



American Electric Power

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Erin C. Miller
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Ms. Betty McCauley
Director, Administration Department
Secretary to the Commission
Docketing Division
The Public Utilities Commission of Ohio
180 East Broad Street
Columbus, Ohio 43215

June 13, 2013

RE: **Letter of Notification**
Case No. 13-1330-EL-BLN Groves—Bexley 138 kV Transmission Line Rebuild Project

Dear Ms. McCauley:

In accordance with Rules 4906-5-02 and 4906-11-01, Ohio Administrative Code ("OAC"), AEP Ohio Transmission Company ("AEP Transco") submits this Letter of Notification for expedited approval. A copy of a check in the amount of \$2,000 for the expedited application processing fee will be filed under separate cover. The requested start date of construction for the first phase of the project is May 1, 2013. Phase I is expected to be completed by June 1, 2013.

As required by Rule 4906-11-01(D)(4), AEP has submitted a copy of this Letter of Notification to the chief executive officer of each municipal corporation and county and the head of each public agency charged with protecting the environment or of planning land use in the area in which the proposed project will be located. Please find attached copies of cover letters that have been submitted to the Stark County District Library, the Stark County Commissioners and the Canton Township Trustees.

Should you have any questions, please do not hesitate to contact me.

Respectfully Submitted,

//s/ Erin C. Miller
Erin C. Miller, Counsel

Attachments

**LETTER OF NOTIFICATION FOR THE
GROVES - BEXLEY 138 KV TRANSMISSION LINE REBUILD
PROJECT**

PUCO Case No. 13-1330-EL-BLN

Submitted pursuant to OAC 4906-11-01

**AEP Ohio Transmission Company
(AEP Ohio Transco)**

JUNE 2013

LETTER OF NOTIFICATION

In accordance with Ohio Administrative Code Section 4906-11-01 Letter of Notification, AEP Ohio Transmission Company submits the following information:

4906-11-01 (B) General Information

4906-11-01 (B) (1) Project Name and Reference Number

The name of this project is the *Groves - Bexley 138 kV Transmission Line Rebuild Project*, and the OPSB Case number is 13-1330-EL-BLN.

4906-11-01 (B) (1) Description of the Project

An existing 138 kilovolt (kV) single circuit line will be rebuilt in an existing right-of-way (ROW) corridor (30 feet in width) between Groves Substation and Bexley Substation (Figure 1). The line will be built on AEP Ohio Transco standard single circuit 138 kV structures with provisions for underbuild on four structures. It is anticipated that self-supporting, custom, steel structures with direct embed foundations for tangents, and pier foundations for running angle and deadend structures will be utilized. The total length of the 138 kV line is approximately 4.4 miles replacing 46 existing structures with 47 new structures.

4906-11-01 (B) (1) Reason the Project Meets Letter of Notification Requirements

The project is defined by Item (4)(a) of the Ohio Administrative Code Chapter 4906-01, Appendix A “Application Requirement Matrix for Electric Power Transmission Lines,” which requires a Letter of Notification. This project consists of replacing electric power transmission line structures within an existing electric power transmission line right-of-way where two miles or less of new right-of-way is required.

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

The purpose of the Groves - Bexley 138 kV Line Rebuild Project is to rebuild the Groves – Bexley 138kV Line to improve and maintain the quality of electric service and reliability to the Central Ohio area, including AEP Ohio Transco 's

load area. This area includes, but is not limited to the communities of Bexley, Reynoldsburg, Gahanna, Blacklick, Columbus, Grandview Heights, Pickerington, Pataskala, Westerville, New Albany, Upper Arlington, Groveport, Canal Winchester, Grove City and others. This project will address an overload identified by PJM in their 2009 RTEP study.

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

The location of this project in relation to existing transmission lines is shown on Figure 1. The proposed project, essentially a pole for pole replacement project along the same centerline, is located entirely within the incorporated areas of the City of Columbus and the City of Whitehall in Truro Township, Franklin County, Ohio.

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

The line route is an existing transmission ROW and other alternatives were not considered.

4906-11-01 (B) (5) Anticipated Construction Schedule

Construction of the 4.4-mile transmission line rebuild is expected to begin in August of 2013 and is scheduled to be in service June of 2014.

4906-11-01 (B) (6) Maps Depicting Project Location

The Project is within the USGS Southeast Columbus quarter quadrangle. Figure 1 has been prepared to show the Project location with aerial photography. To locate and view the Project from Columbus, Ohio, travel Interstate 670 east to Exit 7 for Fifth Avenue, turn right onto Fifth Avenue and follow for approximately one mile. Keep right to stay on Fifth Avenue and take a slight right onto Stelzer Road. Bexley Substation will be on your left. The Project exits the Bexley Substation in the northwest corner of Truro Township, south and east of the Mifflin and Truro Township boundaries and extends south, crossing Interstate 70 to the Groves Substation.

4906-11-01 (B) (7) Property Easements

The existing line is located on easements that were obtained by Columbus Southern Power Company, now known as Ohio Power Company. All new structures will be located within the existing transmission line ROW. Property owners will be notified of the transmission line project prior to the commencement of construction activities.

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

4906-11-01 (C) (1) Description of Technical Features

The proposed line will be designed for and operated at 138 kV. Figures 2 through 5 show the typical steel pole structures to be installed. Three (3) 1,929.6 kcmil ACSR/TW, conductors and one (1) .646 inch diameter, fiber optic shield wire will be installed and supported by the new structures.

4906-11-01 (C) (1) Number and Type of Structures

Figures 6 through 9 show the non-standard steel single pole structures to be used in single locations and are comprised of one (1) large angle deadend structure (Figure 6), two (2) tangent structures with underbuild (Figures 7 and 8), and one (1) running angle structure (Figure 9).

4906-11-01 (C) (1) Right of Way and Land Requirements

The existing line is located on easements that were obtained by Columbus Southern Power Company, now known as Ohio Power Company. All new structures will be located within the existing transmission line right-of-way (ROW).. Property owners will be notified of the transmission line project prior to the commencement of construction activities.

4906-11-01 (C) (2) (a) Calculated Electric and Magnetic Field Levels

EMF levels were computed one meter above the ground under the line and at the ROW edges (12.5/17.5 feet, left/right, of the centerline). Results are summarized below.

Condition	Line Load (A)	Ground Clearance (feet)	Electric Field (kV/m)*	Magnetic Field (mG)*
Normal Maximum Loading [^]	666	32.0	1.0/1.0/0.6	57/65/49
Emergency Line Loading ^{^^}	792	32.0	1.0/1.0/0.6	68/77/59
Winter Normal Conductor Rating ^{^^^}	2263	24.5	1.6/1.6/1.0	300/371/249
IEEE Std C95.6-2002 Limits			5.0/10.0/5.0	9040/**/9040

*EMF levels (left ROW edge/maximum/right ROW edge) computed one meter above ground at the point of minimum ground clearance, assuming balanced phase currents and nominal voltages. ROW width is 30 feet.

**Maximum permissible level in a "controlled environment" is 27,100 mG.

[^]Peak line flow expected with all system facilities in service.

^{^^}Maximum flow during critical system contingency

^{^^^}Maximum continuous flow that the line, including its terminal equipment, can withstand during winter conditions.

The above EMF levels are well within the limits specified in IEEE Standard C95.6TM-2002. Those limits have been established to "prevent harmful effects in human beings exposed to electromagnetic fields in the frequency range of 0-3 kHz.

4906-11-01 (C) (2) (b) EMF Discussion

Three loading conditions were examined: (1) normal maximum loading, (2) emergency line loading, and (3) winter normal conductor rating, consistent with the OPSB requirements. Normal maximum loading represents the peak flow expected with all system facilities in service; daily/hourly flows fluctuate below this level. Emergency loading is the maximum current flow during unusual (contingency) conditions, which exist only for short periods of time. Winter normal (WN) conductor rating represents the maximum current flow that a line, including its terminal equipment, can carry during winter conditions. It is not anticipated that this line would operate at its WN rating in the foreseeable future.

4906-11-01 (C) (3) Estimated Capital Costs

The following estimated capital costs for the proposed project have been tabulated by the Federal Energy Regulatory Commission (FERC) Electric Plant Transmission Accounts:

FERC ACCOUNTS	ESTIMATED CAPITAL COSTS (\$)	
	Material	Labor
Overhead Conductors and Devices	445,680	2,592,251
Poles and Fixtures	1,166,574	1,484,496 t
TOTAL	\$1,612,254	\$4,076,747

4906-11-01 (D) Socioeconomic Data

4906-11-01 (D) (1) Land Use and Population Density

This project is located in the incorporated areas of the City of Columbus and the City of Whitehall in Truro Township, Franklin County, Ohio. The Project area is located in a heavily urbanized setting comprised of mixed residential housing and commercial enterprises. Though some of the Project is within parking lots or a paved military complex, a small part includes an agricultural field. Most of the area was grassed, fallow, or overgrown old railroad easement which is often broken and unrecognizable due to urban constructions. Numerous utility lines, including electric lines, cross through this area. The Project area (Franklin, Ohio) has a population density of 2,186.1 persons per square mile based upon 2010 U.S. Census data.

4906-11-01 (D) (2) Location and Description of Existing Agricultural Districts

A small part of the proposed transmission line on the south side of I-70 crosses an agricultural field before terminating at the Groves Substation but none of the project is located within the limits of an Agricultural District as defined by Chapter 929 of the Ohio Revised Code.

4906-11-01 (D) (3) Archaeological and Cultural Resources

This is within the cities of Bexley and Whitehall in a disturbed, urban landscape context. A search of the Ohio Historic Preservation Office (OHPO) National Register of Historic Places (NRHP) on-line databases was conducted and a field investigation was conducted. This is a rebuild project and will not directly involve or impact any buildings or structures older than 50 years.

The project involves the construction of new, metal monopole structures that will be replacing existing metal monopole structures. This corridor is located in a heavily urbanized setting comprised of mixed residential housing and commercial enterprises. Though some of the Project is within parking lots or a paved military complex, a small part includes an agricultural field. Most of the area was grassed, fallow, or overgrown old railroad easement. This was often broken and unrecognizable due to urban constructions. Numerous utility lines, including electric lines, cross through this area. A field investigation performed for this project resulted in the identification of one site associated with the early historic period. This site is not considered eligible for the NRHP as it does not meet the minimum criteria. A finding of no historic properties affected as outlined by 36 CFR Part 800.4 and 36 CFR Part 800.5 is considered appropriate. No further work is deemed necessary for this Project.

A copy of the report produced as a result of the investigation is being submitted concurrently with the filing of this Letter of Notification under a separate cover to protect the sensitive information it contains.

4906-11-01 (D) (4) Local Officials to be Notified

Copies of this Letter of Notification have been sent to the Franklin County Commissioners, the Trustees of Truro Township, the City of Columbus Mayor and Planning Administrator, and the City of Whitehall Mayor and City Planning Commission Chairman. Copies of these cover letters are attached.

4906-11-01 (D) (4) Public Information Program

AEP Ohio Transco'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 litigation involving this Project and none is expected.

4906-11-01 (D) (6) Local, State and Federal Requirements

This line will be designed, constructed and operated to meet or exceed the requirements of the National Electric Safety Code, AEP Ohio Transco design standards and all applicable Occupational Safety and Health Administration (OSHA) standards. If required, a Notice of Intent will be filed with the Ohio Environmental Protection Agency (OEPA) for authorization of construction stormwater discharge under General Permit OHC000004 (Big Walnut Creek watershed). If required, permits for the five structures currently existing and proposed to be located in the floodplain for Mason Run (Structures 17 - 21) will be acquired, and coverage under the Army Corps Nationwide Permit (Section 404) and/or an Ohio Isolated Wetland Permit will be secured. There is one existing structure located in a wetland (Structure 21) however the new location of Structure 21 will be located outside of the wetland boundaries. The proposed Project is located within 20,000 feet of Port Columbus International Airport and Nationwide Children's Hospital Heliport such that a Federal Aviation Administration (FAA) filing is required (FAA Form 7460-1, Notice of Proposed Construction or Alteration). The proposed Project also crosses a railroad track owned by Norfolk Southern Corp. for which a Wireline License and Right of Entry Application may be required. Finally, access road construction may require local road permits and other local permits for which the construction contractor will be responsible. No other local, state or federal governmental agencies are known to have requirements that must be met in connection with construction of the project unless plans change.

4906-11-01 (E) Environmental

4906-11-01 (E) (1) Endangered or Threatened Species

AEP Ohio Transco conducted a threatened and endangered species review. The United States Fish and Wildlife Service's (USFWS) species list for Franklin County, Ohio (attached) was reviewed to determine the presence of threatened and endangered species in the Project area. Two species were listed as potentially occurring in Franklin County, which include the Indiana bat (endangered), and

the bald eagle (species of concern). AEP Ohio Transco conducted a wetland determination for the proposed project. A copy of the report is attached.

The majority of the Project ROW will require mowing shrubs and small trees, with additional tree trimming for access anticipated to be required in some areas. Smaller trees less than five inches diameter at breast height exist in those areas. Due to the habitat types in this area, no impacts to the Indiana bat are anticipated.

The Ohio Department of Natural Resources (ODNR) includes the most current USFWS data plus has the most current, best information regarding bald eagle nesting in the project area. The ODNR lists no recorded bald eagle nest near the Project site therefore no impacts to the bald eagle are anticipated.

The ODNR was contacted also regarding the presence of any endangered, threatened, or rare species that may be affected by this Project. The ODNR responded and found no evidence or records of endangered/threatened species within the Project area. A copy of the response is attached.

4906-11-01 (E) (2) and (3) Areas of Ecological Concern and Other Significant Environmental, Social, Health, or Safety Impacts

The ODNR was contacted regarding areas of ecological concern in the vicinity of the Project. The ODNR has no record of national and state forests and parks, floodplains, wetlands, designated or proposed wilderness areas, national and state wild and scenic rivers, wildlife areas, wildlife refuges, wildlife management areas, and wildlife sanctuaries located within the areas likely to be disturbed by the Project, a statement of the findings of the investigation.

There are no known unusual conditions associated with this Project that may result in significant environmental, social, health, or safety impacts.

Attachments in Order of Appearance in Text

Figure 1 Project Location Map

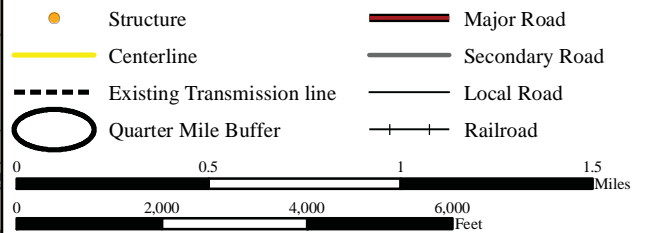
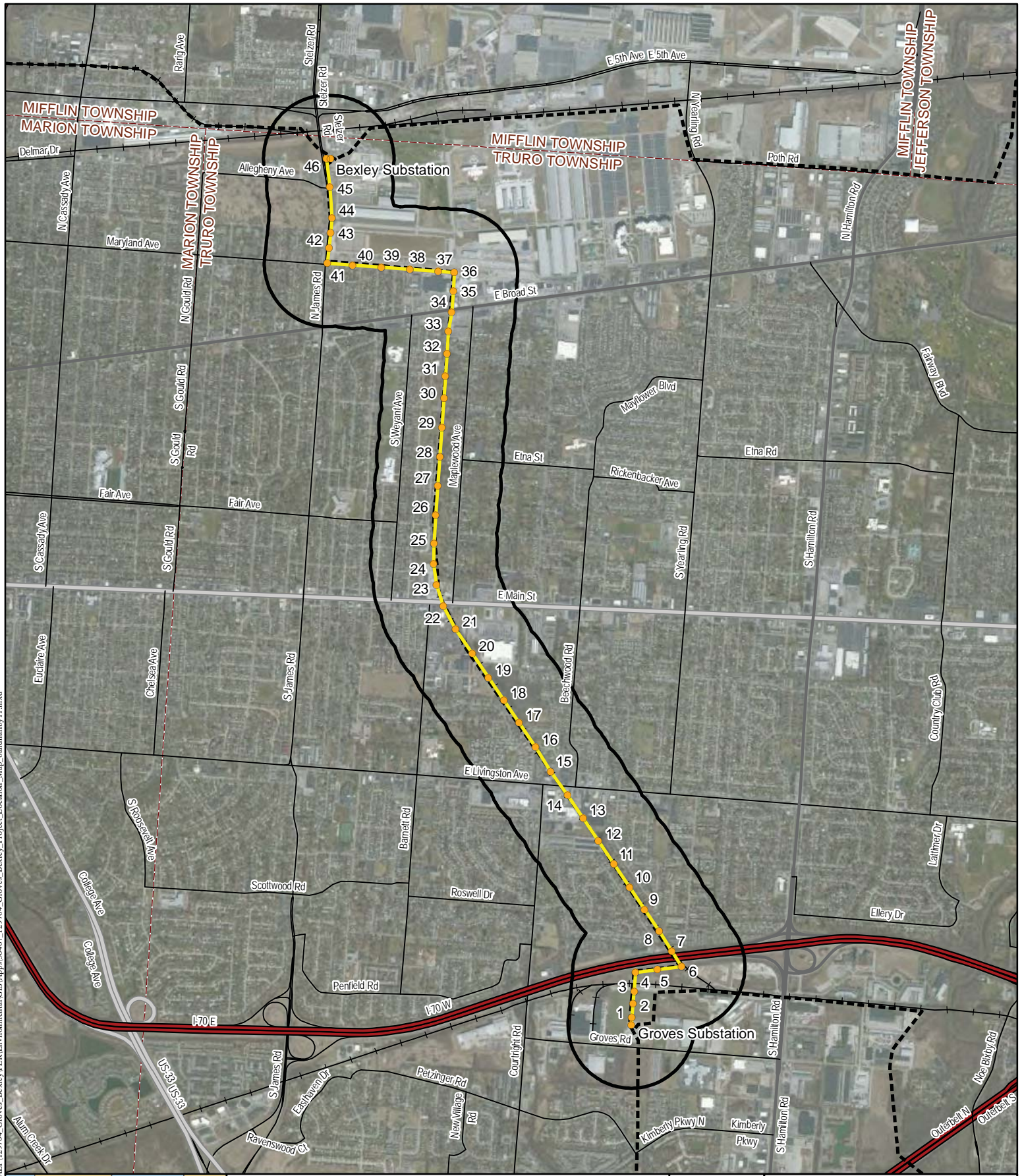
Figures 2-5 Standard Structures

Figures 6-9 Non-Standard Structures

Copies of Notification Letters to Franklin County Commissioners, Trustees of Truro Township, City of Columbus Mayor and Planning Administrator, and the City of Whitehall Mayor and City Planning Commission Chairman

ODNR Information - Federal and State RTE Lists and ONDR Response Letter

Waters of the United States Delineation (Report)



