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PUCO

**Letter of Notification****for the****Hanthorn Road – G.O. Ethanol 138 kV  
Line****Service to Greater Ohio Ethanol Facility****Submitted by****Ohio Power Company****To****The State of Ohio Power Siting Board****February 2007**

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## **LETTER OF NOTIFICATION**

In accordance with Ohio Administrative Code Section 4906-11-01, Letter of Notification requirements, Ohio Power Company submits the following.

### **4906-11-01 (A) Need Statement**

#### **(1)(a) Name of Project**

The name of this project is the Hanthorn Road – G.O. Ethanol 138 kV Line Service to Greater Ohio Ethanol (GOE) Substation. This project is not identified in Ohio Power's latest Long Term Forecast.

#### **(1)(b) Description of this Project**

This project involves tapping the existing South Kenton – Sterling 138 kV Line and installing approximately 1800' feet of new 138 kV single circuit transmission line to serve a proposed customer owned substation. The existing circuit to be tapped is the East Lima – Sterling 138 kV Circuit (FD98).

#### **(1)(c) Need for this Project**

GOE is constructing a new ethanol processing and refining plant in Lima, Ohio. The GOE station will be located between two existing 138kV circuits, the East Lima – Sterling 138kV Circuit and the Lincoln – Sterling 138kV Circuit. Of these two circuits, the East Lima-Sterling 138kV Circuit is the only circuit that is currently capable of providing the load requested by GOE. Attempting to utilize the Lincoln – Sterling 138kV Circuit would require additional upgrades to the transmission grid. Therefore, the chosen route from the East Lima – Sterling 138 kV circuit provided for the closest, lowest impact source for the new delivery.

#### (1)(d) Reasons this Project Meets the Letter of Notification Requirements

This project meets the for a Letter of Notification because the extent of this project is defined by Item (1)(c) of Appendix A “ Application Requirement Matrix for Electric Power Transmission Lines. This project consists of constructing a line that is greater than 135 kV but less than 300 kV and not greater than 2 miles in length.

#### (2) Projection Location Relative to Existing or Proposed Lines

The proposed 138kV project area has been identified on “Map 2” (see Appendix). Map 3 (see Appendix) is a copy of Columbus Southern Power and Ohio Power’s Transmission System as of December 31, 2012, as submitted to the Public Utility Commission of Ohio in our latest Long-Term Forecast Report. This shows the project area in relation to existing AEP transmission facilities.

#### (3) Alternatives Considered

The GOE station will be located approximately 1800’ south of the Lincoln – Sterling 138 kV circuit, and approximately 1800’ north of the East Lima – Sterling 138 kV circuit. Although both circuits are located equal distances from the site, it was determined that based on the conductor size and circuit length, the existing 4/0 copper conductor on the Lincoln – Sterling 138kV Circuit could be overloaded with the additional load requested by GOE. In order to use the Lincoln – Sterling 138kV Circuit, additional system upgrades would be required. Therefore, the nearby East Lima – Sterling 138 kV circuit was chosen as the least impacting source for the new delivery.

#### (4) Anticipated Construction Schedule

In order to meet customer requirements, the line must be energized on or before September 1, 2007. Clearing and line construction is expected to begin in late March to early April 2007.

The project schedule milestones are as follows:

- 1) Clearing: April 1 – April 15
- 2) Road Construction: April 15 – May 15
- 3) On-Site Geotechnical Study & Final Engineering: May 15 – June 1
- 4) Material Delivery: June 15
- 5) Foundation Installation June 15 – July 15
- 6) Line Construction: July 15 – September 1

**(5) Maps Depicting Project Location**

The project is located outside the City of Lima, Perry Township, and Allen County, Ohio.

Map 2 (see Appendix) has been prepared to show the general project site location.

Additionally, a detailed site plan is shown in “Map 1” (see Appendix). To view the project (From Columbus, OH) travel northwest on U.S. 33, and take the S.R.117 Exit. Turn right off the exit onto S.R.117. Next, turn left on Hanthorn Road. The GO Ethanol project area begins as soon as you cross under I-75.

**4906-11-01 (B) Technical Features**

**(1) Number and Type of Structures**

The existing South Kenton - Sterling 138 kV line is a single circuit 138 kV line supported on wood pole H-frame structures. To tap this line, a single pole steel switch Structure #227A (see Figure A in the Appendix) will be installed. An existing access road will be extended from Hanthorn Road to the new Structure #227A. The access road will be permanent and will provide for future access to the switch structure. The road will be a 12' wide gravel drive. Structures #227 & #228 on the existing South Kenton – Sterling 138kV Line will be replaced with similar wood pole structures, but with increased height. An equal number of existing wood poles will be removed. The new line will consist of two (2) steel tangent poles (see Figure B in the Appendix), and one (1) guyed steel dead-end structure (see Figure C in

the Appendix). The new line will utilize three (3) 556,500 ACSR (26/7) conductors and one (1) 7#8 Alumoweld overhead ground wire.

Greater Ohio Ethanol owns all the property on which the new transmission line will be located. GOE will be providing a 70' wide easement for the new construction. No additional land rights will be required.

(2) Calculated Electric and Magnetic Field Levels

Electric and Magnetic Fields During Operation

*(a) Calculated Electric and Magnetic Field Levels*

**Line Loading & Rating**

Circuit	Normal Maximum Loading	Emergency Loading	Winter Normal Conductor Rating
Hanthorn Rd – G.O. Ethanol 138 kV Circuit	25 MVA	25 MVA	230MVA

\*\*\*The electric and magnetic field levels for the proposed project were calculated for the conductor configuration as depicted by "Figure D" (see Appendix).

