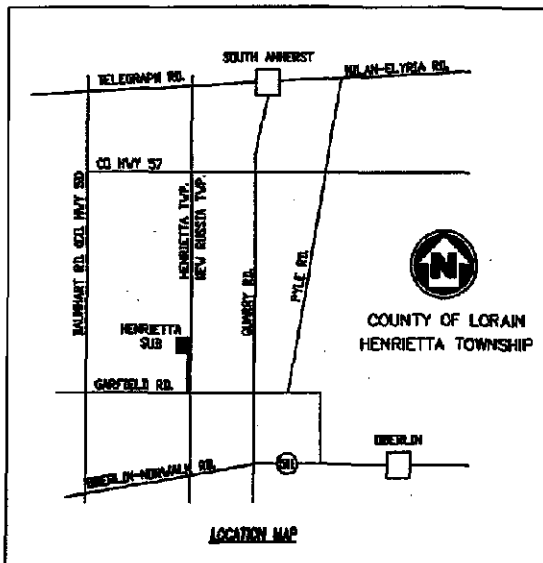
[www.delorma.com](http://www.delorma.com)

**Scale 1 : 24,000**



1" = 2,000.0 ft      Data Zoom 13-0





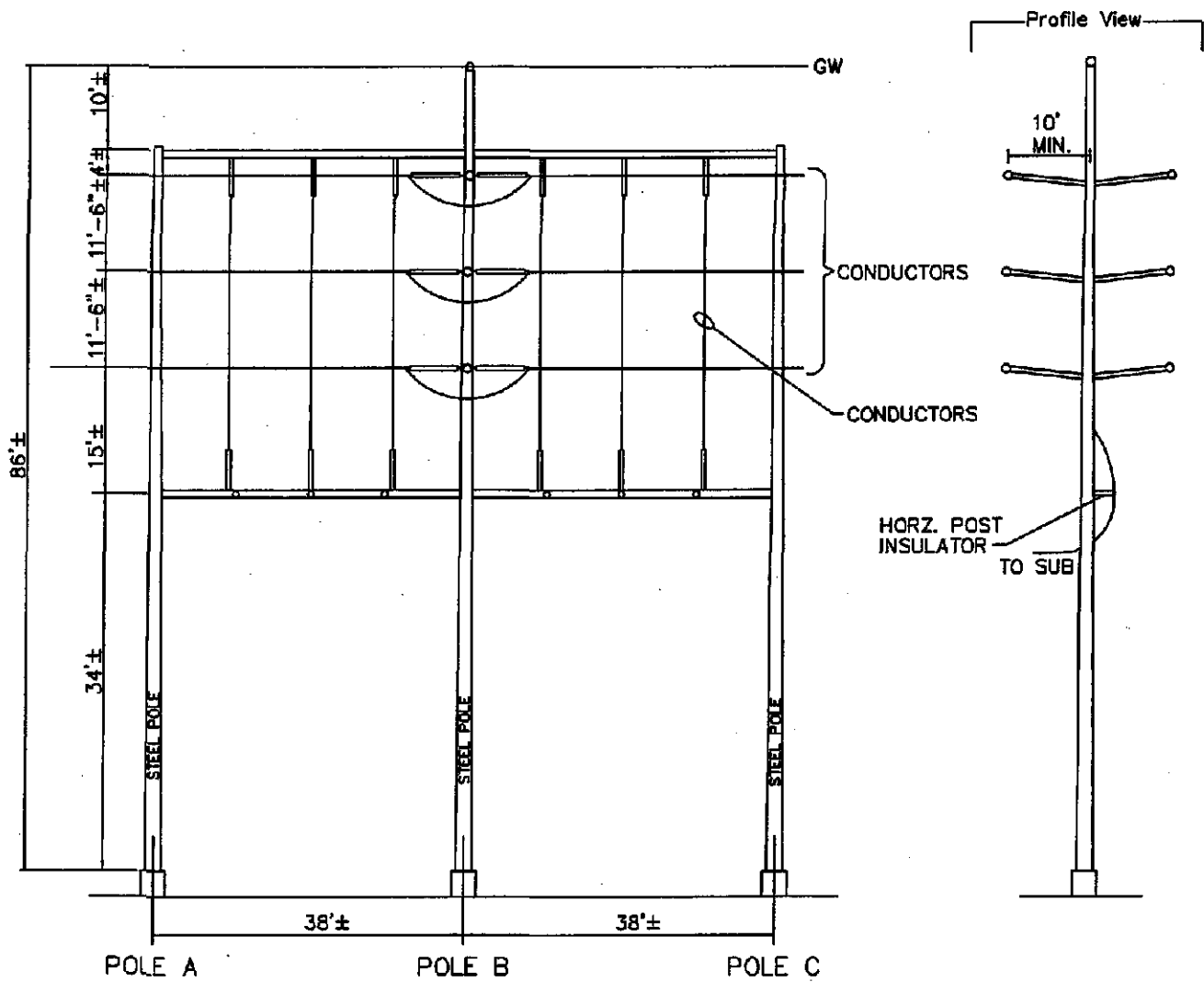
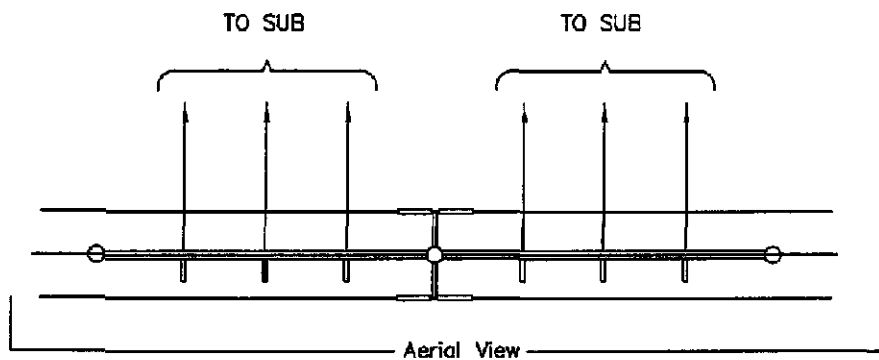
**ATSI.**