GROVES - BEXLEY - 36467

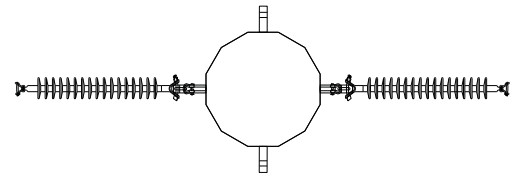
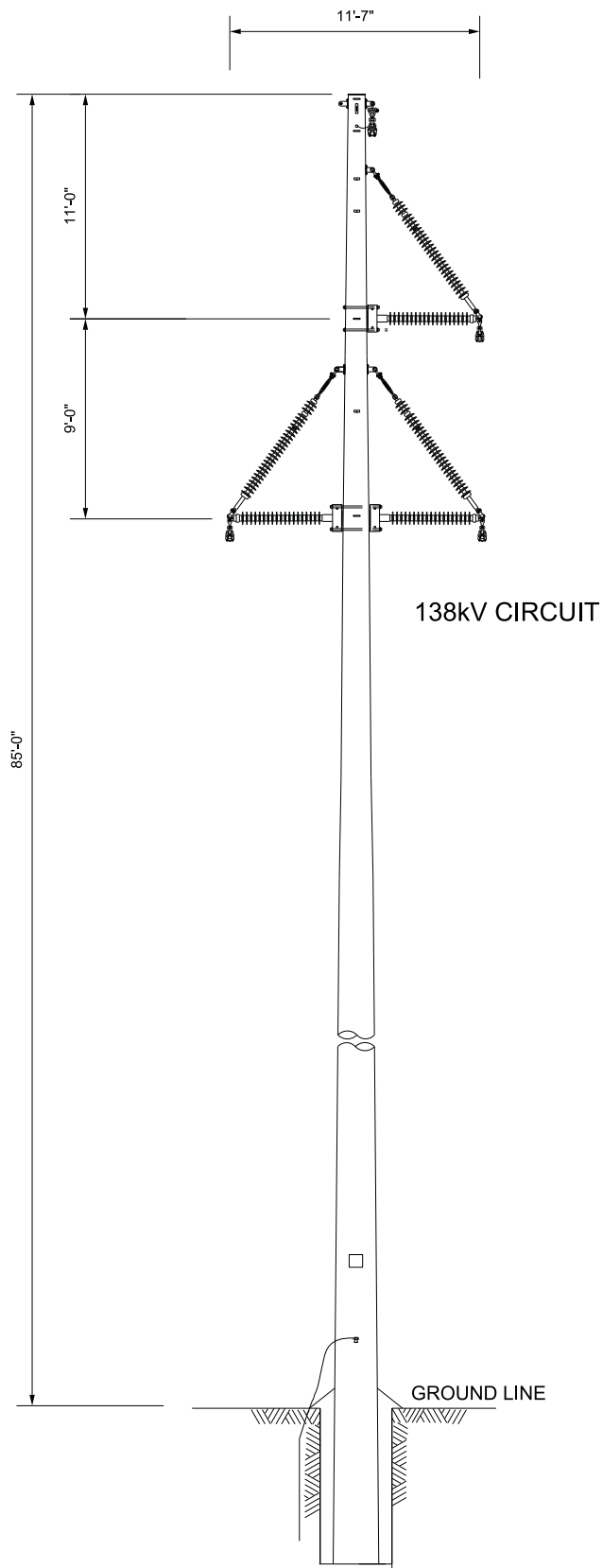
Figure 1 Project Location

1 inch = 0.5 miles

Date: 5/15/2013

Ohio State Plane South NAD83

Date Saved: 5/15/2013 Path: P:\Projects\AEP\Environmental\GIS\AEP\36467_129704_Groves_Bexley_Project_Location_Map_Sandhallow11.mxd



TOP VIEW

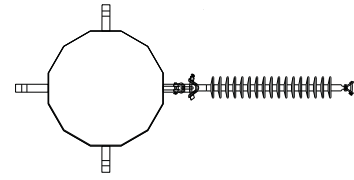
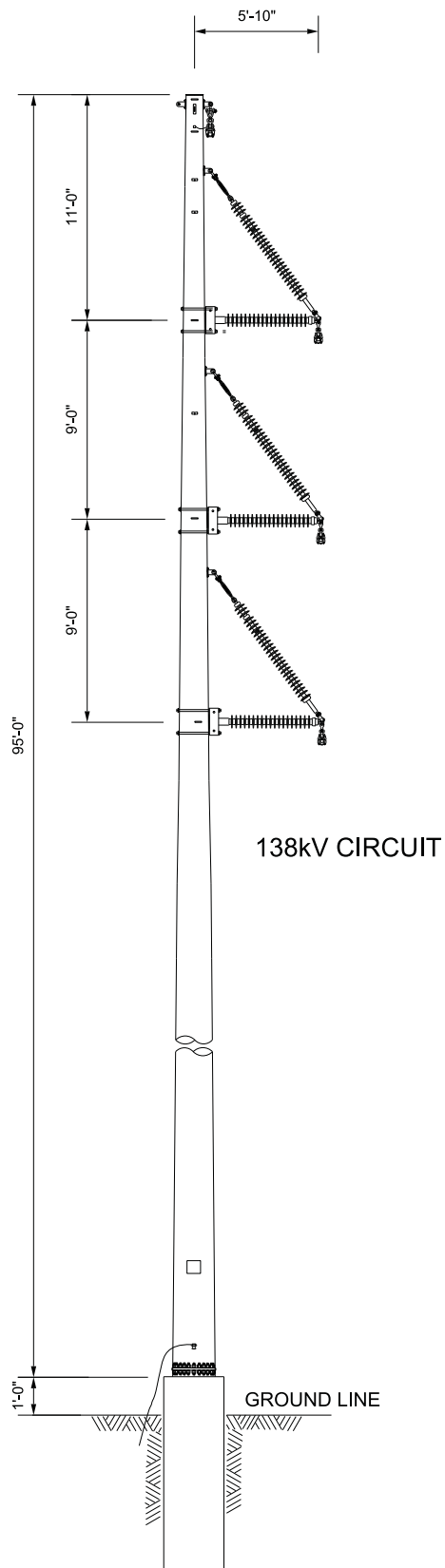
GROVES Rd. - BEXLEY 138kV



PROPOSED LINE
TANGENT POLE STRUCTURE
TYPICAL CONFIGURATION

NOT TO SCALE

FIGURE 2



TOP VIEW

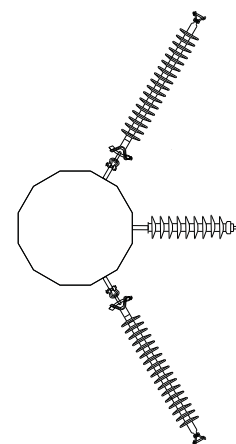
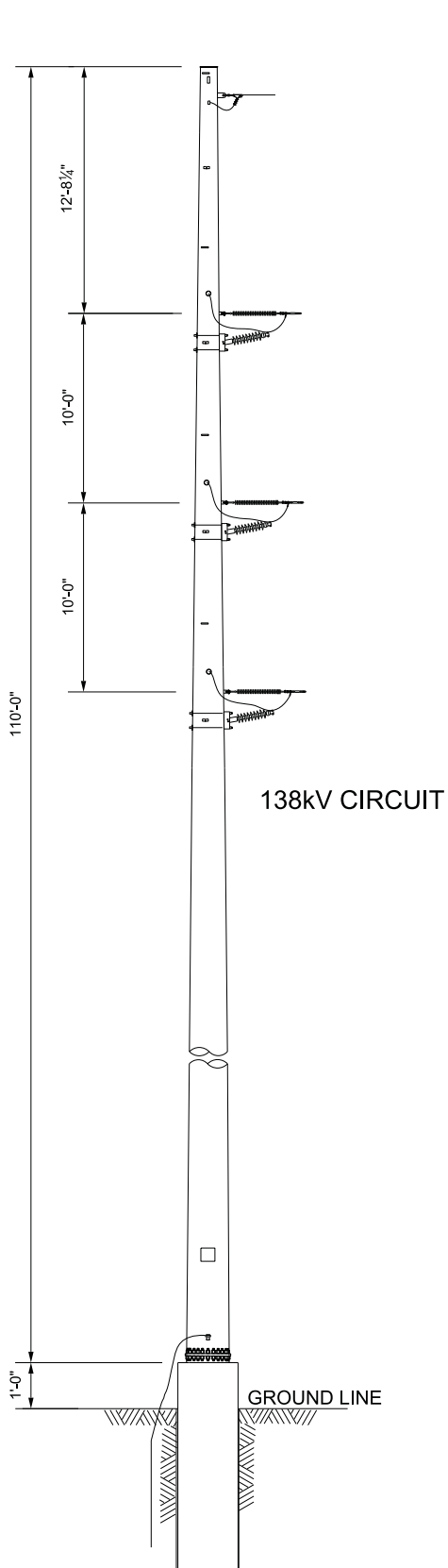
GROVES Rd. - BEXLEY 138kV



PROPOSED LINE
RUNNING ANGLE POLE STRUCTURE
TYPICAL CONFIGURATION

NOT TO SCALE

FIGURE 3



TOP VIEW

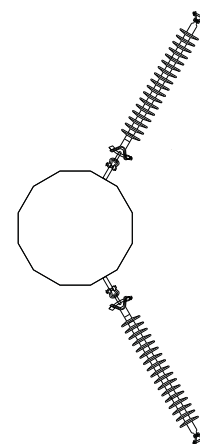
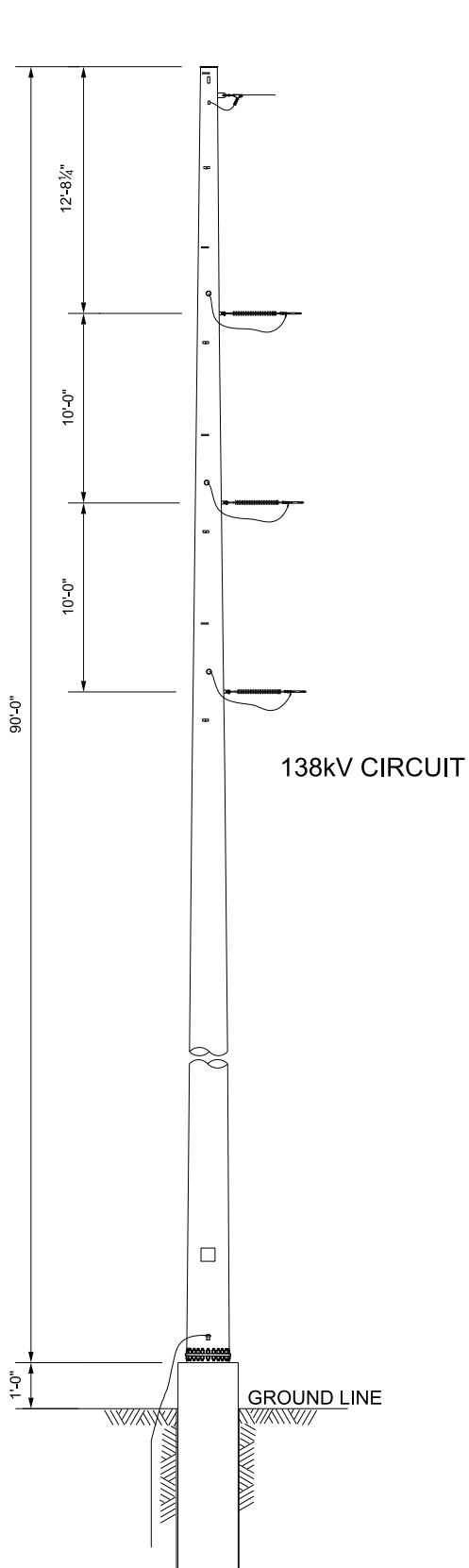
GROVES Rd. - BEXLEY 138kV



PROPOSED LINE
LARGE ANGLE DEADEND
POLE STRUCTURE
TYPICAL CONFIGURATION

NOT TO SCALE

FIGURE 4



TOP VIEW

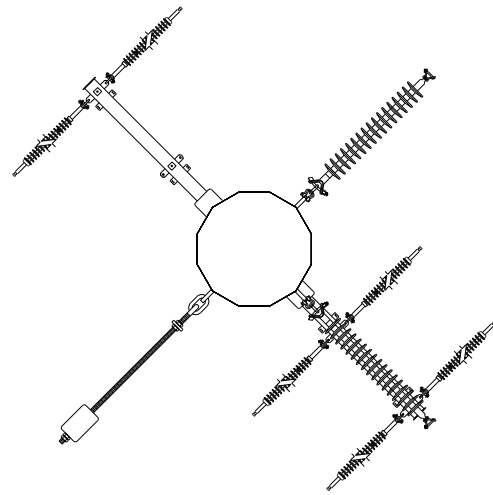
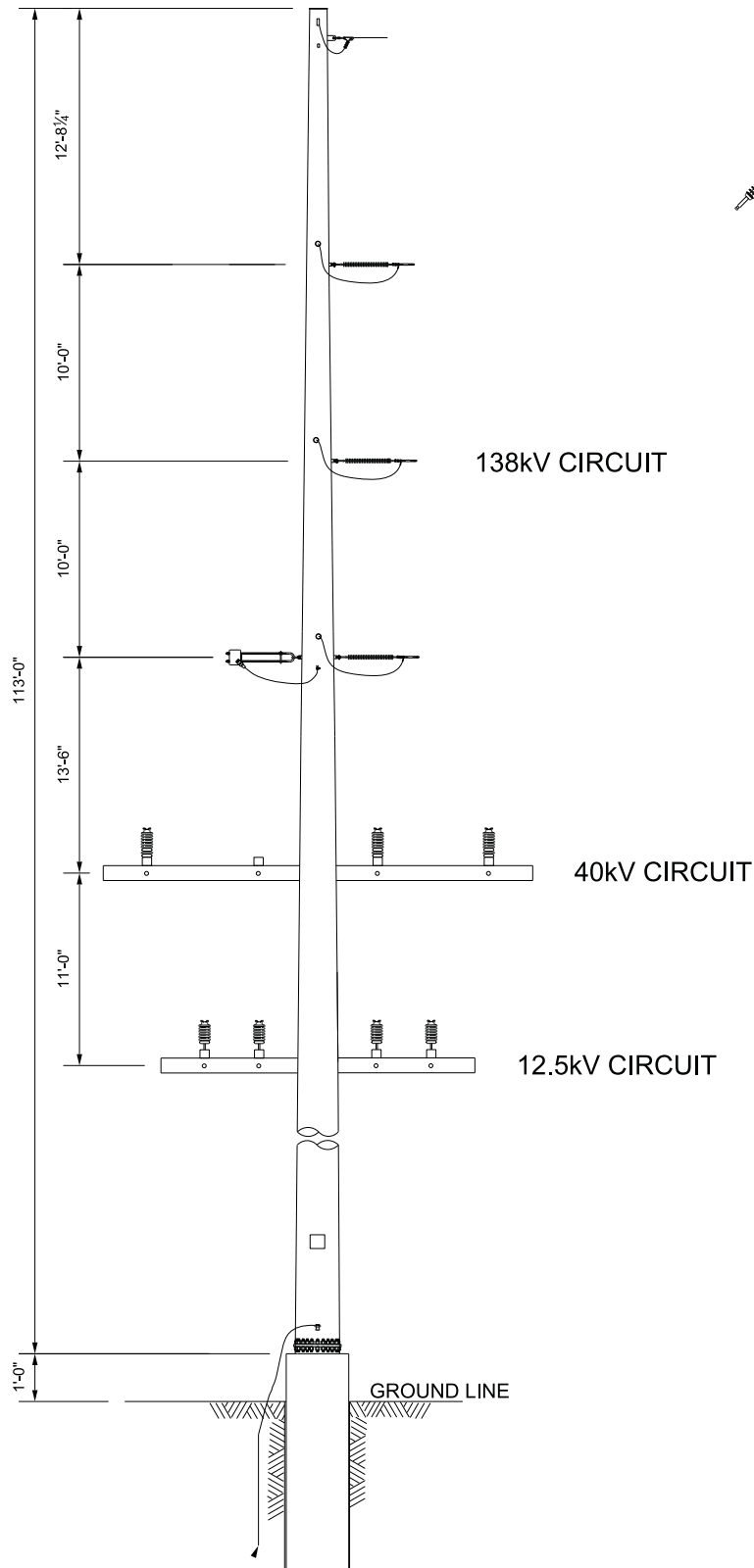
GROVES Rd. - BEXLEY 138kV



PROPOSED LINE
SMALL ANGLE DEADEND
POLE STRUCTURE
TYPICAL CONFIGURATION

NOT TO SCALE

FIGURE 5



TOP VIEW

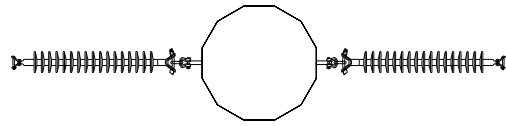
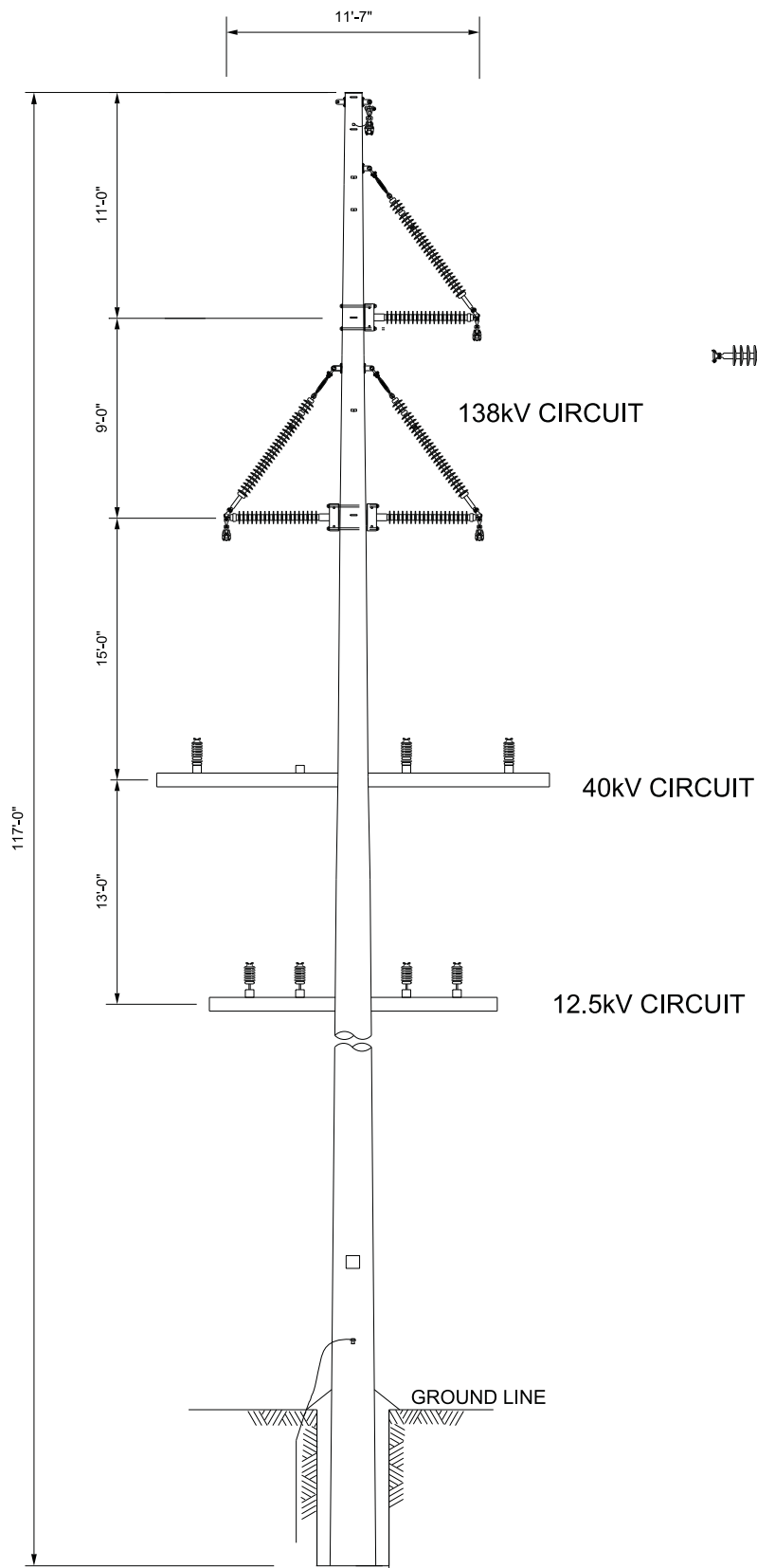
GROVES Rd. - BEXLEY 138kV