**Electric & Magnetic Field (EMF) Strength**

Conductor Condition	Electric Field (kV/m)		Magnetic Field (mG)	
	Maximum Under Line	Edge of R.O.W.	Maximum Under Line	Edge of R.O.W.
Normal Maximum Loading	0.756	0.212	5.73	3.44
Emergency Line Loading	0.756	0.212	5.73	3.44
Winter Normal Conductor Rating	0.896	0.191	63.81	35.08

*(b) Discussion of Design Alternatives*

The alternative option discussed in section 4606-11-01-A3 would have very similar construction, and consequently, very similar EMF values to those discussed above.

(3) Estimated Capital Costs

The 2006 capital cost estimates for the proposed project have been tabulated by the Federal Energy Regulatory Commission (FERC) Electric Plant Transmission Accounts:

FERC Accounts	Estimated Capital Costs
355 Poles and Fixtures	\$259,200
356 Overhead Conductors and Devices	\$120,800
362 Switches & Fixtures	\$197,000
353 Station Equipment	\$ 12,000
<b>Total</b>	<b>\$589,000</b>

4906-11-01 (C) Socioeconomic Data

(1) Land Use and Population Density

This project is located outside of the City of Lima, Ohio. The project lies in Perry Township, Allen County, Ohio. The surrounding area is composed of low-density residential and commercial areas. Based upon the 2000 census, the project area has a population density of between 108-159 people/per square mile (2000 US Census Data - area defined by zip code).

(2) Agricultural Land and Agricultural Districts

The proposed line is not within the limits of any agricultural land nor is it located within any Agricultural District as defined by Chapter 929 of the Ohio Revised Code.

(3) Investigation of Archeological and Cultural Resources

A search of the Ohio Historic Preservation Office (OHPO) National Register of Historic Places on-line databases was conducted and did not identify the existence of any historic sites within the project area. Properties on the OHPO database include all 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. Most of the project area has been extensively disturbed by the construction of existing home sites, and the proposed Greater Ohio Ethanol Facility.

(4) Local Officials to be Notified and Public Information Program

Copies of this Letter of Notification have been sent to the Allen County Engineer, the Allen County Commissioners, the Perry Township Trustees, and the Mayor of Lima. Copies of the cover letters to these officials are attached. This line is being constructed on property owned entirely by GOE. GOE has extensive knowledge of the proposed transmission line facilities. GOE has also been involved with presenting their proposed project to the local community.

(5) Current or Pending Litigation

There is no current litigation involving this project and none is expected.

(6) Local, State and Federal Requirements

This line will be designed, constructed, and operated to meet or exceed the requirements of the National Electrical Safety Code, American Electric Power design standards, and all applicable OSHA standards.

**4906-11-01 (D) Environmental Data**

(1) Endangered or Threatened Species

The Ohio Department of Natural Resources, Division of Natural Areas and Preserves was contacted regarding the presence of any endangered, threatened, or rare species that may be affected by this project. Their response indicated no known existing or proposed state nature

preserves or scenic rivers within the proposed project area. They also indicated that they were unaware of any unique ecological sites, geological features, animal assemblages or state parks, forests, or wildlife areas within the project area. A copy of the information request, as well as the response from the Ohio Department of Natural Resources is included in the Appendix. The United States Department of the Interior, Fish and Wildlife Service was also contacted regarding the presence of any endangered, threatened, or rare species that may be affected by this project. They have not responded at this time. If a response is received, it will be forwarded to the OPSB Staff. A copy of the information request is included in the Appendix. In order to address any potential for threatened/endangered species in the project area, AEP shall, to the extent possible, avoid tree removal at the project site. The trees that must be removed will be removed between September 15<sup>th</sup> & April 15<sup>th</sup>.

#### (2) Areas of Ecological Concern

The United States Department of the Interior's Fish and Wildlife Service, and the Ohio Department of Natural Resources' Division of Natural Areas and Preserves were contacted regarding the presence of any areas of ecological concern. At the time of this filing, neither agency had reported anything of concern. The response received from the Ohio Department of Natural Resources indicated that the proposed transmission line area is not within the confines of any known wetlands, state or national forest or preserves, or floodplains.

#### (3) Additional Information

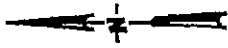
For this project, all tall-growing woody vegetation (trees and saplings) present on the right-of-way will be cleared by cutting at ground level. Approximately 0.70 acres of wooded Right-of-Way will need to be cleared on the south side of Hanthorn Road. Stumps will be selectively treated to prevent re-sprouting. In addition, specific danger trees will be removed from areas immediately adjacent to the right-of-way. Danger trees are those of such height that, in falling due to natural causes, have potential to contact the conductors or structures. Herbaceous vegetation, low-growing shrubs, and the stumps and roots of trees and shrubs will not be disturbed unless absolutely necessary.



After recovery from mechanical damage, resulting from equipment moving at temporary work sites, herbaceous vegetation and low-growing shrubs will be encouraged to provide cover for soil stabilization and wildlife. The logs and slash from the clearing operations will be placed in a windrow at the edges of the right-of-way. This windrow will help prevent erosion and provide cover to smaller forms of wildlife.

Otherwise, there are no unusual conditions that will cause significant environmental or social impacts from the installation and operation of this proposed transmission line tap.

## **Appendix**



STATE OF OHIO  
ALLEN COUNTY  
PERRY TWP.  
T. 4 S., R. 7 E.  
PERRY LOCAL LSD  
SCHOOL DISTRICT

	HANTHORN RD - G.O. ETHANOL 138KV LINE	
	DETAIL SITE MAP	
1" = 500'		
MAP 1		

INTERSTATE ROW LIMIT  
**INTERSTATE 75 NORTH BOUND**

**INTERSTATE 75 SOUTH BOUND**  
INTERSTATE ROW LIMIT  
PROJECTED ROW LIMIT

GREATER OHIO  
ETHANOL SITE

Proposed  
Greater Ohio  
Ethanol Substation

PROPOSED DRIVE

EXISTING  
HOUSE  
(TO BE REMOVED)