American Transmission Systems, Inc.  
a subsidiary of AmeriGen Corp.

BEAVER-BROOKSIDE 138 kV  
TRANSMISSION LINE  
LOOP TO HENRIETTA SUBSTATION

GENERAL LAYOUT

EXHIBIT 2



**ATSI.**

American Transmission Systems, Inc.  
a subsidiary of FluorEnergy Corp.

BEAVER-BROOKSIDE 138 kV TRANSMISSION  
LINE LOOP TO HENRIETTA SUBSTATION PROJECT

DOUBLE CIRCUIT TAP STRUCTURE

EXHIBIT 3



## Ohio Department of Natural Resources

TED STRICKLAND, GOVERNOR

SEAN D. LOGAN, DIRECTOR

### Division of Natural Areas and Preserves

*Anthony J. Celebrezze, III, Acting Chief*

2046 Morse Rd., Bldg. F-1

Columbus, OH 43229-6693

Phone: (614) 265-6453; Fax: (614) 267-3096

May 25, 2010

Scott Humphrys  
FirstEnergy Service Co.  
76 S. Main St.  
Akron, OH 44308

Dear Mr. Humphrys:

After reviewing our Natural Heritage maps and files, I find the Division of Natural Areas and Preserves has no records of rare or endangered species in the Beaver-Brookside 138 kV Loop to Henrietta Substation project area, including a one mile radius, on Garfield Rd. in Henrietta Township, Lorain County, and on the Kipton Quad.

There are no dedicated state nature preserves or scenic rivers at the project site. We are also unaware of any unique ecological sites, geologic features, animal assemblages, state parks, state forests or state wildlife areas within a one mile radius of the project area.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. 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 we inventory all types of plant communities, we only maintain records on the highest quality areas.

Please contact me at 614-265-6818 if I can be of further assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "Debbie Woischke".

Debbie Woischke, Ecological Analyst  
Natural Heritage Program