PROPOSED LINE
DEADEND WITH UNDERBUILD
POLE STRUCTURE
STRUCTURE 42

NOT TO SCALE

FIGURE 6



TOP VIEW

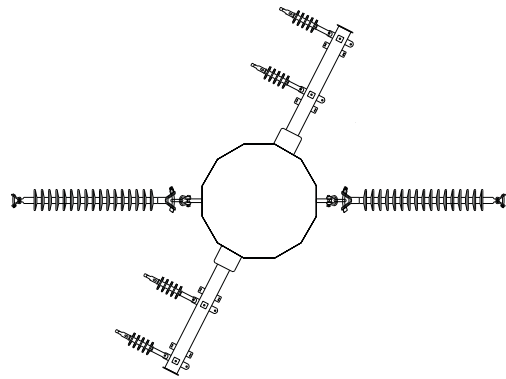
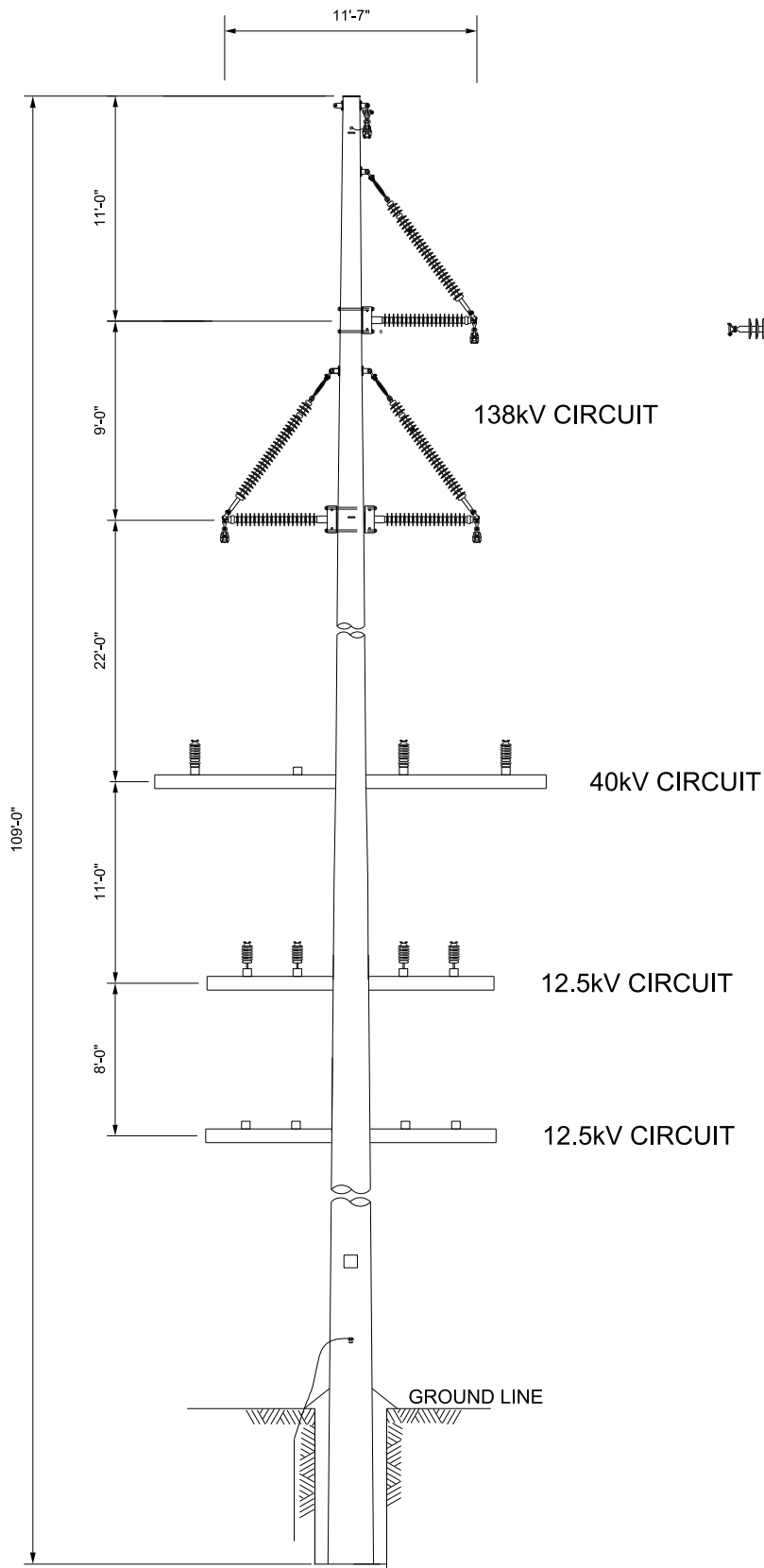
GROVES Rd. - BEXLEY 138kV



PROPOSED LINE
TANGENT WITH UNDERBUILD
POLE STRUCTURE
STRUCTURE 43

NOT TO SCALE

FIGURE 7



TOP VIEW

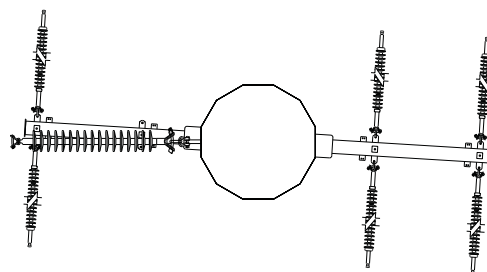
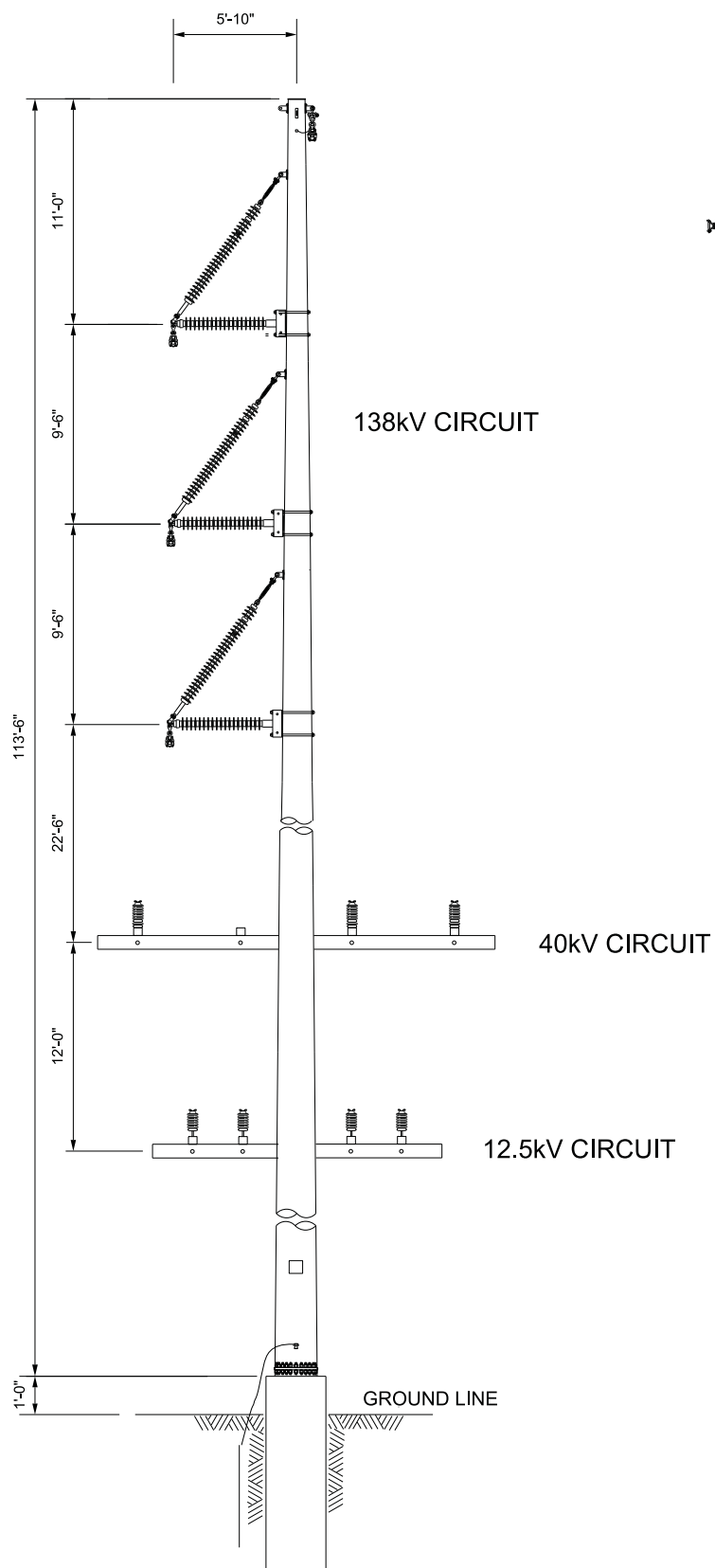
GROVES Rd. - BEXLEY 138kV



PROPOSED LINE
TANGENT WITH UNDERBUILD
POLE STRUCTURE
STRUCTURE 44

NOT TO SCALE

FIGURE 8



TOP VIEW

GROVES Rd. - BEXLEY 138kV



PROPOSED LINE
RUNNING ANGLE WITH UNDERBUILD
POLE STRUCTURE
STRUCTURE 45

NOT TO SCALE

FIGURE 9



American Electric Power
700 Morrison Road
Gahanna, OH 43230

June 10, 2013

John O'Grady, Franklin County Commissioners Board President
Paula Brooks, Franklin County Commissioner
Marilyn Brown, Franklin County Commissioner
373 S. High Street, 26th Floor
Columbus, Ohio 43215-6314

Letter of Notification
Groves - Bexley 138 kV Line

Dear Commissioners:

In accordance with Chapter 4906 of the Ohio Administrative Code, American Electric Power is required to submit a Letter of Notification to the State of Ohio Power Siting Board (OPSB) when certain changes are made to its transmission facilities.

American Electric Power is planning to rebuild 4.4 miles of existing 138 kV transmission line located on easements it owns, on approximately the same centerline in the existing right-of-way.

In compliance with Rule 4906-11-01 of the OPSB Rules and Regulations, we have prepared and filed the attached Letter of Notification. This Notification contains details on the structures, structure types and construction schedules, and is hereby submitted for your information.

Cordially,

A handwritten signature in cursive script that reads "Liz Decima".

Liz Decima
American Electric Power
Transmission Line Engineering

Enclosure

c: Ohio Power Siting Board



American Electric Power
700 Morrison Road
Gahanna, OH 43230

June 10, 2013

Pat Mahaffey, Truro Township Trustee
Dennis Nicodemus, Truro Township Trustee
Barbara Strussion, Truro Township Trustee
6900 E. Main St.
Reynoldsburg, Ohio 43068-2250

Letter of Notification
Groves - Bexley 138 kV Line

Dear Trustees:

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Liz Decima
American Electric Power
Transmission Line Engineering

Enclosure

c: Ohio Power Siting Board



American Electric Power
700 Morrison Road
Gahanna, OH 43230

June 10, 2013

Michael B. Coleman, Mayor
Mayor's Office
City Hall 2nd Floor
90 West Broad Street
Columbus, OH 43215

Letter of Notification
Groves - Bexley 138 kV Line

Dear Mayor:

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Liz Decima
American Electric Power
Transmission Line Engineering

Enclosure

c: Ohio Power Siting Board



American Electric Power
700 Morrison Road
Gahanna, OH 43230

June 10, 2013

City of Columbus Planning Division
Vince Papsidero, AICP
109 N. Front Street, First Floor
Columbus, OH 43215

Letter of Notification
Groves - Bexley 138 kV Line

Dear Planners:

In accordance with Chapter 4906 of the Ohio Administrative Code, American Electric Power is required to submit a Letter of Notification to the State of Ohio Power Siting Board (OPSB) when certain changes are made to its transmission facilities.

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Liz Decima
American Electric Power
Transmission Line Engineering

Enclosure

c: Ohio Power Siting Board



American Electric Power
700 Morrison Road
Gahanna, OH 43230

June 10, 2013

Kim Maggard, Mayor
Terry Anderson, City Planning Chairman
Office of the Mayor
360 South Yearling Rd.
Whitehall, OH 43213

Letter of Notification
Groves - Bexley 138 kV Line

Dear Mayor:

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Liz Decima
American Electric Power
Transmission Line Engineering

Enclosure

c: Ohio Power Siting Board



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / FAX (614) 416-8994

Federally Listed Species by Ohio Counties May 1, 2013

COUNTY	SPECIES
ADAMS	Indiana bat (E), running buffalo clover (E), fanshell (E), pink mucket pearly mussel (E), rayed bean (E), sheepsnose (E), snuffbox (E), timber rattlesnake (SC), bald eagle (SC)
ALLEN	Indiana bat (E), bald eagle (SC)
ASHLAND	Indiana bat (E), eastern hellbender (SC), bald eagle (SC)
ASHTABULA	Indiana bat (E), Kirtland's warbler (E), piping plover (E), clubshell (E), snuffbox (E), eastern massasauga (C), bald eagle (SC)
ATHENS	Indiana bat (E), American burying beetle (E), fanshell (E), pink mucket pearly mussel (E), sheepsnose (E), snuffbox (E), timber rattlesnake (SC), bald eagle (SC)
AUGLAIZE	Indiana bat (E), bald eagle (SC)
BELMONT	Indiana bat (E), eastern hellbender (SC), bald eagle (SC)
BROWN	Indiana bat (E), running buffalo clover (E), fanshell (E), pink mucket pearly mussel (E), rayed bean (E), sheepsnose (E), snuffbox (E), bald eagle (SC)
BUTLER	Indiana bat (E), rayed bean (E), bald eagle (SC)
CARROLL	Indiana bat (E), bald eagle (SC)
CHAMPAIGN	Indiana bat (E), eastern massasauga (C), bald eagle (SC)
CLARK	Indiana bat (E), rayed bean (E), eastern prairie fringed orchid (T), eastern massasauga (C), bald eagle (SC)
CLERMONT	Indiana bat (E), running buffalo clover (E), fanshell (E), pink mucket pearly mussel (E), rayed bean (E), sheepsnose (E), snuffbox (E), bald eagle (SC)
CLINTON	Indiana bat (E), eastern massasauga (C), bald eagle (SC)
COLUMBIANA	Indiana bat (E), eastern massasauga (C), eastern hellbender (SC), bald eagle (SC)
COSHOCTON	Indiana bat (E), clubshell (E), fanshell (E), purple cat's paw pearly mussel (E), rayed bean (E), sheepsnose (E), snuffbox (E), rabbitsfoot (PT/PCH), eastern hellbender (SC), bald eagle (SC)
CRAWFORD	Indiana bat (E), eastern massasauga (C), bald eagle (SC)
CUYAHOGA	Indiana bat (E), Kirtland's warbler (E), piping plover (E), bald eagle (SC)

DARKE	Indiana bat (E), rayed bean (E), bald eagle (SC)
DEFIANCE	Indiana bat (E), clubshell (E), northern riffleshell (E), white cat's paw pearly mussel (E), rayed bean (E), copperbelly water snake (T), bald eagle (SC)
DELAWARE	Indiana bat (E), rayed bean (E), bald eagle (SC)
ERIE	Indiana bat (E), Kirtland's warbler (E), piping plover (E/CH), Lakeside daisy (T), eastern massasauga (C), Lake Erie watersnake (SC), bald eagle (SC)
FAIRFIELD	Indiana bat (E), eastern massasauga (C), bald eagle (SC)
FAYETTE	Indiana bat (E), eastern massasauga (C), bald eagle (SC)
FRANKLIN	Indiana bat (E), Scioto madtom (E), clubshell (E), northern riffleshell (E), rayed bean (E), snuffbox (E), rabbitsfoot (PT), bald eagle (SC)
FULTON	Indiana bat (E), rayed bean (E), bald eagle (SC)
GALLIA	Indiana bat (E), fanshell (E), pink mucket pearly mussel (E), sheepnose (E), snuffbox (E), timber rattlesnake (SC), bald eagle (SC)
GEAUGA	Indiana bat (E), bald eagle (SC)
GREENE	Indiana bat (E), clubshell (E), rayed bean (E), snuffbox (E), eastern massasauga (C), bald eagle (SC)
GUERNSEY	Indiana bat (E), bald eagle (SC)
HAMILTON	Indiana bat (E), running buffalo clover (E), fanshell (E), pink mucket pearly mussel (E), rayed bean (E), sheepnose (E), snuffbox (E), bald eagle (SC)
HANCOCK	Indiana bat (E), clubshell (E), rayed bean (E), bald eagle (SC)
HARDIN	Indiana bat (E), clubshell (E), rayed bean (E), copperbelly water snake (T), eastern massasauga (C), bald eagle (SC)
HARRISON	Indiana bat (E), bald eagle (SC)
HENRY	Indiana bat (E), bald eagle (SC)
HIGHLAND	Indiana bat (E), timber rattlesnake (SC), bald eagle (SC)
HOCKING	Indiana bat (E), American burying beetle (E), running buffalo clover (E), northern monkshood (T), small whorled pogonia (T), timber rattlesnake (SC), bald eagle (SC)
HOLMES	Indiana bat (E), eastern prairie fringed orchid (T), eastern hellbender (SC), bald eagle (SC)
HURON	Indiana bat (E), eastern massasauga (C), bald eagle (SC)
JACKSON	Indiana bat (E), timber rattlesnake (SC), bald eagle (SC)
JEFFERSON	Indiana bat (E), eastern hellbender (SC), bald eagle (SC)
KNOX	Indiana bat (E), eastern hellbender (SC), bald eagle (SC)
LAKE	Indiana bat (E), Kirtland's warbler (E), piping plover (E/CH), snuffbox (E), bald eagle (SC)

LAWRENCE	Indiana bat (E), running buffalo clover (E), fanshell (E), pink mucket pearly mussel (E), sheepsnose (E), snuffbox (E), timber rattlesnake (SC), bald eagle (SC)
LICKING	Indiana bat (E), eastern massasauga (C), bald eagle (SC)
LOGAN	Indiana bat (E), rayed bean (E), eastern massasauga (C), bald eagle (SC)
LORAIN	Indiana bat (E), Kirtland's warbler (E), piping plover (E), bald eagle (SC)
LUCAS	Indiana bat (E), Karner blue butterfly (E), Kirtland's warbler (E), piping plover (E), rayed bean (E), eastern prairie fringed orchid (T), eastern massasauga (C), bald eagle (SC)
MADISON	Indiana bat (E), Scioto madtom (E), clubshell (E), northern riffleshell (E), rayed bean (E), snuffbox (E), rabbitsfoot (PT/PCH), bald eagle (SC)
MAHONING	Indiana bat (E), eastern massasauga (C), bald eagle (SC)
MARION	Indiana bat (E), rayed bean (E), eastern massasauga (C), bald eagle (SC)
MEDINA	Indiana bat (E), bald eagle (SC)
MEIGS	Indiana bat (E), fanshell (E), pink mucket pearly mussel (E), sheepsnose (E), snuffbox (E), bald eagle (SC)
MERCER	Indiana bat (E), bald eagle (SC)
MIAMI	Indiana bat (E), rayed bean (E), snuffbox (E), bald eagle (SC)
MONROE	Indiana bat (E), eastern hellbender (SC), bald eagle (SC)
MONTGOMERY	Indiana bat (E), rayed bean (E), snuffbox (E), eastern massasauga (C), bald eagle (SC)
MORGAN	Indiana bat (E), American burying beetle (E), fanshell (E), pink mucket pearly mussel (E), sheepsnose (E), snuffbox (E), bald eagle (SC)
MORROW	Indiana bat (E), bald eagle (SC)
MUSKINGUM	Indiana bat (E), fanshell (E), sheepsnose (E), snuffbox (E), rabbitsfoot (PT), eastern hellbender (SC), bald eagle (SC)
NOBLE	Indiana bat (E), bald eagle (SC)
OTTAWA	Indiana bat (E), Kirtland's warbler (E), piping plover (E), eastern prairie fringed orchid (T), Lakeside daisy (T), eastern massasauga (C), Lake Erie watersnake (SC), bald eagle (SC)
PAULDING	Indiana bat (E), bald eagle (SC)
PERRY	Indiana bat (E), American burying beetle (E), bald eagle (SC)
PICKAWAY	Indiana bat (E), Scioto madtom (E), clubshell (E), northern riffleshell (E), rayed bean (E), snuffbox (E), rabbitsfoot (PT), bald eagle (SC)
PIKE	Indiana bat (E), clubshell (E), northern riffleshell (E), rayed bean (E), timber rattlesnake (SC), bald eagle (SC)
PORTAGE	Indiana bat (E), Mitchell's satyr (E), northern monkshood (T), eastern massasauga (C), bald eagle (SC)

PREBLE	Indiana bat (E), eastern massasauga (C), bald eagle (SC)
PUTNAM	Indiana bat (E), bald eagle (SC)
RICHLAND	Indiana bat (E), eastern massasauga (C), eastern hellbender (SC), bald eagle (SC)
ROSS	Indiana bat (E), clubshell (E), northern riffleshell (E), rayed bean (E), eastern hellbender (SC), timber rattlesnake (SC), bald eagle (SC)
SANDUSKY	Indiana bat (E), Kirtland's warbler (E), piping plover (E), eastern prairie fringed orchid (T), eastern massasauga (C), bald eagle (SC)
SCIOTO	Indiana bat (E), running buffalo clover (E), clubshell (E), fanshell (E), northern riffleshell (E), pink mucket pearly mussel (E), rayed bean (E), sheepnose (E), snuffbox (E), small whorled pogonia (T), Virginia spiraea (T), eastern hellbender (SC), timber rattlesnake (SC), bald eagle (SC)
SENECA	Indiana bat (E), bald eagle (SC)
SHELBY	Indiana bat (E), rayed bean (E), bald eagle (SC)
STARK	Indiana bat (E), bald eagle (SC)
SUMMIT	Indiana bat (E), northern monkshood (T), bald eagle (SC)
TRUMBULL	Indiana bat (E), clubshell (E), eastern massasauga (C), bald eagle (SC)
TUSCARAWAS	Indiana bat (E), eastern hellbender (SC), bald eagle (SC)
UNION	Indiana bat (E), Scioto madtom (E), clubshell (E), northern riffleshell (E), rayed bean (E), snuffbox (E), rabbitsfoot (PT/PCH), bald eagle (SC)
VAN WERT	Indiana bat (E), bald eagle (SC)
VINTON	Indiana bat (E), American burying beetle (E), eastern hellbender (SC), timber rattlesnake (SC), bald eagle (SC)
WARREN	Indiana bat (E), running buffalo clover (E), rayed bean (E), eastern massasauga (C), bald eagle (SC)
WASHINGTON	Indiana bat (E), fanshell (E), pink mucket pearly mussel (E), sheepnose (E), snuffbox (E), eastern hellbender (SC), timber rattlesnake (SC), bald eagle (SC)
WAYNE	Indiana bat (E), eastern prairie fringed orchid (T), eastern massasauga (C), bald eagle (SC)
WILLIAMS	Indiana bat (E), clubshell (E), northern riffleshell (E), white cat's paw pearly mussel (E), rayed bean (E), rabbitsfoot (PT/PCH), copperbelly water snake (T), bald eagle (SC)
WOOD	Indiana bat (E), bald eagle (SC)
WYANDOT	Indiana bat (E), rayed bean (E), eastern massasauga (C), bald eagle (SC)

IMPORTANT NOTE: This list reflects data available as of May 1, 2013, and will change as new data become available. For this reason, searches for listed species should not necessarily be limited to the counties noted above. Any decisions in that regard should be made only after calling the USFWS (614/416-8993) for guidance.