SH-2274  
HANTHORN RD  
S41549

PROPOSED ACCESS  
ROAD

SH-227

SH-228

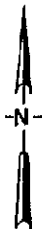
EXISTING  
LIMA-STERLING 138 KV LINE

Proposed  
Hanthorn Rd. -  
G.O. Ethanol 138KV Line

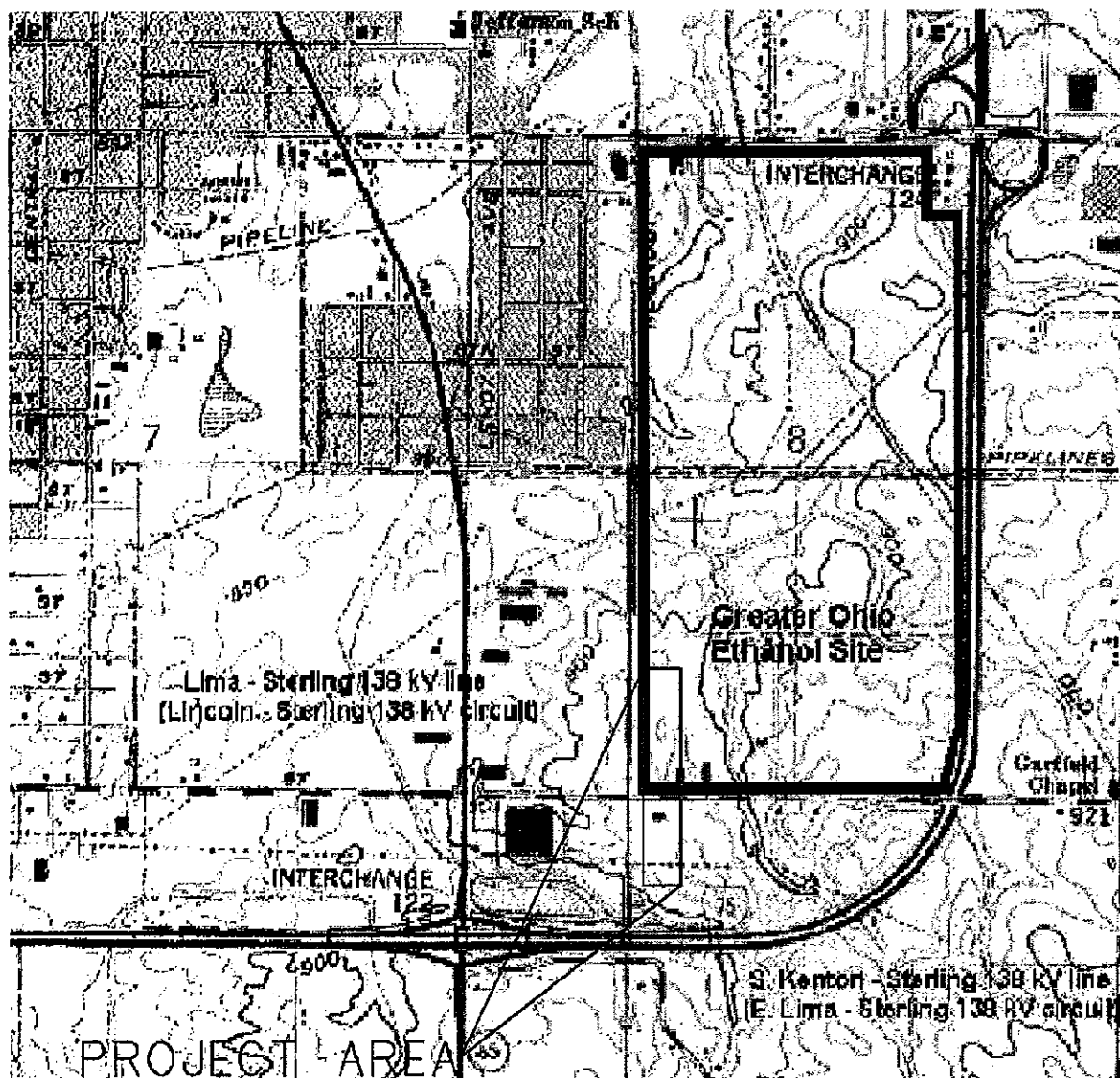
HANTHORN ROAD


SOUTH HANTHORN-STERLING TOWN LINE

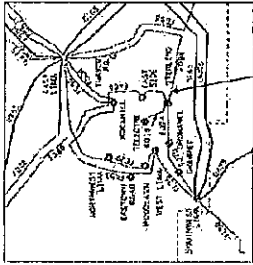
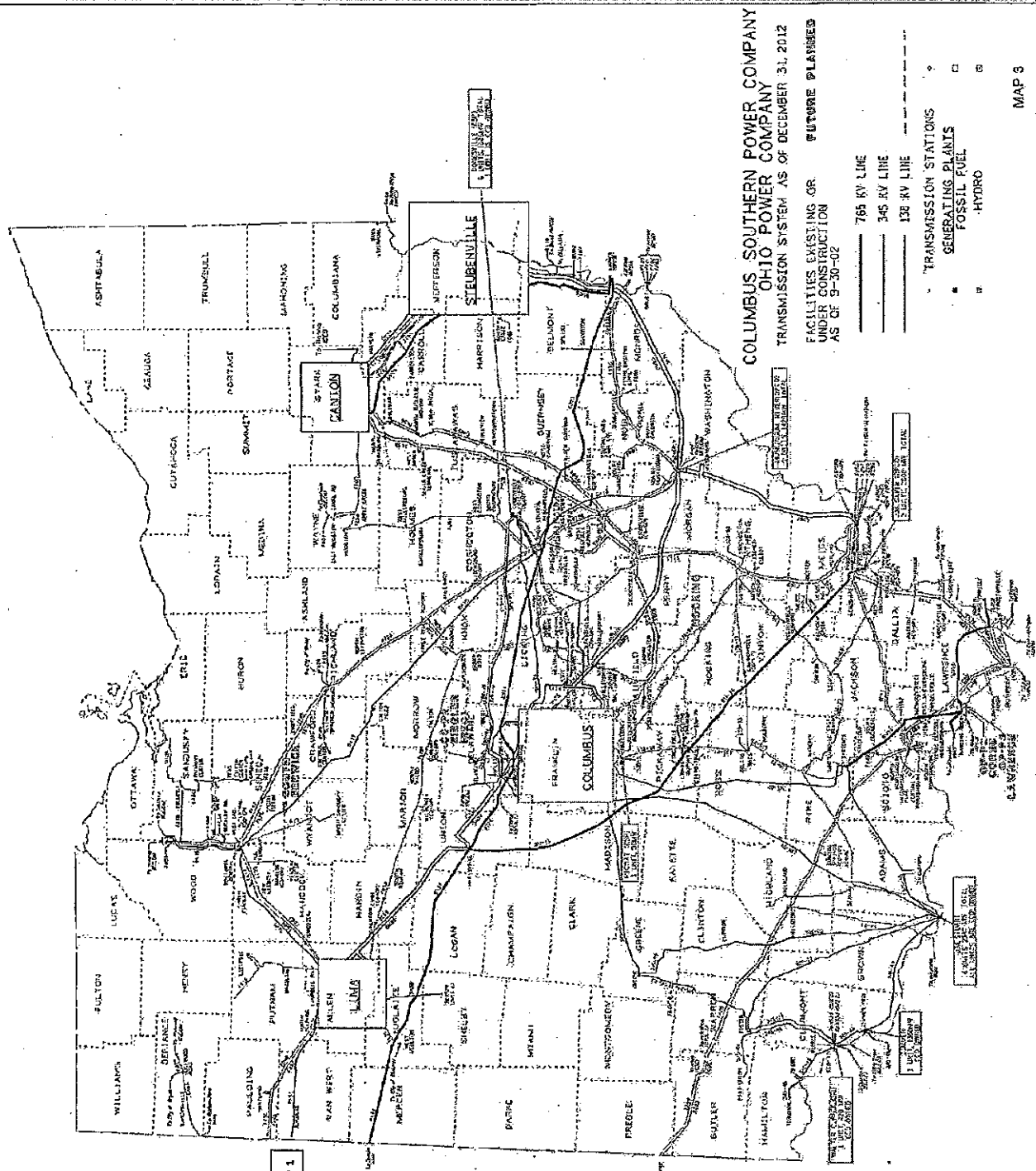
I. & O. RAILROAD



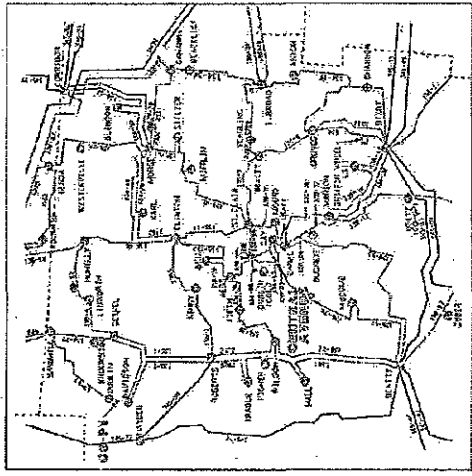
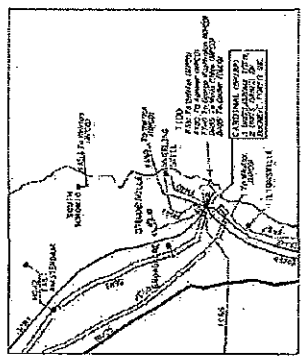
STATE OF OHIO  
ALLEN COUNTY  
PERRY TWP.  
T. 4 S. R. 7 E.  
PERRY LOCAL LSD  
SCHOOL DISTRICT

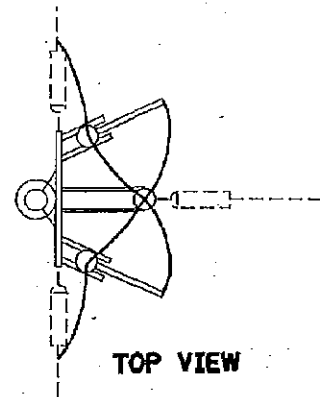
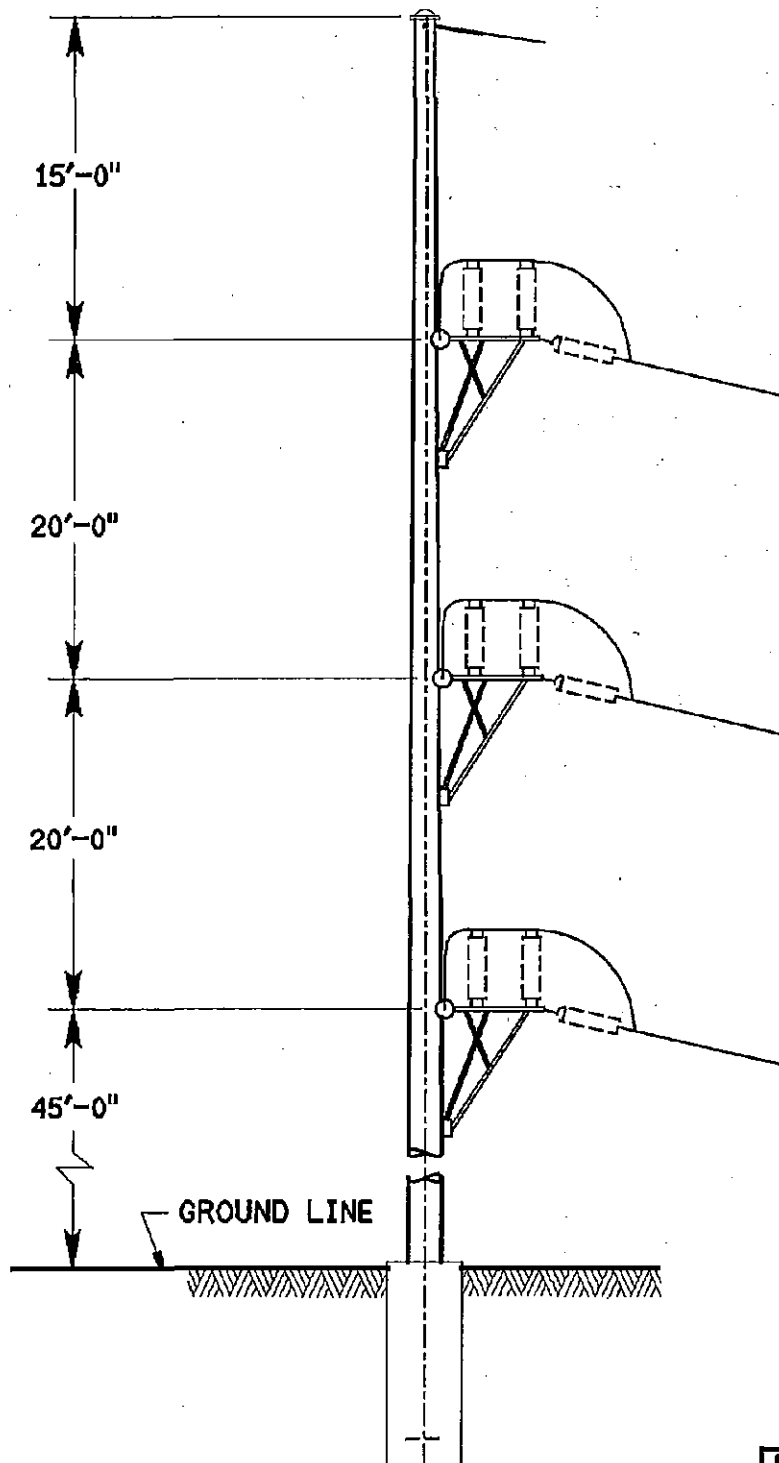