E = Endangered
T = Threatened
C = Candidate

SC = Species of Concern
CH = Critical Habitat
P = Proposed (T/E/CH)

**Ohio Division of Wildlife
Natural Heritage Database
State-listed Species for Franklin Co.
As of 11/8/2012**

<u>Last Recorded</u>	<u>Scientific Name</u>	<u>Common Name</u>	<u>State Status</u>	<u>Federal Status</u>
PLANTS				
1989	<i>Acorus americanus</i>	American Sweet-flag	P	
2001	<i>Agalinis gattereri</i>	Gatterer's-foxglove	T	
2012	<i>Arabis patens</i>	Spreading Rock Cress	E	
2001	<i>Baptisia lactea</i>	Prairie False Indigo	P	
2008	<i>Bromus kalmii</i>	Prairie Brome	P	
2006	<i>Carex decomposita</i>	Cypress-knee Sedge	E	
2005	<i>Cyperus acuminatus</i>	Pale Umbrella-sedge	P	
2008	<i>Delphinium exaltatum</i>	Tall Larkspur	P	FSC
2012	<i>Juncus secundus</i>	One-sided Rush	P	
2012	<i>Liatris squarrosa</i>	Scaly Blazing-star	P	
1982	<i>Poa saltuensis ssp. languida</i>	Weak Spear Grass	P	
2001	<i>Thuja occidentalis</i>	Arbor Vitae	P	
1981	<i>Triphora trianthophora</i>	Three-birds Orchid	P	
2010	<i>Ulmus thomasii</i>	Rock Elm	P	
ANIMALS				
2009	<i>Alasmodontia marginata</i>	Elktoe	SC	FSC
1981	<i>Anas crecca</i>	Green-winged Teal	SI	
1985	<i>Bartramia longicauda</i>	Upland Sandpiper	E	
2000	<i>Cyclonaias tuberculata</i>	Purple Wartyback	SC	
1982	<i>Elliptio crassidens</i>	Elephant-ear	E	
1996	<i>Epioblasma torulosa rangiana</i>	Northern Riffleshell	E	FE
2003	<i>Epioblasma triquetra</i>	Snuffbox	E	FE
2003	<i>Etheostoma maculatum</i>	Spotted Darter	E	FSC
1999	<i>Etheostoma tippecanoe</i>	Tippecanoe Darter	T	
2009	<i>Falco peregrinus</i>	Peregrine Falcon	T	FSC
2011	<i>Haliaeetus leucocephalus</i>	Bald Eagle	F	FSC
1964	<i>Hemidactylium scutatum</i>	Four-toed Salamander	SC	
1959	<i>Hiodon alosoides</i>	Goldeye	E	
1972	<i>Ichthyomyzon fossor</i>	Northern Brook Lamprey	E	
2007	<i>Lampsilis fasciola</i>	Wavy-rayed Lampmussel	SC	
1998	<i>Lampsilis ovata</i>	Pocketbook	E	
1996	<i>Lepisosteus platostomus</i>	Shortnose Gar	E	
2009	<i>Ligumia recta</i>	Black Sandshell	T	

<u>Last Recorded</u>	<u>Scientific Name</u>	<u>Common Name</u>	<u>State Status</u>	<u>Federal Status</u>
1995	<i>Megalonaias nervosa</i>	Washboard	E	
1990	<i>Moxostoma carinatum</i>	River Redhorse	SC	
2008	<i>Myotis sodalis</i>	Indiana Bat	E	FE
1983	<i>Notropis heterolepis</i>	Blacknose Shiner	X	
2011	<i>Nyctanassa violacea</i>	Yellow-crowned Night-heron	SI	
2009	<i>Obliquaria reflexa</i>	Threehorn Wartyback	T	
1986	<i>Opheodrys vernalis</i>	Smooth Greensnake	SC	
2006	<i>Pleurobema clava</i>	Clubshell	E	FE
2006	<i>Pleurobema sintoxia</i>	Round Pigtoe	SC	
1976	<i>Polyodon spathula</i>	Paddlefish	T	FSC
2010	<i>Ptychobranhus fasciolaris</i>	Kidneyshell	SC	
1996	<i>Quadrula cylindrica cylindrica</i>	Rabbitsfoot	E	FC
1996	<i>Simpsonaias ambigua</i>	Salamander Mussel	SC	FSC
2003	<i>Taxidea taxus</i>	Badger	SC	
2008	<i>Truncilla donaciformis</i>	Fawnsfoot	T	
2009	<i>Truncilla truncata</i>	Deertoe	SC	
1976	<i>Tyto alba</i>	Barn Owl	T	
1999	<i>Uniomerus tetralasmus</i>	Pondhorn	T	
1984	<i>Vermivora chrysoptera</i>	Golden-winged Warbler	X	
1996	<i>Villosa fabalis</i>	Rayed Bean	E	FE

NATURAL HERITAGE DATA REQUEST FORM

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE
OHIO NATURAL HERITAGE PROGRAM
2045 MORSE RD., BLDG. G-3
COLUMBUS, OHIO 43229-6693
PHONE: 614-265-6452; EMAIL: obdrequest@dnr.state.oh.us



INSTRUCTIONS:

Please complete both pages of this form, sign and return it to the address or email address above along with: **(1)** a brief letter describing your project, and **(2)** a map detailing the boundaries of your project site. A copy of the pertinent portion of a USGS 7.5 minute topographic map is preferred but other maps are acceptable. Data requests will be completed within approximately 30 days. There is currently no charge for data requests.

WHAT WE PROVIDE: The Natural Heritage Database is the most comprehensive source of information on the location of Ohio's rare species and significant natural features. Records for the following will be provided: plants and animals (state and federal listed species), high quality plant communities, geologic features, breeding animal concentrations and unprotected significant natural areas. We also provide locations for managed areas including federal, state, county, local and non-profit sites, as well as state and national scenic rivers. A minimum one mile radius around the project site will automatically be searched. Because the data is sensitive information, it is our policy to provide only the data needed to complete your project. The information is generally provided without comment on potential impacts to the species and their habitats and therefore does not constitute coordination with ODNR under NEPA, the Fish & Wildlife Coordination Act or the Federal Water Pollution Control Act. If your project requires ODNR coordination, please submit it for a more extensive environmental review by contacting John Kessler in the Office of Real Estate at 614-265-6621 or john.kessler@dnr.state.oh.us

Date: May 14, 2013 Company name: POWER Engineers, Inc.

Name of person response letter should be addressed to: Mr. ☐ Ms. ☒
Anette F. Dearden c/o POWER Engineers, Inc.

Address: 303 US Route 1

City/State/Zip: Freeport, ME 04032

Phone: 207-869-1205 Fax: 207-869 - 1299

E-mail address: anette.dearden@powereng.com

Project Name: Groves - Bexley

Project Number: PVID 36467

Project Site Address: Franklin County, OH

Project County: Franklin County, OH

Project City/Township: City of Columbus, City of Whitehall

Project site is located on the following USGS 7.5 minute topographic quad(s): see attached map

Project Latitude and Longitude if available (decimal degrees is preferred): _____

Description of work to be performed at the project site: Rebuild of an existing 4.4 mile transmission line

How do you want your data reported? (Both formats provide exactly the same data. The only difference is in the format of our response. The manual search is most appropriate for small scale projects or for those who do not have GIS capabilities. Please choose only one option.)

Printed list and map (manual search) _____ **OR** GIS shapefile (computer search) x

Additional information you require: _____

How will the information be used? To support a filing with Ohio Power Siting Board

I certify that data supplied by the Ohio Natural Heritage Program will not be published without crediting the ODNR Division of Wildlife as the source of the material. In addition, I certify that electronic datasets will not be distributed to others without the consent of the Division of Wildlife, Ohio Natural Heritage Program.

Signature _____

Date: _____



May 24, 2013

WATERS OF THE UNITED STATES DELINEATION

GROVES-BEXLEY 138 KV T-LINE COLUMBUS, FRANKLIN COUNTY, OHIO

Prepared for:
Power Engineers, Inc
303 U.S. Route One, Suite 2A
Freeport, ME 04032

Prepared by:
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TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	SITE DESCRIPTION	1
1.2	JURISDICTIONAL AUTHORITY	1
1.2.1	Streams.....	2
1.2.2	Wetlands	2
2.0	METHODS	2
2.1	ANALYSIS OF EXISTING DOCUMENTS	2
2.1.1	Soils.....	3
2.1.2	Streams.....	3
2.1.3	Wetlands	3
2.1.4	Floodplains.....	3
2.2	FIELD INVESTIGATIONS.....	3
2.2.1	Streams.....	3
2.2.2	Wetlands	4
3.0	RESULTS	4
3.1	SOILS	4
3.2	STREAMS	4
3.3	WETLANDS.....	8
3.4	FLOODPLAINS	14
4.0	SUMMARY	14
5.0	LITERATURE CITED	15

TABLES

- Table 1. Mapped soil units within the Groves-Bexley 138 kV T-line survey corridor.
- Table 2. Summary data for Stream 1 within the Groves-Bexley 138 kV T-line survey corridor.
- Table 3. Summary data for wetlands identified within the Groves-Bexley 138 kV T-line survey corridor.

FIGURES

- Figure 1. Overview and Key Map for the Power Engineers- Grove-Bexley 138 kV T-Line
- Figure 2. Study Area for Power Engineers- Grove-Bexley 138 kV T-Line
- Figure 3. Study Area for Power Engineers- Grove-Bexley 138 kV T-Line
- Figure 4. Study Area for Power Engineers- Grove-Bexley 138 kV T-Line
- Figure 5. Study Area for Power Engineers- Grove-Bexley 138 kV T-Line
- Figure 6. Study Area for Power Engineers- Grove-Bexley 138 kV T-Line

APPENDICES

- Appendix A. Photo Log
- Appendix B. Stream and Wetland Datasheets

1.0 INTRODUCTION

Power Engineers, Inc. is developing plans to modify an approximately 4.4-mile transmission line corridor (“Groves-Bexley 138 kV T-line”) in Columbus, Franklin County, Ohio. BHE Environmental, Inc. (BHE) was retained by Power Engineers, Inc. (POWER) to conduct delineations and assessments of potentially regulated water bodies (i.e., identifying boundaries of wetlands and waters potentially regulated by the federal government [waters of the U. S.] and/or the state of Ohio [waters of the State]). This report presents the professional opinion of BHE regarding the presence/absence of potentially regulated waters of the U. S. and waters of the State.

1.1 SITE DESCRIPTION

Topography in the survey corridor consists of flat to moderately sloped landforms (Figure 1). Water on the property drains, either directly or indirectly, into Stream 1, an unnamed tributary of Big Walnut Creek.

The northern terminus of the survey corridor is located approximately 5.7 miles east of Columbus, while the southern terminus of the project site/survey area is located approximately 8.6 miles southeast of Columbus. The transmission line connects the American Electric Power (AEP) Groves Substation with the AEP Bexley Substation. Land cover/land use within and adjacent to the survey corridor consists of forest, urban development, residential lawns, maintained Right-of-Way and Department of Defense-owned facility (Figure 1).

Generally, the survey corridor comprised a 50 foot corridor centered on the centerline of the new proposed alignment (Figures 1 through 5).

1.2 JURISDICTIONAL AUTHORITY

Waters of the U.S. incorporates coastal waters; navigable inland waters such as lakes, rivers, and streams; tributaries to navigable waters and associated adjacent wetlands; and isolated lakes, wetlands, and intermittent streams (Environmental Laboratory 1987).

The USACE has primacy over the regulation of navigable waters of the U.S. under Sections 9 and 10 of the Rivers and Harbors Act of 1899; all those waters that are subject to the ebb and flow of the tide and/or are presently used, have been used in the past, or may be susceptible for use to transport interstate or foreign commerce; and federally jurisdictional waters under Section 404 of the Clean Water Act (CWA), including wetlands. Under USACE Regulatory Guidance Letter 07-01 (USACE 2007), the CWA jurisdiction covers: traditional navigable waters, wetlands adjacent to traditional navigable waters, non-navigable tributaries of traditional navigable waters that are relatively permanent (tributaries that flow year round or have continuous flow at least seasonally [3 months]), and wetlands that directly abut such relatively permanent waters. The CWA jurisdiction also covers non-relatively permanent waters, wetlands adjacent to non-relatively permanent waters, and wetlands adjacent to but that do not directly abut relatively permanent waters when a fact-specific analysis determines that those waters have a significant nexus with a traditional navigable water. Broadly speaking, a significant nexus can be described as a hydrological or ecological connection that may impact the chemical, physical, or biological integrity of a downstream traditional navigable water (USACE 2007). A significant nexus determination must be done in order to prove a non-relatively permanent water has more than an insubstantial or

speculative effect on the chemical, physical, and/or biological integrity of a downstream traditional navigable water (USACE 2007).

Impacts to waters of the U.S. are regulated by the USACE through Section 404 of the CWA (33 U.S.C. 1344). In addition, impacts to waters or wetlands also require water quality certification from the state as defined in Section 401 of the CWA (33 U.S.C. 1341).

1.2.1 Streams

Streams and drainageways within the survey corridor were examined for the presence/absence of an Ordinary High Water Mark (OHWM) and defined bed and bank. If these characteristics were observed in a water body, it was determined to be a regulated stream; if these characteristics were absent, this area was determined to be a drainageway, swale, or ditch and not a CWA-regulated feature, i.e., not a water of the U.S.

1.2.2 Wetlands

Federal regulations define wetlands as:

Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation, typically adapted for life in saturated soil conditions.

Under normal circumstances, three parameters must be present for an area to be considered a wetland: hydrophytic vegetation, wetland hydrology, and hydric soils. Applicable technical guidance that defines these parameters and provides criteria for the evaluation of associated data and field indicators is provided in the 1987 Wetland Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual, Midwest Region (USACE 2012).

2.0 METHODS

2.1 ANALYSIS OF EXISTING DOCUMENTS

Available technical documents were reviewed prior to the initiation of field investigations. These documents included:

- Soil Survey of Franklin County, Ohio (NRCS 1977) ;
- National Wetland Inventory (NWI) Map (1977 and as updated);
- Ohio Wetland Inventory (OWI) Map (1985);
- Franklin County Hydric Soils list (Soil Data Mart);
- Aerial Photography (2010);
- U.S. Geological Survey (USGS) National Hydrography Dataset (NHD) (2012); and
- Federal Emergency Management Agency (FEMA) 100-year Floodplain maps.

Most of these data were assembled in a geographic information system (GIS) project to gain a preliminary understanding of features and areas of concern. The GIS was then used for desktop analysis of site topography, soils, and drainage. Various maps were also prepared from the integrated GIS data to focus the field investigation.

2.1.1 Soils

To identify mapped soils located within and adjacent to the survey corridor, desktop analyses of available soil data were completed. These analyses consisted of a review of data contained within the Natural Resources Conservation Service (NRCS) Soil Data Mart (NRCS 2012), and the Soil Survey of Franklin County, Ohio (NRCS 1977).

2.1.2 Streams

Prior to field investigations, the NHD was consulted to identify known streams on site. The NHD is a comprehensive set of digital spatial data representing surface waters of the U.S., including common features such as lakes, ponds, streams, rivers, canals, and oceans (Simley and Carswell 2009).

2.1.3 Wetlands

Prior to field investigations, BHE conducted a review of both the 1977 NWI mapping, and the 2001 OWI mapping to identify areas previously mapped as potential wetlands. NWI-mapped wetlands are classified according to the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979). The Cowardin classification is a taxonomic system that divides wetlands and deepwater habitats into five systems based on hydrologic factors. The systems are broken down into additional taxonomic groups based on vegetation and substrate.

Similar to the NWI, the OWI classifies and maps potential wetlands according to a remote sensing analysis of satellite data (Yi et al. 1994). Because these satellite data reflect conditions during the specific year and season the data was acquired, all wetlands present in an area may not be readily identified. However, the NWI and OWI do provide a useful indicator of wetland sites for which field review should be conducted.

2.1.4 Floodplains

To identify floodplains located within the survey corridor, the GIS data layer for FEMA-mapped 100-year floodplains was examined.

2.2 FIELD INVESTIGATIONS

This study focused on determining the presence of potentially jurisdictional wetlands or streams, i.e., waters of the U.S. and/or waters of the State, within the survey corridor.

2.2.1 Streams

Mapped areas identified during the desktop analyses, and any additional waters were ground-truthed during the field survey. Any streams observed within the survey corridor were classified based on the observed flow and channel characteristics at the time of our field review. Per Ohio Environmental Protection Agency (OEPA) protocols, BHE used OEPA Primary Headwater Habitat Evaluation (HHEI) data sheets to evaluate streams with a drainage area of less than one square mile (mi²), and OEPA Qualitative Habitat Evaluation Index (QHEI) data sheets to evaluate streams with a drainage area of greater than one mi² (OEPA 2009; Rankin 1989). Per OEPA guidelines, drainage areas are calculated from the point at which the project intersects with the identified streams.

Features were mapped with Trimble GeoXH mapping-grade global positioning system (GPS) units.

2.2.2 Wetlands

Wetlands were identified according to the “Routine Onsite Determination Method” described in the USACE Wetlands Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the USACE Wetland Delineation Manual, Midwest Region (USACE 2012). This procedure entails traversing the site and evaluating vegetation, soils, and hydrology at sampling plots to determine the presence of field indicators for each parameter. According to this method, wetlands are those areas that meet prescribed criteria for all three parameters. Those criteria are explained in detail in the aforementioned manuals and are modified as appropriate for regional conditions. BHE used OEPA Ohio Rapid Assessment Method (ORAM, vers. 5.0) to evaluate all wetlands.

3.0 RESULTS

Field investigations were completed May 6 - 7, 2013. A photo log illustrating the general land-use within the survey area is provided as Appendix A.

3.1 SOILS

According to the NRCS (NRCS 2012), four soil series are represented within the survey area: Bennington, Pewamo, Udorthents, and Urban land-Bennington (NRCS 2012). Seven soil map units are mapped within the survey area, all of which are loamy in texture (Table 1; Figure 1). In terms of areal extent, the Bennington-Urban land complex, 0 to 2 percent slopes, is the most prevalent soil in the survey corridor (Figure 1, covering 53 percent of the survey area). Six of the seven mapping units in the survey corridor are listed as hydric (Table 1) (NRCS 2012); these hydric soils encompass 94.4 percent of the survey corridor.

3.2 STREAMS

The NHD and topographic mapping show one stream (Stream 1), a perennial Unnamed tributary to Big Walnut Creek, located within the survey corridor (Table 2). Stream 1 is apparently a man-made channel for most of its above-ground length and is broken up into two separate above-ground segments (Figures 4 and 5) and apparently flows into a buried culvert between the two locations. The mapped streams, Turkey Run and Mason Run (Figures 1 through 6) have apparently been placed in underground culverts as a result of development over the years and it is assumed here that Mason Run empties into the same culvert system that now carries Stream 1. Field observations of the substrates, flow, and other characteristics of Stream 1 were recorded on standard data sheets (Appendix B). This stream was determined to be of low quality due to adjacent land use and historic and continuing modifications/impacts. Such modifications include multiple culverts, channelization, diversions, and the presence of large quantities of refuse deposited in the channel. In addition, water quality is likely being negatively impacted due to discharge from roads, commercial properties, and residential land. The surface water had an unnatural color and odor in some regions and no evidence of a healthy macroinvertebrate community was noted. Additional information on Stream 1 is provided following Table 2.

BHE’s professional opinion is that this stream is a Water of the U.S. and is therefore regulated by the USACE under the CWA.

Table 1. Mapped soil units within the Groves-Bexley 138 kV T-line survey corridor.

Soil Map Unit Name	Soil Map Unit Code	Drainage Class	Hydric	Acreage in Survey corridor
Bennington silt loam, 0 to 2 percent slopes	BeA	Somewhat poorly drained	Yes	0.460
Bennington silt loam, 2 to 6 percent slopes	BeB	Somewhat poorly drained	Yes	0.663
Bennington-Urban land complex, 0 to 2 percent slopes	BfA	Somewhat poorly drained	Yes	13.846
Bennington-Urban land complex, 2 to 6 percent slopes	BfB	Somewhat poorly drained	Yes	5.295
Pewamo-Urban land complex	Pn	Very poorly drained	Yes	0.786
Udorthents-Urban land complex, gently rolling	Ut	Well drained	No	1.445
Urban land-Bennington complex, 2 to 6 percent slopes	Uu	Somewhat poorly drained	Yes	3.692
Total:				26.187

Table 2. Summary data for Stream 1 within the Groves-Bexley 138 kV T-line survey corridor.

Stream ID	Stream Name	Drainage Area (mi ²)	Score		Flow Classification (E, I, P) ¹
			HHEI	QHEI	
1	Unnamed tributary to Big Walnut Creek	1.47	-	37	P

¹: E = Ephemeral; I = Intermittent; P = Perennial; stream flow based on field observations.

Stream 1

Stream Name	Unnamed tributary to Big Walnut Creek (Modified Warm Water Habitat)
Evaluation Score/System	37/OEPA QHEI
Watershed HUC (14-Digit)	Big Walnut Creek (05060001160030).
Flow Regime/Water Level	Perennial
Dominant Substrate(s)	Silt, gravel
Other Substrates	Silt, bedrock, leaf pack/woody debris, fine detritus, muck
Natural/Channelized	Modified and Channelized
Stream Order	2
Date Surveyed	May 6, 2013 and May 7, 2013





Stream 1, an unnamed tributary to Big Walnut Creek is a perennial stream mapped by both the USGS and the NHD. This stream has a drainage area of 1.47 square miles. The stream crosses the survey corridor between Structures 5 and 6. Land use adjacent to the stream varies from forested, maintained ROW, shrub/scrub, and urbanized and residential developments. Current land use appears to be impacting the stream negatively. There are multiple culverts, disturbances to riparian vegetation, and the bank is very unstable in some locations, causing accelerated erosion. Runoff from roads and residential areas is flowing into the stream as well, causing negative impacts to water quality. Accumulation of trash/debris was also documented throughout the stream stretch.

**Please note that the determination of each stream status represents the professional opinion of BHE, the final determination of jurisdictional status is under the purview of the USACE.*

3.3 WETLANDS

Desktop analysis identified that no NWI wetlands were found within the Groves-Bexley 138 kV T-line survey corridor. OWI wetland mapping did identify small wetlands on the eastern side of Stream 1. These were not investigated as they were outside of the proposed area of impact (Figure 1).

Field investigations identified five wetlands within the survey area. Table 3 provides a summary of wetland characteristics. The five identified wetlands cover an area of 0.24 acres within the 50-foot study area (some wetlands extend outside of the study area). Field observations of the vegetation, hydrology, and soils of each wetland were recorded on standard USACE data sheets (Appendix B), and qualitative assessments were conducted using ORAM datasheets (Appendix B). The extent of the wetland boundaries that were identified in the field are shown on Figures 2 - 6. Following Table 3 are summary descriptions and representative photographs of each wetland delineated in the survey corridor.

Table 3. Summary data for wetlands identified within the Groves-Bexley 138 kV T-line survey corridor.

Wetland ID	Wetland Type	ORAM Score	ORAM Category	Jurisdictional Status ¹	Acreage
1	PEM	9.0	Category 1	Connected	0.050
2	PSS	20.0	Category 1	Isolated	0.009
3	PSS/PFO	16.0	Category 1	Isolated	0.055
4	PEM	9.0	Category 1	Isolated	0.005
5	PSS/PFO	25.0	Category 1	Isolated	0.120
Total:					0.239

¹: Please note that the determination of each wetland's isolated or connected status represents the professional opinion of BHE, the final determination of jurisdictional status is under the purview of the USACE.

Wetland 1

Location/ORAM Score	39.935294, -82.889663/9.0
Cowardin Classification	PEM
Dominant Plant Species	Narrowleaf cattail (<i>Typha angustifolia</i>), Twinsisters (<i>Lonicera tatarica</i>)
Other Species Observed	Poison ivy (<i>Toxicodendron radicans</i>), Crab apple (<i>Malus</i> spp.), Bull thistle (<i>Cirsium vulgare</i>), Redtop (<i>Agrostis gigantea</i>), Red cedar (<i>Juniperus virginiana</i>), Virginia creeper (<i>Parthenocissus quinquefolia</i>), giant goldenrod (<i>Solidago gigantea</i>)
Soil Map Unit	Udorthents-Urban land complex, gently rolling
Hydrology Indicators	Standing water, saturation
Connected or Isolated*	Connected
Date Surveyed	May 6, 2013



Wetland 1 is located adjacent to Structure 4. This wetland is a small (approximately 0.05 acre), wetland, located in an opening within a disturbed forest, adjacent to a highway. A drainage swale flows down the hillside from the highway and appears to be charging this wetland from the southwest. This nexus makes it subject to USACE jurisdiction. This wetland is a monoculture, low-quality feature, consisting mostly of Narrowleaf cattail. Because of its proximity to a major interstate highway, the water quality is most likely negatively impacted due to highway runoff.

**Please note that the determination of each wetland's isolated or connected status represents the professional opinion of BHE, the final determination of jurisdictional status is under the purview of the USACE.*

Wetland 2

Location/ORAM Score	40.428993, -81.64927/20.0
Cowardin Classification	PSS
Dominant Plant Species	Water speedwell (<i>Veronica anagallis-aquatica</i>), Yellow avens (<i>Geum aleppicum</i>), Silver maple (<i>Acer saccharinum</i>),
Other Species Observed	American Elm (<i>Ulmus americana</i>), River grape (<i>Vitis riparia</i>), Twinsisters, giant goldenrod, Allegheny blackberry (<i>Rubus allegheniensis</i>), Box elder (<i>Acer negundo</i>), Sallow sedge (<i>Carex lurida</i>), Black willow (<i>Salix nigra</i>), Cottonwood (<i>Populus deltoides</i>)
Soil Map Unit	Bennington-Urban land complex, 0 to 2 percent slopes
Hydrology Indicators	Water-stained leaves,
Connected or Isolated*	isolated
Date Surveyed	May 6, 2013



Wetland 2 is a small (approximately 0.009 acre) wetland, located partially within a ROW area. This wetland appears to be spring fed. It is located between Structures 19 and 20. Adjacent land use is commercial and urban development along with disturbed forest. This wetland is significantly disturbed. This wetland is located in a manmade swale that was lined with a gravel base layer that impedes current hydrologic flow and that does not effectively drain surface waters to nearby water features due to adjacent land use and microtopography. The wetland is bordered by an industrial facility which can be a source of pollutants via runoff and leaching, as well.

**Please note that the determination of each wetland's isolated or connected status represents the professional opinion of BHE, the final determination of jurisdictional status is under the purview of the USACE.*

Wetland 3

Location/ORAM Score	39.954690, -82.903487/16.0
Cowardin Classification	PSS/PFO
Dominant Plant Species	Jewelweed (<i>Impatiens capensis</i>), Silver maple, Poison ivy, American elm, Twinsisters
Other Species Observed	River grape, Dogwood (<i>Cornus</i> spp.), Glossy buckthorn (<i>Rhamnus frangula</i>), Sallow sedge
Soil Map Unit	Bennington-Urban land complex, 0 to 2 percent slopes
Hydrology Indicators	Water-stained leaves, saturation, high water table
Connected or Isolated*	isolated
Date Surveyed	May 7, 2013



Wetland 3 is a small (approximately 0.055 acre) depressional wetland containing woody vegetation. This wetland is within an excavated swale that does not drain, therefore retaining hydrology for long periods of time. It is located adjacent to Structure 21. This wetland is not connected to Stream 1. Adjacent land use is commercial and urban development along with disturbed forest. This wetland is located in a manmade swale that was lined with a gravel base layer that impedes current hydrologic flow and that does not effectively drain surface waters to nearby water features due to adjacent land use and microtopography. The wetland is bordered by an auto scrap yard which can be a source of pollutants via runoff and leaching, as well.

**Please note that the determination of each wetland's isolated or connected status represents the professional opinion of BHE, the final determination of jurisdictional status is under the purview of the USACE.*

Wetland 4

Location/ORAM Score	39.958175, -82.904966/9.0
Cowardin Classification	PEM
Dominant Plant Species	Daylily (<i>Hemerocallis fulva</i>), Reed canary grass (<i>Phalaris arundinacea</i>), Canada goldenrod (<i>Solidago canadensis</i>), Green ash (<i>Fraxinus pennsylvanica</i>), Twinsisters
Other Species Observed	Poison ivy, Burdock (<i>Arctium minus</i>), Common blue violet (<i>Viola sororia</i>), Common woodland sedge (<i>Carex blanda</i>), Wild carrot (<i>Daucus carota</i>), Dogwood, Summer grape (<i>Vitis aestivalis</i>)
Soil Map Unit	Bennington-Urban land complex, 0 to 2 percent slopes
Hydrology Indicators	Saturation, geomorphic position, water-stained leaves, water in soil pit
Connected or Isolated*	isolated
Date Surveyed	May 7, 2013



Wetland 4 is a small (approximately 0.005 acre), depressional wetland, surrounded by maintained ROW and residential neighborhoods. This wetland is within an excavated swale that does not drain, therefore retaining hydrology for long periods of time. It is located between Structures 23 and 24. This wetland is not connected to Stream 1. This wetland is located in a manmade swale that was lined with a gravel base layer that impedes current hydrologic flow and that does not effectively drain surface waters to nearby water features due to adjacent land use and microtopography.

**Please note that the determination of each wetland's isolated or connected status represents the professional opinion of BHE, the final determination of jurisdictional status is under the purview of the USACE.*

Wetland 5

Location/ORAM Score	39.96962, -82.90409/25.0
Cowardin Classification	PSS/PFO
Dominant Plant Species	Sallow sedge, Green Ash, Poison ivy, Red maple (<i>Acer rubrum</i>), Box elder (<i>Acer negundo</i>)
Other Species Observed	Multiflora rose (<i>Rosa multiflora</i>), Yellow avens, Giant goldenrod
Soil Map Unit	Bennington-Urban land complex, 0 to 2 percent slopes
Hydrology Indicators	Standing water, saturation, high water table, water marks on trees, drift deposits
Connected or Isolated*	isolated
Date Surveyed	May 7, 2013



Wetland 5 is a larger (approximately 0.12 acre), forested/shrub-scrub wetland, located within the maintained ROW and adjacent residential properties. This wetland is primarily fed through precipitation. Due to its location within a depression there is no outlet, this wetland retains hydrology for long periods of time. It is located adjacent to Structure 31. This wetland appears somewhat disturbed, but provides some suitable habitat as sightings of waterfowl were reported. In addition, there was some evidence of soil disturbance based on the finding of a man-made hardpan at 14 inches.

**Please note that the determination of each wetland's isolated or connected status represents the professional opinion of BHE, the final determination of jurisdictional status is under the purview of the USACE.*

3.4 FLOODPLAINS

According to the digital FEMA data, no floodplains are within the boundaries of the survey corridor.

4.0 SUMMARY

A routine wetland and stream survey was completed on the approximately 4.4-mile long proposed transmission line in Columbus, Franklin County, Ohio. Five wetlands were identified on site. One jurisdictional (i.e., waters of the U.S.) stream, Stream 1, an unnamed tributary to Big Walnut Creek, is located within the survey corridor.

The preliminary jurisdictional boundaries identified within the survey area and their assessments are based on BHE's professional opinion. Any impacts to jurisdictional waters identified within the survey corridor may require authorization under Sections 404 and 401 of the CWA, from the USACE and/or the OEPA, respectively.

Please note that the final determination of the limits and jurisdictional status of onsite streams and wetlands is under the purview of the U.S. Army Corps of Engineers (USACE) and may require an onsite inspection with USACE representatives in order to finalize the jurisdictional determination. The jurisdictional determination can be rolled into the permit application process which is what BHE would recommend as requesting a separate jurisdictional determination by the USACE could delay the permitting process. The USACE does not have a time limit imposed on them for completing a jurisdictional determination. BHE would also recommend the implementation of appropriate BMP's that would help to reduce associated direct and indirect impacts.

5.0 LITERATURE CITED

- Cowardin, L.M., F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. Office of Biological Services, Fish and Wildlife Service, U.S. Department of the Interior, Washington, DC. 103 p.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi. 100 p., plus appendices.
- Mack, John J. 2001. Ohio Rapid Assessment Method for Wetlands, Manual for Using Version 5.0. Ohio EPA Technical Bulletin Wetland/2001-1-1. Ohio Environmental Protection Agency, Division of Surface Water, 401 Wetland Ecology Unit, Columbus, Ohio.
- Natural Resources Conservation Service (NRCS). 1977. Soil Survey of Franklin County, Ohio. 186p.
- NRCS. 2012. Soil Data Mart. Available at: <http://soildatamart.nrcs.usda.gov/>. Accessed May 9, 2013.
- Ohio Environmental Protection Agency (OEPA). 2009. Field Evaluation Manual for Ohio's Primary Headwater Streams, Version 2.3. OEPA, Division of Surface Water, Northeast District Office, Twinsburg, Ohio. 86 p.
- Rankin, E.T. 1989. The Qualitative Habitat Evaluation index (QHEI): Rationale, Methods, and Application. Div. Water Qual. Plan. & Assess., Ecol. Assess. Sect., Columbus, Ohio.
- Simley, J.D. and W.J. Carswell, Jr. 2009. The National Map - Hydrography: U.S. Geological Survey Fact Sheet 2009-3054, 4 p.
- U.S. Army Corps of Engineers (USACE). 2007. Regulatory Guidance Letter 07-01: Practices for Documenting Jurisdictional Determinations under Section 404 of the Clean Water Act (CWA) and Sections 9 and 10 of the Rivers and Harbors Act (RHA) of 1899. 17p.
- USACE. 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region, Version 2.0. Eds: J. F. Berkowitz, J. S. Wakeley, R. W. Lichvar, C. V. Noble. ERDC/EL TR-12-9. Vicksburg, MS: U.S. Army Engineer Research and Development Center. 147 p., plus appendices.
- Yi, G.D., M. Risley, M. Koneff, and C. Davis. 1994. Development of Ohio's GIS-based wetlands inventory. Journal of Soil and Water Conservation 49:23-28.

FIGURES

Figure 1. Overview and Key Map for the Power Engineers- Grove-Bexley 138 kV T-Line.

Figure 2. Study Area for Power Engineers- Grove-Bexley 138 kV T-Line.

Figure 3. Study Area for Power Engineers- Grove-Bexley 138 kV T-Line.

Figure 4. Study Area for Power Engineers- Grove-Bexley 138 kV T-Line.

Figure 5. Study Area for Power Engineers- Grove-Bexley 138 kV T-Line.

Figure 6. Study Area for Power Engineers- Grove-Bexley 138 kV T-Line

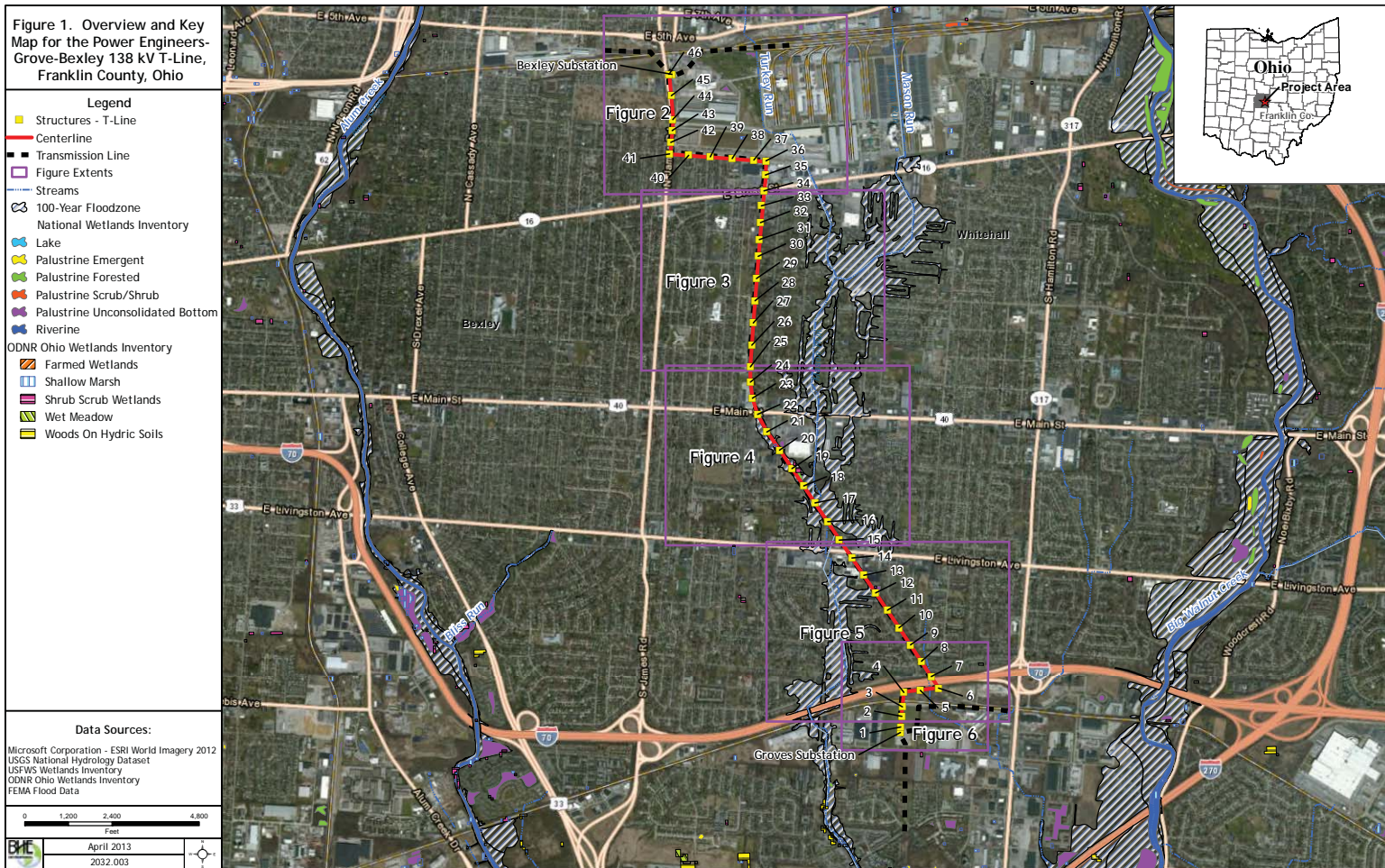












Figure 2. Study Area for Power Engineers-Grove-Bexley 138 kV T-Line, Franklin County, Ohio