	HANTHORN RD -- G.O. ETHANOL 138kV LINE
GENERAL LOCATION MAP USGS CORNING, OHIO QUAD	
NOT TO SCALE	MAP 2



CANON  
LIN6  
PROJECT AREA  
SEE DETAIL SITE MAP 1





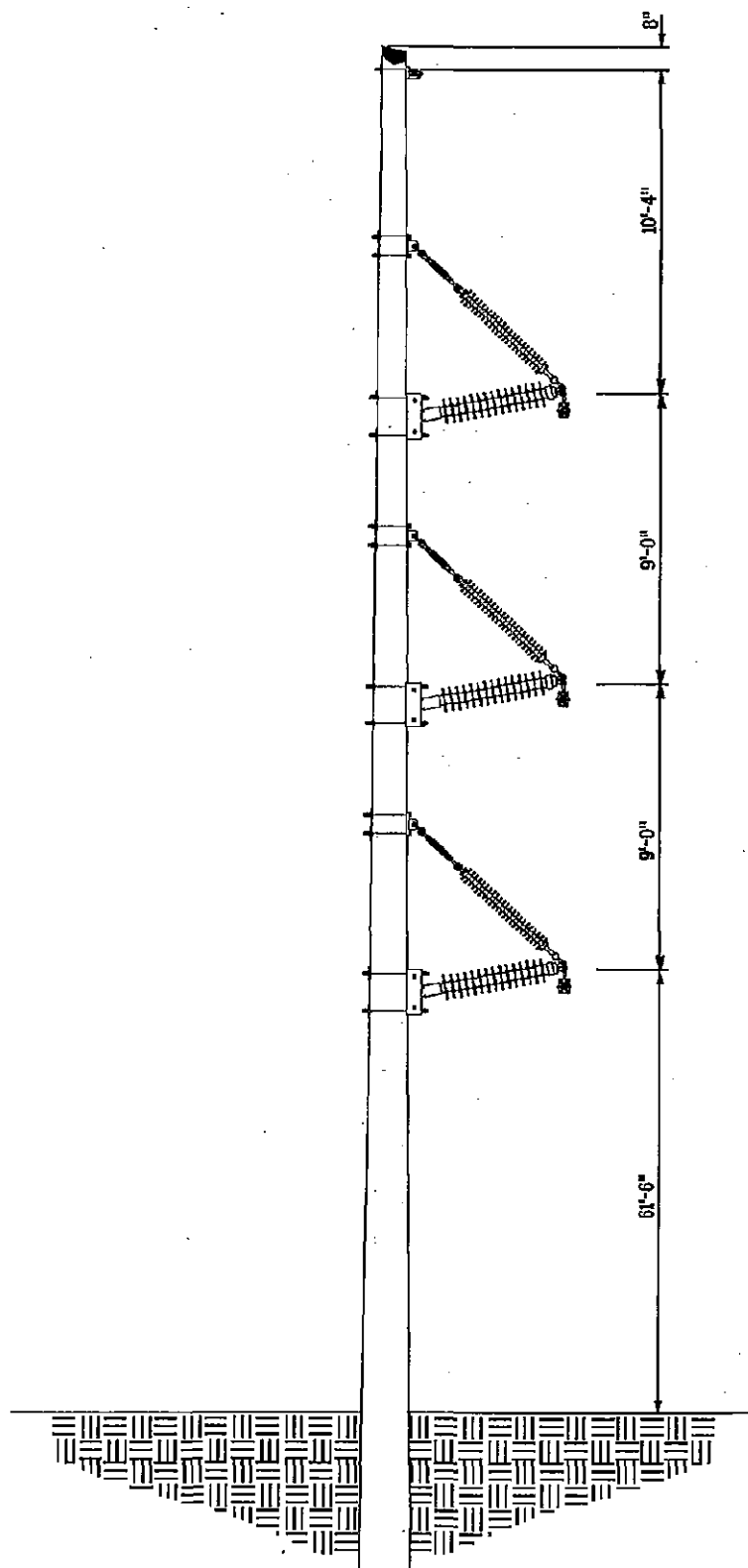
**AEP AMERICAN  
ELECTRIC  
POWER**