Legend

-  Stream
-  Non-Regulated Swales
-  Wetlands
-  Structures - T-Line
-  50 Foot Study Corridor
-  Centerline
-  Transmission Line
-  Streets
-  Matchline
-  Streams

Data Sources:

Microsoft Corporation - ESRI World Imagery 2012
USGS National Hydrology Dataset


0 255 510 1,020
Feet

April 2013
2032.003



Figure 3. Study Area for Power Engineers-rove-Bexley 138 kV T-Line, Franklin County, Ohio

Legend

- Stream
-  Non-Regulated Swales
-  Wetlands
-  Structures - T-Line
-  50 Foot Study Corridor
-  Centerline
-  Transmission Line
- Streets
-  Matchline
-  Streams

Data Sources:

Microsoft Corporation - ESRI World Imagery 2012
USGS National Hydrology Dataset

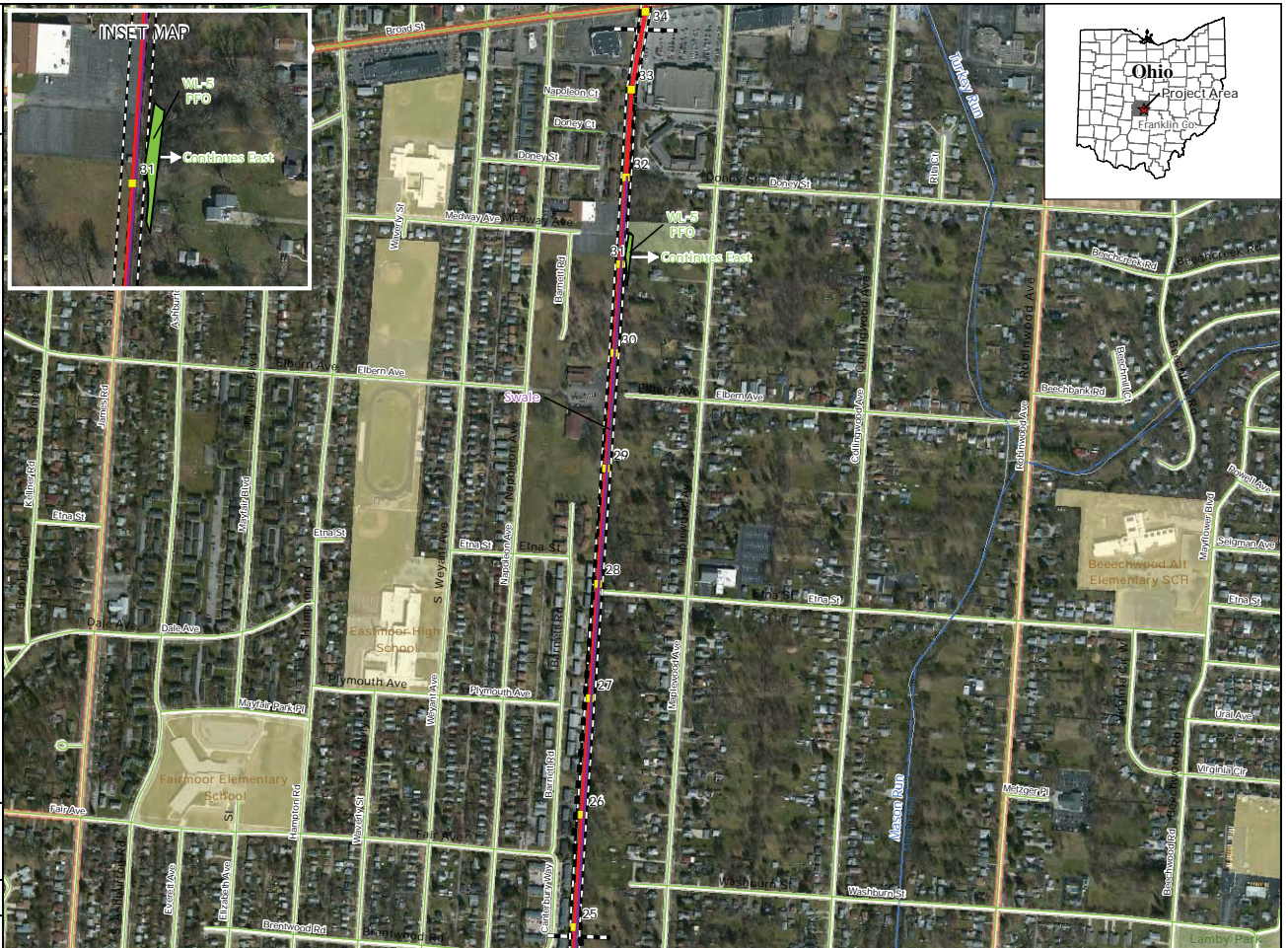
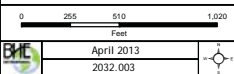










Figure 4. Study Area for Power Engineers-
Grove-Bexley 138 kV T-Line,
Franklin County, Ohio

- ### Legend

- Streams
-  Non-Regulated Swales
-  Wetlands
-  Structures - T-Line
-  50 Foot Study Corridor
-  Centerline
-  Transmission Line
- Streets
-  Matchline
-  Streams

Data Sources:

Microsoft Corporation - ESRI World Imagery 2012
USGS National Hydrology Dataset

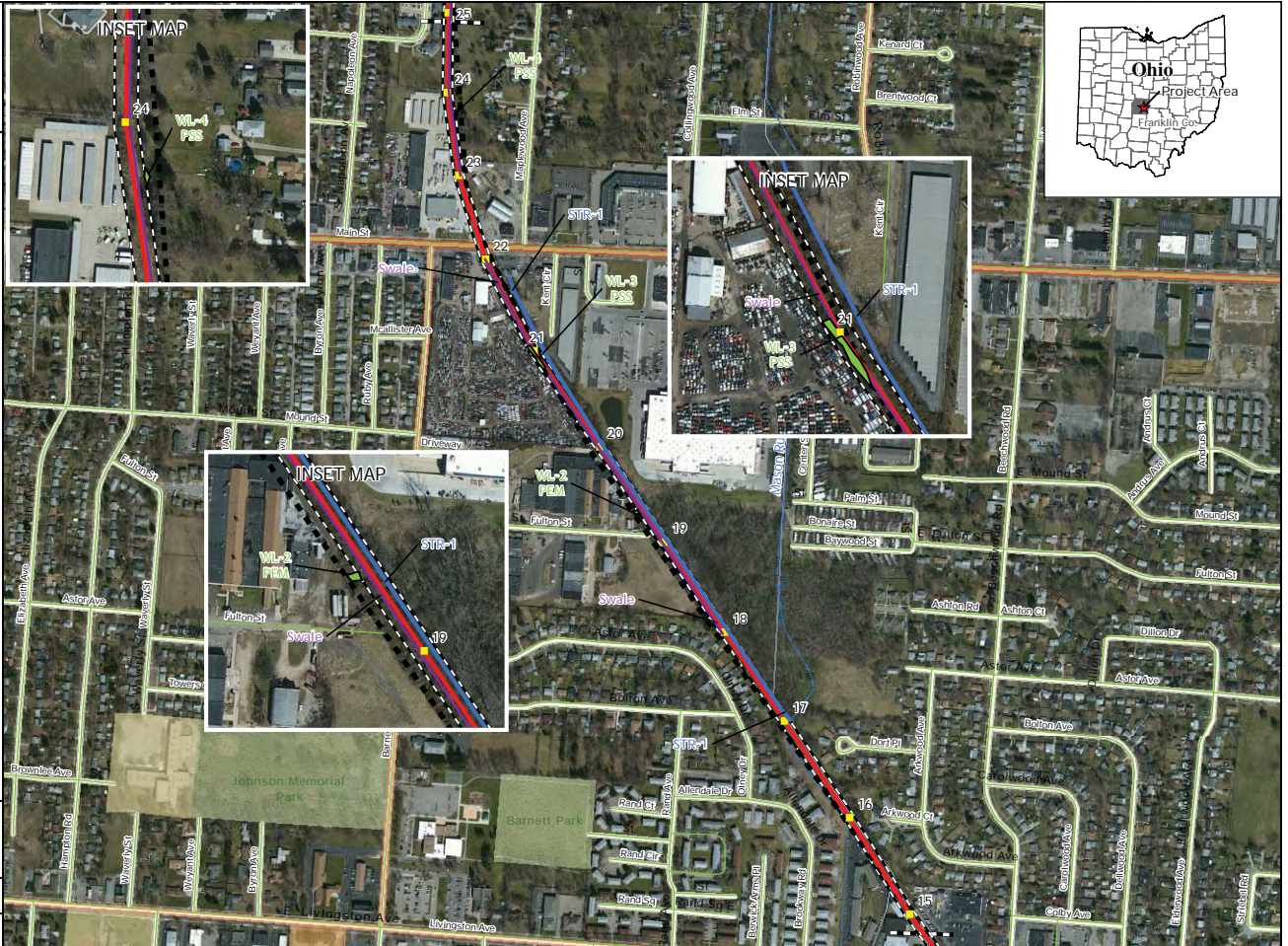
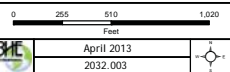


Figure 5. Study Area for Power Engineers-Grove-Bexley 138 kV T-Line, Franklin County, Ohio

Critical Environmental Issues Assessment

Legend

- Streams
- Non-Regulated Swales
- Wetlands
- Structures - T-Line
- 50 Foot Study Corridor
- Centerline
- Transmission Line
- Streets
- Matchline
- Streams

Data Sources:

Microsoft Corporation - ESRI World Imagery 2012
USGS National Hydrology Dataset

0 255 510 1,020
Feet

April 2013
2032.003

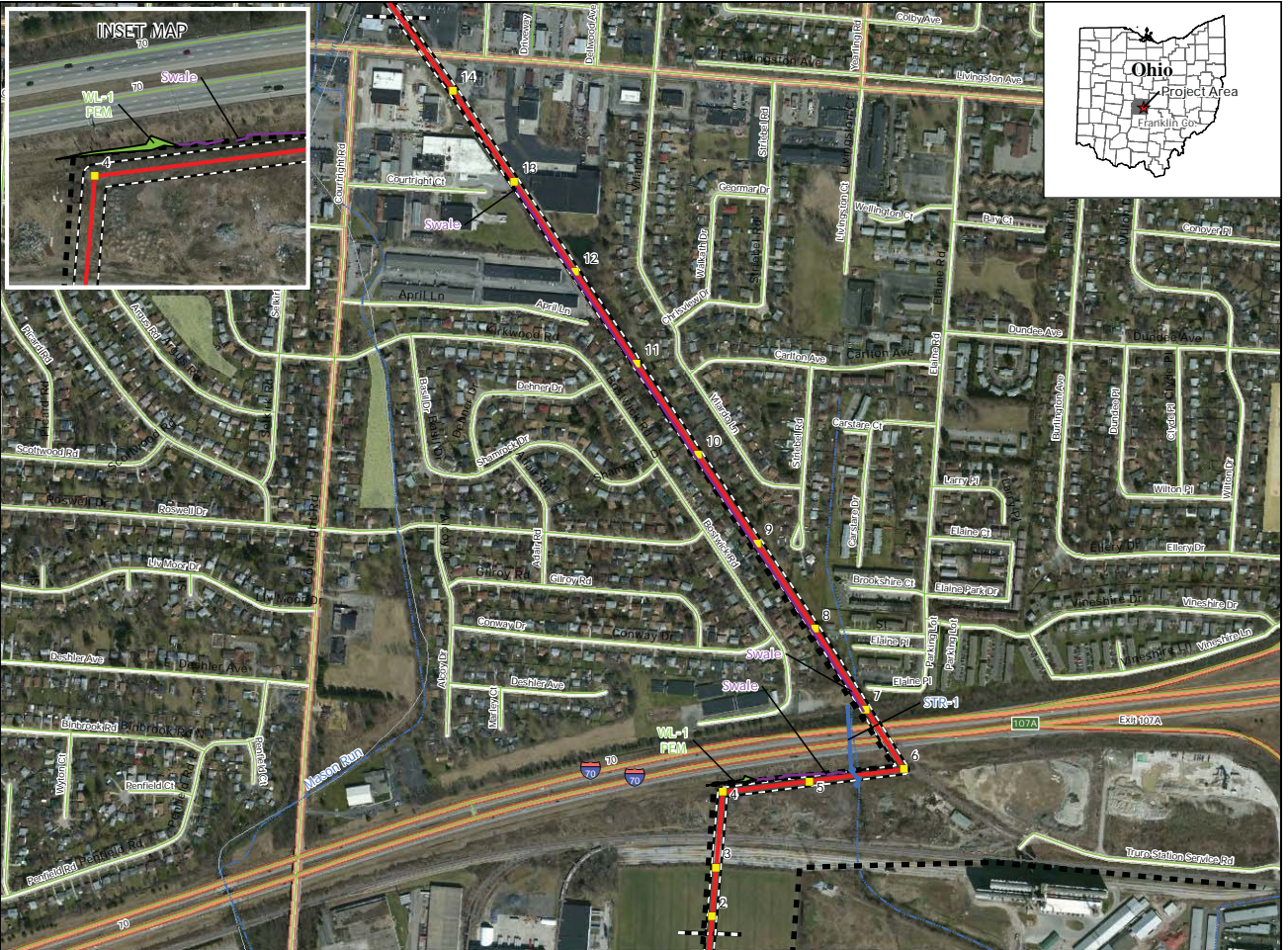


Figure 6. Study Area for Power Engineers-Grove-Bexley 138 kV T-Line, Franklin County, Ohio



APPENDIX A

Photo Log



Photo 1. Swale connecting Wetland 1 and Stream 1 (unnamed tributary to Big Walnut Creek). This portion of the line is bordered on the east by interstate 70. Image taken looking west on May 6, 2013.

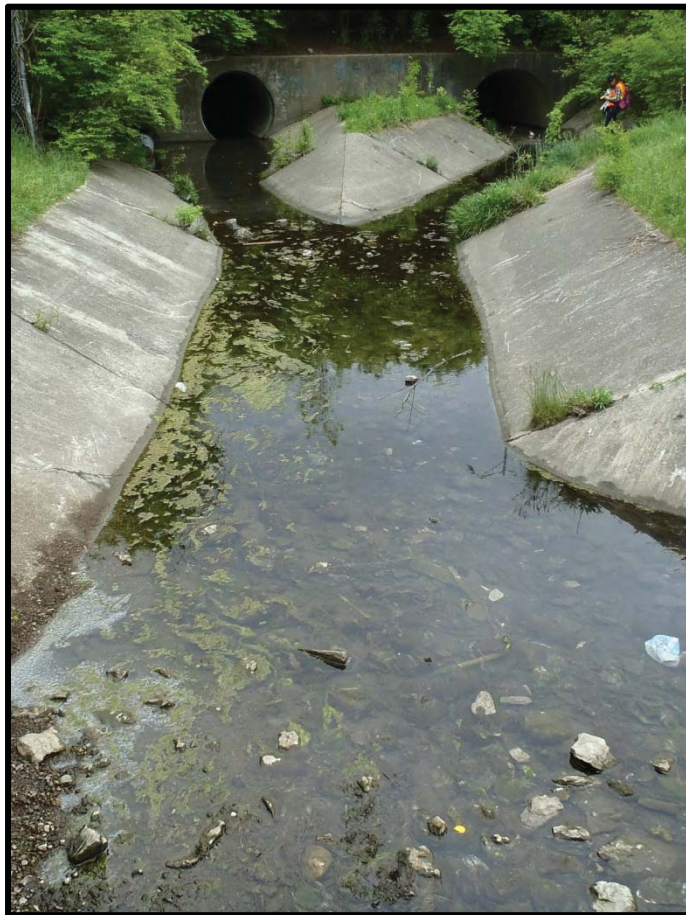


Photo 2. Stream 1 on a section where it has been channelized within the transmission line corridor near Structure 7. Image taken looking north on May 6, 2013.

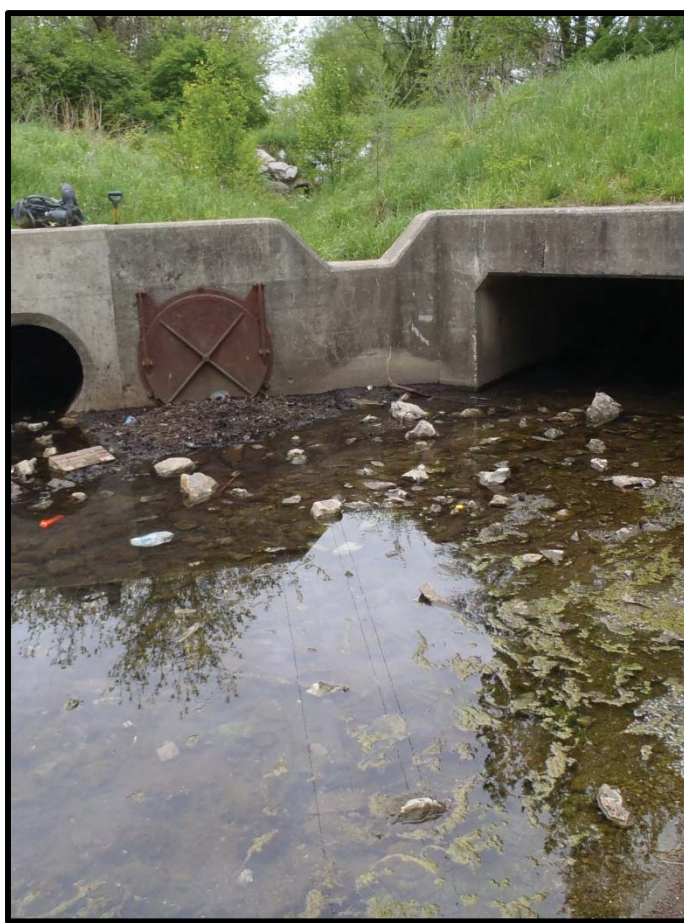


Photo 3. Portion of Stream 1 within transmission line corridor where stream has been channelized (culverts are also shown), near Structure 7. Image taken looking south on May 6, 2013.



Photo 4. Portion of a drainage swale within the transmission line corridor with a culvert. Image taken looking north on May 6, 2013.



Photo 5. Drainage swale flowing to Stream 1 near Structure 7. Image taken looking north on May 6, 2013.



Photo 6. Drainage swale within the transmission line corridor with a culvert and drain near Structure 9. Image taken looking south on May 6, 2013.



Photo 7. Drainage swale with discharge pipe within the transmission line corridor. Image taken looking north on May 6, 2013.



Photo 8. Open grassy maintained ROW within the transmission line corridor with commercial/residential properties and disturbed forest bordering to the east and west. Image taken looking south on May 6, 2013



Photo 9. Open grassy field within the transmission line corridor bordered on the east and west by disturbed forest and residential properties. Image taken looking south on May 7, 2013.



Photo 10. Open grassy field within the transmission line corridor with disturbed forest on the east and residential/commercial property on the west near Structure 14. Image taken looking northwest on May 7, 2013.



Photo 11. Stream 1 culvert inlet near Structure 16. This stream has been culverted and buried along the line until Structure 6. Image taken looking northwest on May 7, 2013.



Photo 12. Stream 1 culvert inlet near Structure 16. This stream has been culverted and buried along the line until Structure 6. Image taken looking east on May 7, 2013.

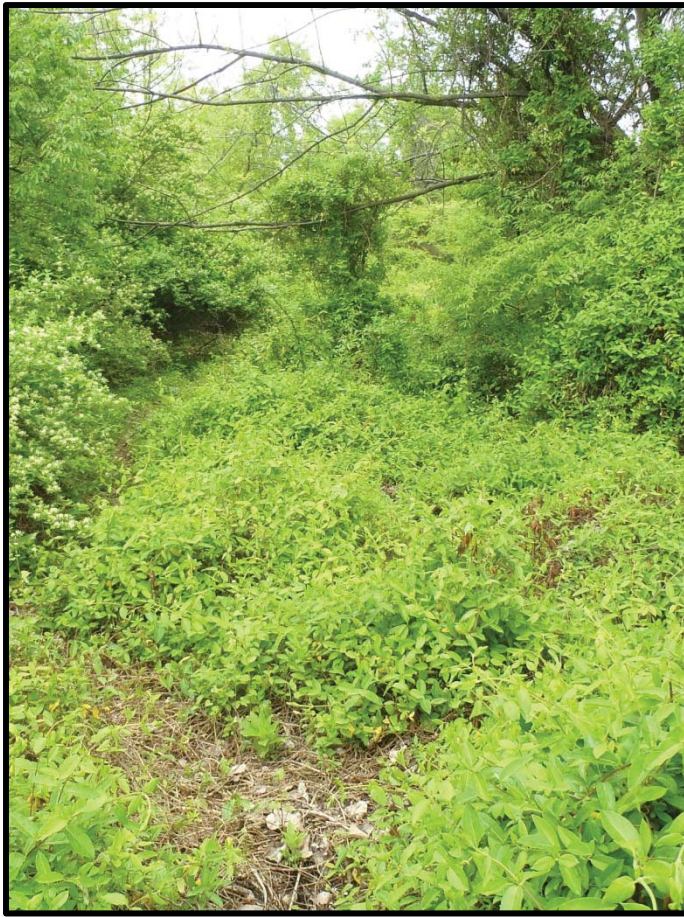


Photo 13. Vegetated area bordered by disturbed forest with the transmission line corridor near Structure 20. Image taken looking southeast on May 7, 2013.



Photo 14. Ending of surface water flow of Stream 1 within the transmission line corridor. Stream is diverted through a culvert and flows underground via pipe system. Image is taken looking south. Taken May 7, 2013.



Photo 15. Urbanized and commercial development in transmission line corridor near Structure 22, looking northwest. Taken May 7, 2013.



Photo 16. Open area within the transmission line corridor near Structure 26, bordered on the east and west by residential/commercial properties. Image taken looking southwest on May 7, 2013.



Photo 17. Transmission line corridor (structure in background) in an open grassy field, near Structure 29 with residential/commercial properties to the left and right looking north. Taken May 7, 2013.

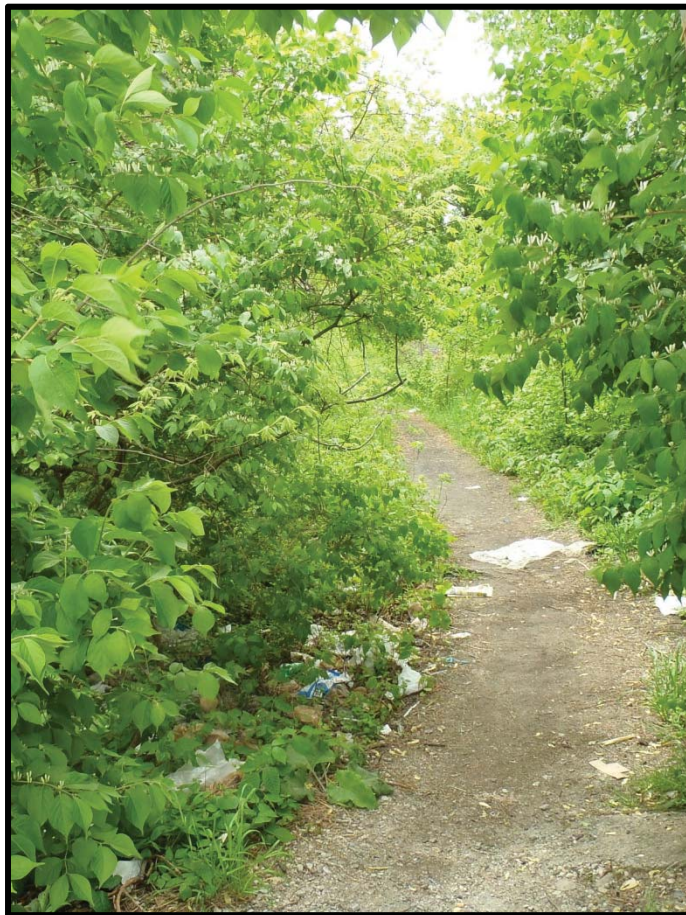


Photo 18. Transmission line corridor in existing ROW, near Structure 27, (pedestrian walking trail shown) looking north. Taken May 7, 2013.



Photo 19. Transmission line corridor on Department of Defense property looking south. Taken May 7, 2013.

APPENDIX B

Stream and Wetland Datasheets

Stream & Location: GROVES-BEXLEY 138 KV T-LINE- Stream 1 - UT Big Walnut RM: _ _ _ Date: 5 / 07 / 13

Scorers Full Name & Affiliation: Charlotte Stallone, BHE Environmental

River Code: _ _ _ STORET #: _ _ _ Lat./Long.: (NAD 83 - decimal °) - 39.935464°, -82.887433° Office verified location ☐1] **SUBSTRATE** Check **ONLY** Two substrate TYPE BOXES; estimate % or note every type present

BEST TYPES		POOL RIFFLE		OTHER TYPES		POOL RIFFLE		ORIGIN		QUALITY		Substrate 9 Maximum 20
<input type="checkbox"/>	BLDR /SLABS [10]	<input type="checkbox"/>		<input type="checkbox"/>	HARDPAN [4]	<input type="checkbox"/>		<input type="checkbox"/>	LIMESTONE [1]	<input type="checkbox"/>	HEAVY [-2]	
<input type="checkbox"/>	BOULDER [9]	<input type="checkbox"/>		<input type="checkbox"/>	DETRITUS [3]	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>	TILLS [1]	<input checked="" type="checkbox"/>	MODERATE [-1]	
<input type="checkbox"/>	COBBLE [8]	<input type="checkbox"/>		<input type="checkbox"/>	MUCK [2]	<input type="checkbox"/>	20	<input type="checkbox"/>	WETLANDS [0]	<input type="checkbox"/>	NORMAL [0]	
<input checked="" type="checkbox"/>	GRAVEL [7]	<input type="checkbox"/>	20	<input checked="" type="checkbox"/>	SILT [2]	<input type="checkbox"/>	50	<input type="checkbox"/>	HARDPAN [0]	<input type="checkbox"/>	FREE [1]	
<input type="checkbox"/>	SAND [6]	<input type="checkbox"/>		<input type="checkbox"/>	ARTIFICIAL [0]	<input type="checkbox"/>		<input type="checkbox"/>	SANDSTONE [0]	<input type="checkbox"/>	EXTENSIVE [-2]	
<input type="checkbox"/>	BEDROCK [5]	<input type="checkbox"/>	5	(Score natural substrates; ignore sludge from point-sources)				<input type="checkbox"/>	RIP/RAP [0]	<input checked="" type="checkbox"/>	MODERATE [-1]	
NUMBER OF BEST TYPES: <input type="checkbox"/> 4 or more [2] <input checked="" type="checkbox"/> 3 or less [0]								<input type="checkbox"/>	LACUSTURINE [0]	<input checked="" type="checkbox"/>	NORMAL [0]	9 Maximum 20
Comments: Garbage abundant within channel								<input type="checkbox"/>	SHALE [-1]	<input type="checkbox"/>	NONE [1]	
								<input type="checkbox"/>	COAL FINES [-2]			

2] **INSTREAM COVER** Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

AMOUNT		Check ONE (Or 2 & average)	
<input type="checkbox"/>	EXTENSIVE >75% [11]	<input checked="" type="checkbox"/>	MODERATE 25-75% [7]
<input type="checkbox"/>	SPARSE 5-<25% [3]	<input type="checkbox"/>	NEARLY ABSENT <5% [1]

Comments: Woody debris located only at railroad bridge footings

Cover
Maximum 20
113] **CHANNEL MORPHOLOGY** Check ONE in each category (Or 2 & average)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]
<input type="checkbox"/> MODERATE [3]	<input type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input checked="" type="checkbox"/> MODERATE [2]
<input checked="" type="checkbox"/> LOW [2]	<input type="checkbox"/> FAIR [3]	<input checked="" type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> NONE [1]	<input checked="" type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]	

Comments: Concrete channel

Channel
Maximum 20
84] **BANK EROSION AND RIPARIAN ZONE** Check ONE in each category for EACH BANK (Or 2 per bank & average)

EROSION		RIPARIAN WIDTH		FLOOD PLAIN QUALITY		CONSERVATION TILLAGE	
<input type="checkbox"/> NONE / LITTLE [3]	<input type="checkbox"/> WIDE > 50m [4]	<input type="checkbox"/> FOREST, SWAMP [3]	<input type="checkbox"/> CONSERVATION TILLAGE [1]				
<input checked="" type="checkbox"/> MODERATE [2]	<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]	<input checked="" type="checkbox"/> URBAN OR INDUSTRIAL [0]				
<input type="checkbox"/> HEAVY / SEVERE [1]	<input type="checkbox"/> NARROW 5-10m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/> MINING / CONSTRUCTION [0]				
	<input checked="" type="checkbox"/> VERY NARROW < 5m [1]	<input type="checkbox"/> FENCED PASTURE [1]					
	<input type="checkbox"/> NONE [0]	<input type="checkbox"/> OPEN PASTURE, ROWCROP [0]					

Comments:

Indicate predominant land use(s) past 100m riparian.

Riparian
Maximum 10
45] **POOL / GLIDE AND RIFFLE / RUN QUALITY**

MAXIMUM DEPTH	CHANNEL WIDTH	CURRENT VELOCITY
Check ONE (ONLY!)	Check ONE (Or 2 & average)	Check ALL that apply
<input type="checkbox"/> > 1m [6]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> TORRENTIAL [-1]
<input type="checkbox"/> 0.7-<1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input checked="" type="checkbox"/> SLOW [1]
<input type="checkbox"/> 0.4-<0.7m [2]	<input checked="" type="checkbox"/> POOL WIDTH < RIFFLE WIDTH [0]	<input type="checkbox"/> VERY FAST [1]
<input checked="" type="checkbox"/> 0.2-<0.4m [1]		<input type="checkbox"/> INTERSTITIAL [-1]
<input type="checkbox"/> < 0.2m [0]		<input type="checkbox"/> FAST [1]
		<input type="checkbox"/> INTERMITTENT [-2]
		<input type="checkbox"/> MODERATE [1]
		<input type="checkbox"/> EDDIES [1]

Comments:

 Recreation Potential
 Primary Contact
 Secondary Contact
 (circle one and comment on back)
Pool / Current
Maximum 12
2

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species:

Check ONE (Or 2 & average).

☒ NO RIFFLE [metric=0]

RIFFLE DEPTH	RUN DEPTH	RIFFLE / RUN SUBSTRATE	RIFFLE / RUN EMBEDDEDNESS
<input type="checkbox"/> BEST AREAS > 10cm [2]	<input type="checkbox"/> MAXIMUM > 50cm [2]	<input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]
<input type="checkbox"/> BEST AREAS 5-10cm [1]	<input checked="" type="checkbox"/> MAXIMUM < 50cm [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]
<input checked="" type="checkbox"/> BEST AREAS < 5cm [metric=0]		<input checked="" type="checkbox"/> UNSTABLE (e.g., Fine Gravel, Sand) [0]	<input checked="" type="checkbox"/> MODERATE [0]
			<input type="checkbox"/> EXTENSIVE [-1]

Comments:

Riffle / Run
Maximum 8
16] **GRADIENT** apprx 0.9 ft/mi
DRAINAGE AREA (1.47 mi²)
☒ VERY LOW - LOW [2-4]
☐ MODERATE [6-10]
☐ HIGH - VERY HIGH [10-6]
 %POOL: (10) %GLIDE: (0)
 %RUN: (90) %RIFFLE: (0)
Gradient
Maximum 10
2

AJ SAMPLED REACH

Check ALL that apply

METHOD

- ☐ BOAT
☐ WADE
☐ L. LINE
☐ OTHER

DISTANCE

- ☐ 0.5 Km
☐ 0.2 Km
☐ 0.15 Km
☐ 0.12 Km
☐ OTHER

CANOPY

- ☐ > 85% - OPEN
☐ 55% - 85%
☐ 30% - 55%
☐ 10% - 30%
☐ < 10% - CLOSED

STAGE

1st - sample pass - 2nd

- ☐ HIGH
☐ UP
☐ NORMAL
☐ LOW
☐ DRY

CLARITY

1st - sample pass - 2nd

- ☐ < 20 cm
☐ 20 - 40 cm
☐ 40 - 70 cm
☐ > 70 cm / CTB
☐ SECCHI DEPTH

1st _____ cm

2nd _____ cm

CJ RECREATION

AREA DEPTH

POOL: ☐ > 100ft² ☐ > 3ft

BJ AESTHETICS

- ☐ NUISANCE ALGAE
☐ INVASIVE MACROPHYTES
☐ EXCESS TURBIDITY
☐ DISCOLORATION
☐ FOAM / SCUM
☐ OIL SHEEN
☐ TRASH / LITTER
☐ NUISANCE ODOR
☐ SLUDGE DEPOSITS
☐ CSOs/SSOs/OUTFALLS

DJ MAINTENANCE

- PUBLIC / PRIVATE / BOTH / NA
ACTIVE / HISTORIC / BOTH / NA
YOUNG-SUCCESSION-OLD
SPRAY / SNAG / REMOVED
MODIFIED / DIPPED OUT / NA
LEVEED / ONE SIDED
RELOCATED / CUTOFFS
MOVING-BEDLOAD-STABLE
ARMORED / SLUMPS
ISLANDS / SCoured
IMPOUNDED / DESICCATED
FLOOD CONTROL / DRAINAGE

Circle some & COMMENT

EJ ISSUES

- WWTP / CSO / NPDES / INDUSTRY
HARDENED / URBAN / DIRT & GRIME
CONTAMINATED / LANDFILL
BMPs-CONSTRUCTION-SEDIMENT
LOGGING / IRRIGATION / COOLING
BANK / EROSION / SURFACE
FALSE BANK / MANURE / LAGOON
WASH H₂O / TILE / H₂O TABLE
ACID / MINE / QUARRY / FLOW
NATURAL / WETLAND / STAGNANT
PARK / GOLF / LAWN / HOME
ATMOSPHERE / DATA PAUCITY

FJ MEASUREMENTS

- \bar{x} width ~12 ft
 \bar{x} depth ~0.25 ft
max. deptl.
 \bar{x} bankfull wid ~18 ft
bankfull \bar{x} depth ~4 ft
W/D ratio
bankfull max. depth
floodprone x^2 width
entrench. ratio

Legacy Tree:

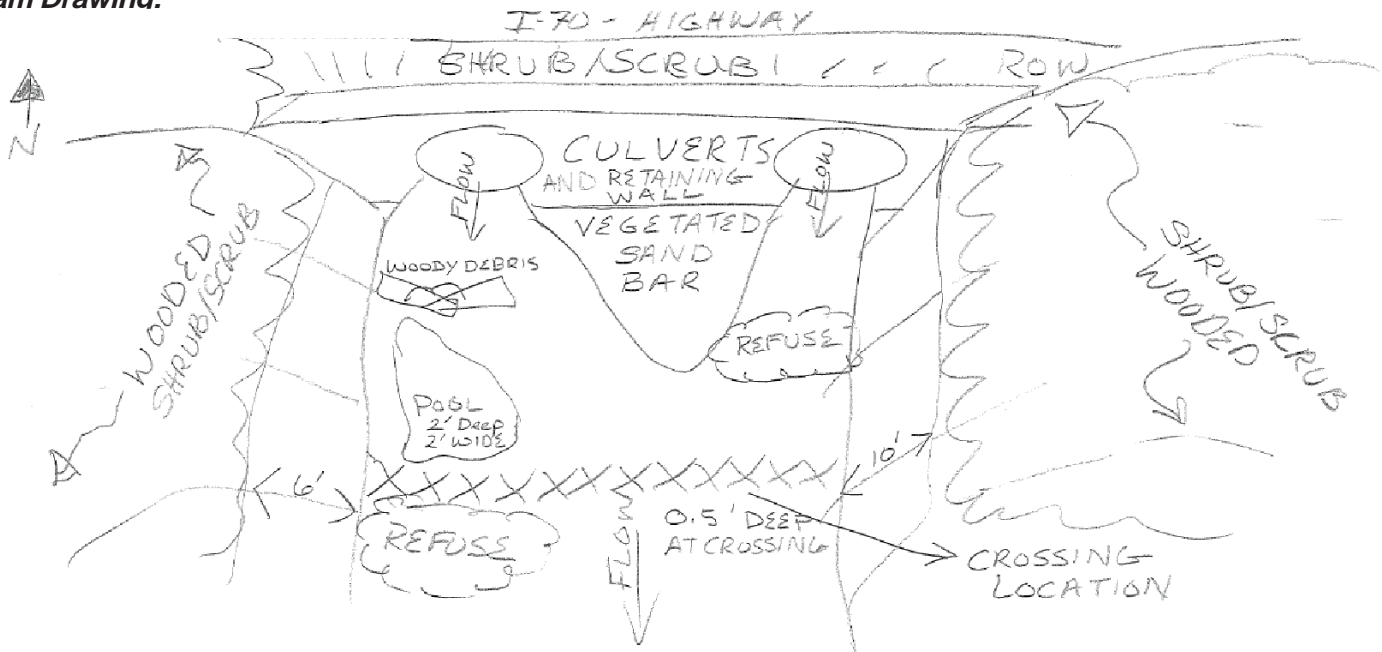
Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

Existing transmission lines cross this location of the UT to Big Walnut Creek. These lines are proposed for replacement/repair.

This stream flows through a highly urbanized area and has been culverted and re-channelized in many areas leading to this crossing location.

Algae growth dense. Extremely low habitat availability for all flora and fauna. Many invasives and not native species present.

Stream Drawing:



Site: Groves-Bexley 138kV T-Line		Date: May 7, 2013	
Wetland:	Wetland 1	Rater:	CMS

0	0
Subtotal	Points

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

<input type="checkbox"/>	>50 acres (>20.2ha) (6 pts)
<input type="checkbox"/>	25 to <50 acres (10.1 to <20.2ha) (5 pts)
<input type="checkbox"/>	10 to <25 acres (4 to <10.1ha) (4 pts)
<input type="checkbox"/>	3 to <10 acres (1.2 to <4ha) (3 pts)
<input type="checkbox"/>	0.3 to <3 acres (0.12 to <1.2ha) (2pts)
<input type="checkbox"/>	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
<input checked="" type="checkbox"/>	<0.1 acres (0.04ha) (0 pts)

3	3
Subtotal	Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

<input type="checkbox"/>	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
<input type="checkbox"/>	MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
<input type="checkbox"/>	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
<input checked="" type="checkbox"/>	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

<input type="checkbox"/>	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
<input type="checkbox"/>	LOW. Old field (>10 years), shrubland, young second growth forest. (5)
<input checked="" type="checkbox"/>	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
<input type="checkbox"/>	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

9	6
Subtotal	Points

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

<input type="checkbox"/>	High pH groundwater (5)
<input type="checkbox"/>	Other groundwater (3)
<input checked="" type="checkbox"/>	Precipitation (1)
<input type="checkbox"/>	Seasonal/Intermittent surface water (3)
<input type="checkbox"/>	Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

<input type="checkbox"/>	100 year floodplain (1)
<input type="checkbox"/>	Between stream/lake and other human use (1)
<input type="checkbox"/>	Part of wetland/upland (e.g. forest), complex (1)
<input checked="" type="checkbox"/>	Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

<input type="checkbox"/>	>0.7 (27.6in) (3)
<input type="checkbox"/>	0.4 to 0.7m (15.7 to 27.6in) (2)
<input checked="" type="checkbox"/>	<0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

(select one or double check & average)

<input type="checkbox"/>	Semi- to permanently inundated/saturated (4)
<input type="checkbox"/>	Regularly inundated/saturated (3)
<input checked="" type="checkbox"/>	Seasonally inundated (2)
<input type="checkbox"/>	Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

<input type="checkbox"/>	None or none apparent (12)
<input type="checkbox"/>	Recovered (7)
<input type="checkbox"/>	Recovering (3)
<input checked="" type="checkbox"/>	Recent or no recovery (1)

Check all disturbances observed

<input checked="" type="checkbox"/>	ditch	<input type="checkbox"/>	point source (nonstormwater)
<input type="checkbox"/>	dike	<input type="checkbox"/>	filling/grading
<input type="checkbox"/>	tile	<input checked="" type="checkbox"/>	road bed/RR track
<input type="checkbox"/>	weir	<input type="checkbox"/>	dredging
<input checked="" type="checkbox"/>	stormwater input	<input type="checkbox"/>	other- list

12	3
Subtotal	Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (4)
<input type="checkbox"/>	Recovered (3)
<input type="checkbox"/>	Recovering (2)
<input checked="" type="checkbox"/>	Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (9)
<input type="checkbox"/>	Recovered (6)
<input type="checkbox"/>	Recovering (3)
<input checked="" type="checkbox"/>	Recent or no recovery (1)

4b. Habitat development. Select one.