HANTHORN RD -  
G.O. ETHANOL  
138kV LINE

**STEEL POLE  
MOUNTED SWITCH  
STR. 227A**

w:/aep/s/ting/Hanthorn-60E138kV.dgn

NOT TO SCALE | **FIGURE A**



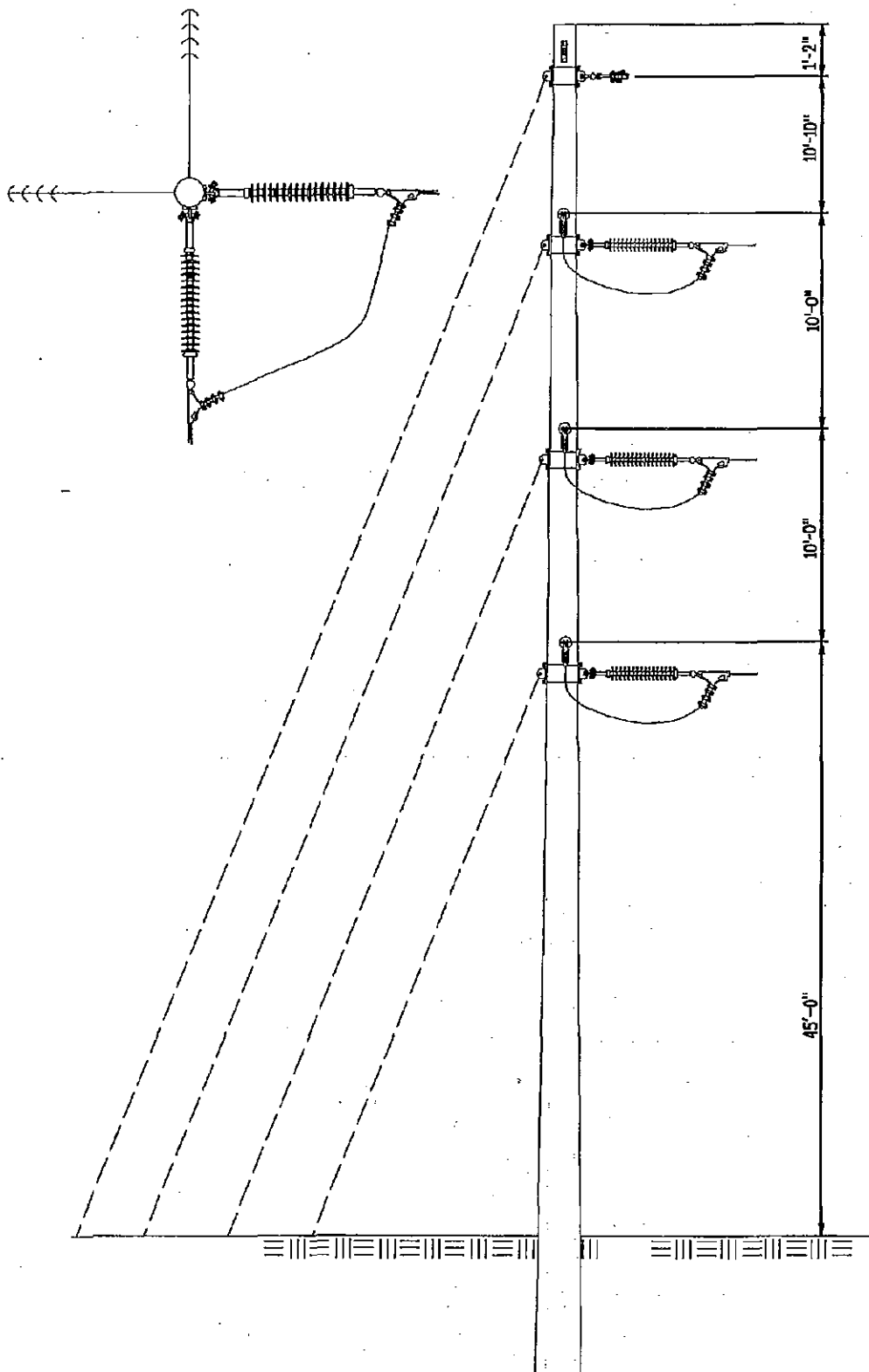
HANTHORN RD -  
G.O. ETHANOL  
138KV LINE

STEEL POLE  
BRACED POST TANGENT STRUCTURE  
STR. 1 & 2

NOT TO SCALE

FIGURE B

w:/aep/siting/Hanthorn-GOE138kV.dgn



HANTHORN RD -  
G.O. ETHANOL  
138kV LINE

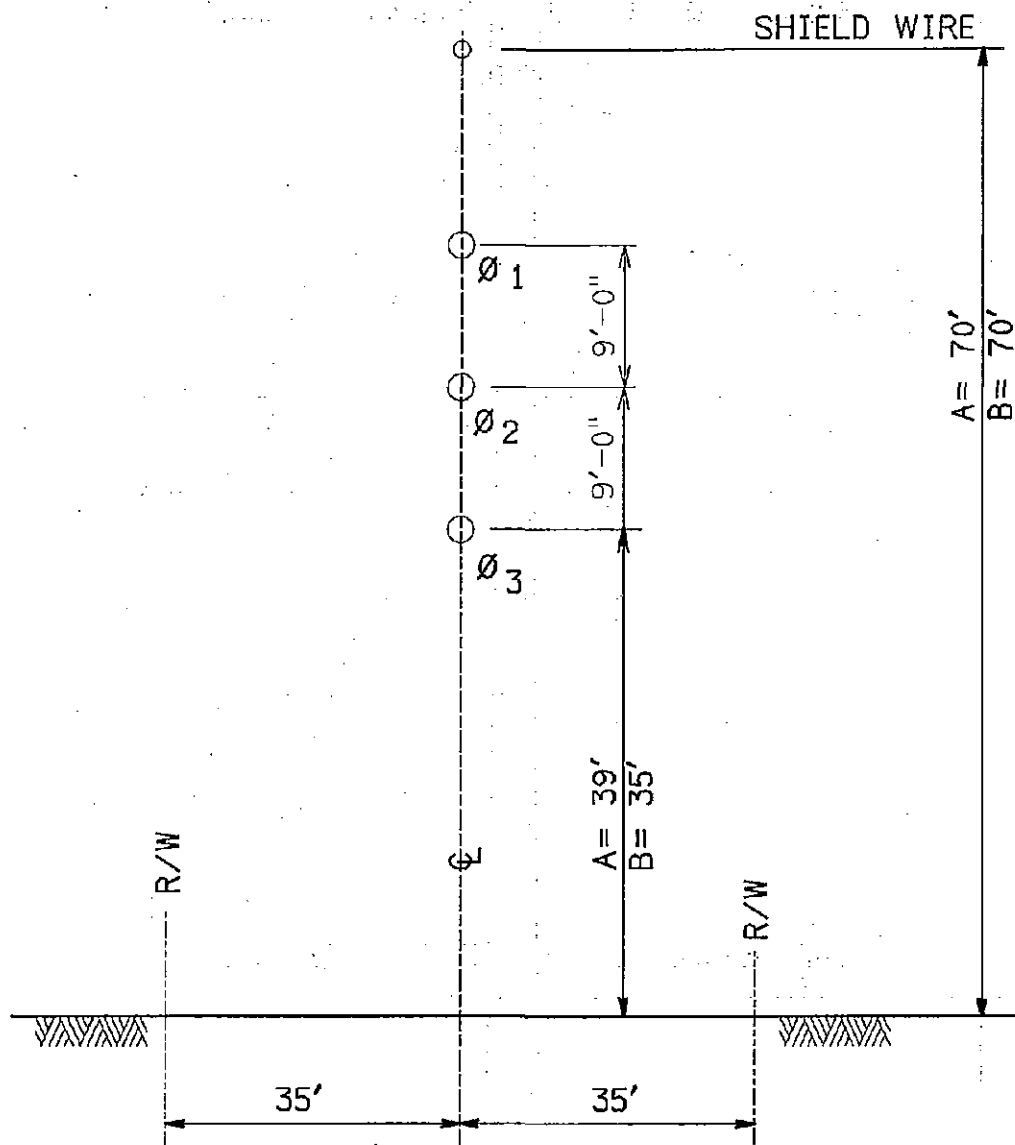
STEEL POLE  
GUYED DEAD-END STRUCTURE  
STR. 3

NOT TO SCALE

FIGURE C

w:/aep/siting/Hanthorn-GOE138kV.dgn





**DIMENSION 'A'** - SINGLE CIRCUIT - VERT. CONFIGURATION (STEEL POLE)  
(UNDER EMERGENCY & NORMAL MAX. LINE LOADING)

**DIMENSION 'B'** - SINGLE CIRCUIT - VERT. CONFIGURATION (STEEL POLE)  
(UNDER WINTER NORMAL  
CONDUCTOR RATING)



HANTHORN RD -  
G.O. ETHANOL  
138kV LINE

**STEEL POLE  
TANGENT STRUCTURE**



American Electric Power  
700 Morrison Road  
Gahanna, OH 43230

February 12, 2007

The City of Lima  
Lima Municipal Center  
David J. Berger, Mayor  
50 Town Square  
Lima, OH 45801

**Letter of Notification  
Hanthorn Road – G.O. Ethanol 138 kV Line  
Service to G.O. Ethanol Distribution Station**

Dear Mayor

In accordance with Chapter 4906 of the Ohio Administrative Code, the Ohio Power Company is required to submit a Letter of Notification to the State of Ohio Power Siting Board whenever a substantial change is made to our transmission facilities.

American Electric Power is planning to install a short 1800' tap off of the existing South Kenton – Sterling 138kV Line to serve the proposed Greater Ohio Ethanol distribution station in Perry Township, Lima, Ohio.

In compliance with Rule 4906-15-08 of the OPSB Rules and Regulations, we have prepared and filed the attached Letter of Notification. This Notification contains details on the line location, structure types and construction schedule, and is submitted for your information.

Cordially,

A handwritten signature in black ink, appearing to read 'Bryan Hanft', is located below the 'Cordially,' text.

Bryan Hanft  
Transmission Line Projects Engineering



American Electric Power  
700 Morrison Road  
Gahanna, OH 43230

February 12, 2007

County Engineer  
Timothy J. Piper, P.E., P.S.  
1501 North Sugar Street  
Lima, OH 45801

**Letter of Notification**  
**Hanthorn Road – G.O. Ethanol 138 kV Line**  
**Service to G.O. Ethanol Distribution Station**

Dear County Engineer

In accordance with Chapter 4906 of the Ohio Administrative Code, the Ohio Power Company is required to submit a Letter of Notification to the State of Ohio Power Siting Board whenever a substantial change is made to our transmission facilities.

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Cordially,

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Bryan Hanft  
Transmission Line Projects Engineering



American Electric Power  
700 Morrison Road  
Gahanna, OH 43230

February 12, 2007

Perry Township Trustees  
Frank J. LaMar, Chairman  
Perry Township House  
2408 E. Breese Road  
Cridersville, OH 45806

**Letter of Notification**  
**Hanthorn Road – G.O. Ethanol 138 kV Line**  
**Service to G.O. Ethanol Distribution Station**

Dear Trustees

In accordance with Chapter 4906 of the Ohio Administrative Code, the Ohio Power Company is required to submit a Letter of Notification to the State of Ohio Power Siting Board whenever a substantial change is made to our transmission facilities.

American Electric Power is planning to install a short 1800' tap off of the existing South Kenton – Sterling 138kV Line to serve the proposed Greater Ohio Ethanol distribution station in Perry Township, Lima, Ohio.

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Cordially,

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Bryan Hanft  
Transmission Line Projects Engineering



American Electric Power  
700 Morrison Road  
Gahanna, OH 43230

February 12, 2007

Allen County Commissioners  
Dan Reiff, Greg Sneary & Sam Bassitt  
Kelli Singhaus – Clerk  
301 North Main Street  
Lima, OH 45802

**Letter of Notification**  
**Hanthorn Road – G.O. Ethanol 138 kV Line**  
**Service to G.O. Ethanol Distribution Station**

Dear Commissioners

In accordance with Chapter 4906 of the Ohio Administrative Code, the Ohio Power Company is required to submit a Letter of Notification to the State of Ohio Power Siting Board whenever a substantial change is made to our transmission facilities.

American Electric Power is planning to install a short 1800' tap off of the existing South Kenton – Sterling 138kV Line to serve the proposed Greater Ohio Ethanol distribution station in Perry Township, Lima, Ohio.

In compliance with Rule 4906-15-08 of the OPSB Rules and Regulations, we have prepared and filed the attached Letter of Notification. This Notification contains details on the line location, structure types and construction schedule, and is submitted for your information.

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Bryan Hanft  
Transmission Line Projects Engineering



American Electric Power  
700 Morrison Road  
Gahanna, OH 43230

January 30, 2007

Ohio Department of Natural Resources  
Division of Natural Areas and Preserves  
Ohio Natural Heritage Program  
2045 Morse Road, Building F-1  
Columbus, OH 43229

To Whom It May Concern:

American Electric Power is planning to build a short (1800') 138kV transmission line to serve a proposed customer station. The new line will tap the existing South Kenton - Sterling 138kV Line. The new substation will serve the new Greater Ohio Ethanol Plant Lima, OH. The new transmission line is located in the State of Ohio, Allen County, Perry Township (USGS Lima, Ohio Quad sheet).

In accordance with the State of Ohio Power Siting Board's rules and regulations, we are preparing a Letter of Notification covering this project. One of these rules requires that we investigate for the presence of any endangered, threatened, or rare species, which may be affected by this project.

In order for us to properly complete this investigation we need your assistance. We request that you study the project area, and inform us concerning any endangered, threatened or rare species. The proposed tap point is on the centerline of the existing South Kenton - Sterling 138kV Line, located approximately 635' south of Hanthorn Road, approximately 1200' west of the intersection of I-75 and Hanthorn Road. From the tap point, the new line extends north approximately 1800' to the proposed Greater Ohio Ethanol Station.

Please feel free to contact me at (614) 552- 1193 if you require further information. Thank you for your consideration in this matter.

Cordially,

A handwritten signature in black ink, appearing to read 'Bryan Hanft', is written above the typed name.

Bryan Hanft  
Transmission Line Projects Engineering  
bjhanft@AEP.com



# Ohio Department of Natural Resources

BOB TAFT, GOVERNOR

SAMUEL W. SPECK, DIRECTOR

## Division of Natural Areas and Preserves

*Bob Gable, Acting Chief*

2045 Morse Rd., Bldg. F-1

Columbus, OH 43229-6693

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

February 2, 2007

Bryan Hanft  
American Electric Power  
700 Morrison Rd.  
Gahanna, OH 43230

Dear Mr. Hanft:

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 Hanthorn Rd., Greater Ohio Ethanol Plant 138 kV Line project area, tapping into the South Kenton-Sterling 138 kV Line, in Perry Township, Allen County, and on the Lima Quad.

There are no existing or proposed state nature preserves or scenic rivers at the project site. We are also unaware of any unique ecological sites, geologic features, animal assemblages or state parks, forests or wildlife areas within 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. Please note that although we inventory all types of plant communities, we only maintain records on the highest quality areas. Also, we do not have data for all Ohio wetlands. For National Wetlands Inventory maps, please contact Madge Fitak in the Division of Geological Survey at 614-265-6576.

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

Sincerely,

A handwritten signature in cursive script, reading "Debbie Woischke".

Debbie Woischke, Ecological Analyst  
Natural Heritage Program



American Electric Power  
700 Morrison Road  
Gahanna, OH 43230

January 24, 2007

United States Department of the Interior  
Fish and Wildlife Service  
Reynoldsburg Field Office  
6950-H American Parkway  
Reynoldsburg, Ohio 43068-4127

Dear Dr. Knapp:

American Electric Power is planning to build a short (1800') 138KV transmission line to serve the proposed Greater Ohio Ethanol distribution station. The new line will tap the existing South Kenton - Sterling 138kV Line. Greater Ohio Ethanol (GOE) is constructing an ethanol processing and refining plant in Lima, Ohio. The purpose of this project is to serve the load requirements for the proposed ethanol plant. The new transmission line is located in the State of Ohio, Allen County, Perry Township (USGS Lima, Ohio Quad sheet).

In accordance with the State of Ohio Power Siting Board's rules and regulations, we are preparing a Letter of Notification covering this project. One of these rules requires that we investigate for the presence of any endangered, threatened, or rare species, which may be affected by this project.

In order for us to properly complete this investigation we need your assistance. We request that you study the project area, and inform us concerning any endangered, threatened or rare species. The proposed tap point is on the centerline of the existing South Kenton - Sterling 138kV Line, located approximately 635' south of Hanthorn Road, approximately 1200' west of the intersection of I-75 and Hanthorn Road. From the tap point, the new line extends north approximately 1800' to the proposed Greater Ohio Ethanol Station. I have attached a map with the project area highlighted on the Lima, Ohio Quad Sheet.

Please feel free to contact me at (614) 552-1193 if you require further information. Thank you for your consideration in this matter.

Cordially,

A handwritten signature in black ink, appearing to read 'Bryan Hanft', is written above the typed name.

Bryan Hanft  
Transmission Line Projects Engineering  
bjhanft@AEP.com