<input type="checkbox"/>	Excellent (7)
<input type="checkbox"/>	Very good (6)
<input type="checkbox"/>	Good (5)
<input type="checkbox"/>	Moderately good (4)
<input type="checkbox"/>	Fair (3)
<input type="checkbox"/>	Poor to fair (2)
<input checked="" type="checkbox"/>	Poor (1)

Check all disturbances observed

<input type="checkbox"/>	mowing	<input type="checkbox"/>	shrub/sapling removal
<input type="checkbox"/>	grazing	<input type="checkbox"/>	herbaceous/aquatic bed removal
<input type="checkbox"/>	clearcutting	<input checked="" type="checkbox"/>	sedimentation
<input type="checkbox"/>	selective cutting	<input checked="" type="checkbox"/>	dredging
<input checked="" type="checkbox"/>	woody debris removal	<input type="checkbox"/>	farming
<input checked="" type="checkbox"/>	toxic pollutants	<input type="checkbox"/>	nutrient enrichment

12	subtotal this page
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Site: Groves-Bexley 138kV T-Line		Date: May 7, 2013	
Wetland:	Wetland 1	Rater:	CMS

12 subtotal first page

12	0
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Subtotal Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- ☐ Bog (10 pts)
- ☐ Fen (10 pts)
- ☐ Old Growth Forest (10 pts)
- ☐ Mature forested wetland (5 pts)
- ☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- ☐ Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- ☐ Lake Plain Sand Prairies (Oak Openings) (10 pts)
- ☐ Relict Wet Prairies (10 pts)
- ☐ Known occurrence state/federal threatened or endangered species (10)
- ☐ Significant migratory songbird/waterfowl habitat or usage (10 pts)
- ☐ Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

9	-3
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Subtotal Points

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- ☐ Aquatic bed
- ☐ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other (list)

6b. Horizontal (plan view) interspersions

Select only one

- ☐ High (5)
- ☐ Moderately high (4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☒ Low (1)
- ☐ None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- ☒ Extensive >75 % cover (-5)
- ☐ Moderate 25-75% cover (-3)
- ☐ Sparse 5-25% cover (-1)
- ☐ Nearly Absent <5% cover (0)
- ☐ Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

- ☐ Vegetated hummocks/tussocks
- ☐ Coarse woody debris >15 cm (6")
- ☐ Standing dead > 25 cm (10") dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more


Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

9 **GRAND TOTAL (max 100 pts)**

Provisional Wetland Category: Category 1

Background Information Form

Name:	CMS	Date:	May 7, 2013
Affiliation:	BHE Environmental, Inc.		
User Address:	1 South Main Street, Akron, Ohio 44308		
Phone:	234-678-8889		
e-mail address	cstallone@bheenvironmental.com		
Wetlands Name	Wetland 1		
Location of Wetlands including address if available	39.935294°, -82.889663°		
	Sources of information used (check all that apply)		
UTM	Site Visit	<input checked="" type="checkbox"/>	
USGS Quad	USGS Topo	<input checked="" type="checkbox"/>	
Hydrologic Unit Code 5060001	NWI Map	<input checked="" type="checkbox"/>	
Wetland Size (acres) 0.051	OWI Map	<input checked="" type="checkbox"/>	
How was size estimated? Wetlands Delineation	Aerial Photo	<input checked="" type="checkbox"/>	
	Soil Survey	<input checked="" type="checkbox"/>	
	ODNR - DNAP	<input checked="" type="checkbox"/>	
	Delineation Report/Map	<input checked="" type="checkbox"/>	
Photograph			
			
final score:	9	Provisional Wetland Category:	Category 1

Narrative Rating Questions

Name:	CMS	Date:	May 7, 2013
Wetlands Name	Wetland 1		

1: Critical Habitat	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
2: Threatened or Endangered Species	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
3: Documented High Quality Wetland	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
4: Significant Breeding or Concentration Area (waterfowl)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
5: Category 1 Wetlands (hydrologically isolated)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
6: Bogs	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
7: Fens	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
8a: “Old Growth Forest”	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
8b: Mature Forested Wetlands	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
9a: Lake Erie Coastal and Tributary Wetlands	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
9b: Hydrology result of Erosion Control Measures (Lake Erie)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
9c: Hydrology unrestricted	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
9d: Native Species Predominate	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
9e: Non-native Species Predominate	<input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES
10: Oak Openings	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
11: Relict Wet Prairies	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES

Site: Groves-Bexley 138kV T-Line		Date: May 7, 2013	
Wetland:	Wetland 2	Rater:	CMS

0	0
Subtotal	Points

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

<input type="checkbox"/>	>50 acres (>20.2ha) (6 pts)
<input type="checkbox"/>	25 to <50 acres (10.1 to <20.2ha) (5 pts)
<input type="checkbox"/>	10 to <25 acres (4 to <10.1ha) (4 pts)
<input type="checkbox"/>	3 to <10 acres (1.2 to <4ha) (3 pts)
<input type="checkbox"/>	0.3 to <3 acres (0.12 to <1.2ha) (2pts)
<input type="checkbox"/>	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
<input checked="" type="checkbox"/>	<0.1 acres (0.04ha) (0 pts)

1	1
Subtotal	Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

<input type="checkbox"/>	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
<input type="checkbox"/>	MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
<input type="checkbox"/>	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
<input checked="" type="checkbox"/>	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

<input type="checkbox"/>	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
<input type="checkbox"/>	LOW. Old field (>10 years), shrubland, young second growth forest. (5)
<input type="checkbox"/>	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
<input checked="" type="checkbox"/>	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

7	6
Subtotal	Points

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

<input type="checkbox"/>	High pH groundwater (5)
<input type="checkbox"/>	Other groundwater (3)
<input checked="" type="checkbox"/>	Precipitation (1)
<input type="checkbox"/>	Seasonal/Intermittent surface water (3)
<input type="checkbox"/>	Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

<input type="checkbox"/>	100 year floodplain (1)
<input type="checkbox"/>	Between stream/lake and other human use (1)
<input type="checkbox"/>	Part of wetland/upland (e.g. forest), complex (1)
<input checked="" type="checkbox"/>	Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

<input type="checkbox"/>	>0.7 (27.6in) (3)
<input type="checkbox"/>	0.4 to 0.7m (15.7 to 27.6in) (2)
<input checked="" type="checkbox"/>	<0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

(select one or double check & average)

<input type="checkbox"/>	Semi- to permanently inundated/saturated (4)
<input type="checkbox"/>	Regularly inundated/saturated (3)
<input checked="" type="checkbox"/>	Seasonally inundated (2)
<input type="checkbox"/>	Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

<input type="checkbox"/>	None or none apparent (12)
<input type="checkbox"/>	Recovered (7)
<input type="checkbox"/>	Recovering (3)
<input checked="" type="checkbox"/>	Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> tile	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other- list

14	7
Subtotal	Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (4)
<input type="checkbox"/>	Recovered (3)
<input checked="" type="checkbox"/>	Recovering (2)
<input type="checkbox"/>	Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (9)
<input type="checkbox"/>	Recovered (6)
<input checked="" type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

4b. Habitat development. Select one.

<input type="checkbox"/>	Excellent (7)
<input type="checkbox"/>	Very good (6)
<input type="checkbox"/>	Good (5)
<input type="checkbox"/>	Moderately good (4)
<input type="checkbox"/>	Fair (3)
<input checked="" type="checkbox"/>	Poor to fair (2)
<input type="checkbox"/>	Poor (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input checked="" type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input checked="" type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

14	subtotal this page
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Site: Groves-Bexley 138kV T-Line		Date: May 7, 2013	
Wetland:	Wetland 2	Rater:	CMS

14 subtotal first page

14	0
Subtotal	Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- ☐ Bog (10 pts)
- ☐ Fen (10 pts)
- ☐ Old Growth Forest (10 pts)
- ☐ Mature forested wetland (5 pts)
- ☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- ☐ Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- ☐ Lake Plain Sand Prairies (Oak Openings) (10 pts)
- ☐ Relict Wet Prairies (10 pts)
- ☐ Known occurrence state/federal threatened or endangered species (10)
- ☐ Significant migratory songbird/waterfowl habitat or usage (10 pts)
- ☐ Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

20	6
Subtotal	Points

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- ☐ Aquatic bed
- ☒ 1 Emergent
- ☒ 2 Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other (list) _____

6b. Horizontal (plan view) interspersions

Select only one

- ☐ High (5)
- ☐ Moderately high (4)
- ☒ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☐ None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- ☐ Extensive >75 % cover (-5)
- ☐ Moderate 25-75% cover (-3)
- ☐ Sparse 5-25% cover (-1)
- ☒ Nearly Absent <5% cover (0)
- ☐ Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

- ☐ Vegetated hummocks/tussocks
- ☐ Coarse woody debris >15 cm (6")
- ☐ Standing dead > 25 cm (10") dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more


Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

20 **GRAND TOTAL (max 100 pts)**

Provisional Wetland Category: Category 1

Background Information Form

Name:	CMS	Date:	May 7, 2013
Affiliation:	BHE Environmental, Inc.		
User Address:	1 South Main Street, Akron, Ohio 44308		
Phone:	234-678-8889		
e-mail address	cstallone@bheenvironmental.com		
Wetlands Name	Wetland 2		
Location of Wetlands including address if available	39.952603°, -82.901627°		
		Sources of information used (check all that apply)	
UTM		Site Visit	<input checked="" type="checkbox"/>
USGS Quad		USGS Topo	<input checked="" type="checkbox"/>
Hydrologic Unit Code	5060001	NWI Map	<input checked="" type="checkbox"/>
Wetland Size (acres)	0.009	OWI Map	<input checked="" type="checkbox"/>
How was size estimated? Wetlands Delineation		Aerial Photo	<input checked="" type="checkbox"/>
		Soil Survey	<input checked="" type="checkbox"/>
		ODNR - DNAP	<input checked="" type="checkbox"/>
		Delineation Report/Map	<input checked="" type="checkbox"/>
Photograph			
			
final score:	20	Provisional Wetland Category:	Category 1

Narrative Rating Questions

Name: CMS	Date: May 7, 2013
Wetlands Name Wetland 2	

1: Critical Habitat	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
2: Threatened or Endangered Species	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
3: Documented High Quality Wetland	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
4: Significant Breeding or Concentration Area (waterfowl)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
5: Category 1 Wetlands (hydrologically isolated)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
6: Bogs	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
7: Fens	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
8a: “Old Growth Forest”	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
8b: Mature Forested Wetlands	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
9a: Lake Erie Coastal and Tributary Wetlands	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
9b: Hydrology result of Erosion Control Measures (Lake Erie)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
9c: Hydrology unrestricted	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
9d: Native Species Predominate	<input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES
9e: Non-native Species Predominate	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
10: Oak Openings	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
11: Relict Wet Prairies	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES

Site: Groves-Bexley 138kV T-Line		Date: May 7, 2013	
Wetland:	Wetland 3	Rater:	CMS

0	0
Subtotal	Points

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

<input type="checkbox"/>	>50 acres (>20.2ha) (6 pts)
<input type="checkbox"/>	25 to <50 acres (10.1 to <20.2ha) (5 pts)
<input type="checkbox"/>	10 to <25 acres (4 to <10.1ha) (4 pts)
<input type="checkbox"/>	3 to <10 acres (1.2 to <4ha) (3 pts)
<input type="checkbox"/>	0.3 to <3 acres (0.12 to <1.2ha) (2pts)
<input type="checkbox"/>	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
<input checked="" type="checkbox"/>	<0.1 acres (0.04ha) (0 pts)

1	1
Subtotal	Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

<input type="checkbox"/>	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
<input type="checkbox"/>	MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
<input type="checkbox"/>	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
<input checked="" type="checkbox"/>	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

<input type="checkbox"/>	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
<input type="checkbox"/>	LOW. Old field (>10 years), shrubland, young second growth forest. (5)
<input type="checkbox"/>	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
<input checked="" type="checkbox"/>	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

7	6
Subtotal	Points

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

<input type="checkbox"/>	High pH groundwater (5)
<input type="checkbox"/>	Other groundwater (3)
<input checked="" type="checkbox"/>	Precipitation (1)
<input type="checkbox"/>	Seasonal/Intermittent surface water (3)
<input type="checkbox"/>	Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

<input type="checkbox"/>	100 year floodplain (1)
<input type="checkbox"/>	Between stream/lake and other human use (1)
<input type="checkbox"/>	Part of wetland/upland (e.g. forest), complex (1)
<input checked="" type="checkbox"/>	Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

<input type="checkbox"/>	>0.7 (27.6in) (3)
<input type="checkbox"/>	0.4 to 0.7m (15.7 to 27.6in) (2)
<input checked="" type="checkbox"/>	<0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

(select one or double check & average)

<input type="checkbox"/>	Semi- to permanently inundated/saturated (4)
<input type="checkbox"/>	Regularly inundated/saturated (3)
<input checked="" type="checkbox"/>	Seasonally inundated (2)
<input type="checkbox"/>	Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

<input type="checkbox"/>	None or none apparent (12)
<input type="checkbox"/>	Recovered (7)
<input type="checkbox"/>	Recovering (3)
<input checked="" type="checkbox"/>	Recent or no recovery (1)

Check all disturbances observed

<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> tile	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other- list

14	7
Subtotal	Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (4)
<input type="checkbox"/>	Recovered (3)
<input checked="" type="checkbox"/>	Recovering (2)
<input type="checkbox"/>	Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (9)
<input type="checkbox"/>	Recovered (6)
<input checked="" type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

4b. Habitat development. Select one.

<input type="checkbox"/>	Excellent (7)
<input type="checkbox"/>	Very good (6)
<input type="checkbox"/>	Good (5)
<input type="checkbox"/>	Moderately good (4)
<input type="checkbox"/>	Fair (3)
<input checked="" type="checkbox"/>	Poor to fair (2)
<input type="checkbox"/>	Poor (1)

Check all disturbances observed

<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input checked="" type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input checked="" type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

14	subtotal this page
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Site: Groves-Bexley 138kV T-Line		Date: May 7, 2013	
Wetland:	Wetland 3	Rater:	CMS

14 subtotal first page

14	0
Subtotal	Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- ☐ Bog (10 pts)
- ☐ Fen (10 pts)
- ☐ Old Growth Forest (10 pts)
- ☐ Mature forested wetland (5 pts)
- ☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- ☐ Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- ☐ Lake Plain Sand Prairies (Oak Openings) (10 pts)
- ☐ Relict Wet Prairies (10 pts)
- ☐ Known occurrence state/federal threatened or endangered species (10)
- ☐ Significant migratory songbird/waterfowl habitat or usage (10 pts)
- ☐ Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

16	2
Subtotal	Points

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- ☐ Aquatic bed
- ☐ Emergent
- ☒ 2 Shrub
- ☒ 1 Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other (list) _____

6b. Horizontal (plan view) interspersions

Select only one

- ☐ High (5)
- ☐ Moderately high (4)
- ☐ Moderate (3)
- ☒ X Moderately low (2)
- ☐ Low (1)
- ☐ None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- ☐ Extensive >75 % cover (-5)
- ☒ X Moderate 25-75% cover (-3)
- ☐ Sparse 5-25% cover (-1)
- ☐ Nearly Absent <5% cover (0)
- ☐ Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

- ☐ Vegetated hummocks/tussocks
- ☐ Coarse woody debris >15 cm (6")
- ☐ Standing dead > 25 cm (10") dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more


Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

16 **GRAND TOTAL (max 100 pts)**

Provisional Wetland Category: Category 1

Background Information Form

Name:	CMS	Date:	May 7, 2013
Affiliation:	BHE Environmental, Inc.		
User Address:	1 South Main Street, Akron, Ohio 44308		
Phone:	234-678-8889		
e-mail address	cstallone@bheenvironmental.com		
Wetlands Name	Wetland 3		
Location of Wetlands including address if available	39.952603°, -82.901627°		
		Sources of information used (check all that apply)	
UTM		Site Visit	<input checked="" type="checkbox"/>
USGS Quad		USGS Topo	<input checked="" type="checkbox"/>
Hydrologic Unit Code	5060001	NWI Map	<input checked="" type="checkbox"/>
Wetland Size (acres)	0.055	OWI Map	<input checked="" type="checkbox"/>
How was size estimated? Wetlands Delineation		Aerial Photo	<input checked="" type="checkbox"/>
		Soil Survey	<input checked="" type="checkbox"/>
		ODNR - DNAP	<input checked="" type="checkbox"/>
		Delineation Report/Map	<input checked="" type="checkbox"/>
Photograph			
			
final score:	16	Provisional Wetland Category:	Category 1

Narrative Rating Questions

Name:	CMS	Date:	May 7, 2013
Wetlands Name	Wetland 3		

1: Critical Habitat	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
2: Threatened or Endangered Species	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
3: Documented High Quality Wetland	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
4: Significant Breeding or Concentration Area (waterfowl)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
5: Category 1 Wetlands (hydrologically isolated)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
6: Bogs	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
7: Fens	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
8a: "Old Growth Forest"	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
8b: Mature Forested Wetlands	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
9a: Lake Erie Coastal and Tributary Wetlands	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
9b: Hydrology result of Erosion Control Measures (Lake Erie)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
9c: Hydrology unrestricted	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
9d: Native Species Predominate	<input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES
9e: Non-native Species Predominate	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
10: Oak Openings	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
11: Relict Wet Prairies	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES

Site: Groves-Bexley 138kV T-Line		Date: May 7, 2013	
Wetland:	Wetland 4	Rater:	CMS

0	0
Subtotal	Points

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

<input type="checkbox"/>	>50 acres (>20.2ha) (6 pts)
<input type="checkbox"/>	25 to <50 acres (10.1 to <20.2ha) (5 pts)
<input type="checkbox"/>	10 to <25 acres (4 to <10.1ha) (4 pts)
<input type="checkbox"/>	3 to <10 acres (1.2 to <4ha) (3 pts)
<input type="checkbox"/>	0.3 to <3 acres (0.12 to <1.2ha) (2pts)
<input type="checkbox"/>	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
<input checked="" type="checkbox"/>	<0.1 acres (0.04ha) (0 pts)

3	3
Subtotal	Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

<input type="checkbox"/>	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
<input type="checkbox"/>	MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
<input type="checkbox"/>	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
<input checked="" type="checkbox"/>	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

<input type="checkbox"/>	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
<input type="checkbox"/>	LOW. Old field (>10 years), shrubland, young second growth forest. (5)
<input checked="" type="checkbox"/>	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
<input type="checkbox"/>	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

9	6
Subtotal	Points

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

<input type="checkbox"/>	High pH groundwater (5)
<input type="checkbox"/>	Other groundwater (3)
<input checked="" type="checkbox"/>	Precipitation (1)
<input type="checkbox"/>	Seasonal/Intermittent surface water (3)
<input type="checkbox"/>	Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

<input type="checkbox"/>	100 year floodplain (1)
<input type="checkbox"/>	Between stream/lake and other human use (1)
<input type="checkbox"/>	Part of wetland/upland (e.g. forest), complex (1)
<input checked="" type="checkbox"/>	Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

<input type="checkbox"/>	>0.7 (27.6in) (3)
<input type="checkbox"/>	0.4 to 0.7m (15.7 to 27.6in) (2)
<input checked="" type="checkbox"/>	<0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

(select one or double check & average)

<input type="checkbox"/>	Semi- to permanently inundated/saturated (4)
<input type="checkbox"/>	Regularly inundated/saturated (3)
<input checked="" type="checkbox"/>	Seasonally inundated (2)
<input type="checkbox"/>	Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

<input type="checkbox"/>	None or none apparent (12)
<input type="checkbox"/>	Recovered (7)
<input type="checkbox"/>	Recovering (3)
<input checked="" type="checkbox"/>	Recent or no recovery (1)

Check all disturbances observed

<input checked="" type="checkbox"/>	ditch	<input type="checkbox"/>	point source (nonstormwater)
<input type="checkbox"/>	dike	<input type="checkbox"/>	filling/grading
<input type="checkbox"/>	tile	<input type="checkbox"/>	road bed/RR track
<input type="checkbox"/>	weir	<input type="checkbox"/>	dredging
<input type="checkbox"/>	stormwater input	<input type="checkbox"/>	other- list

12	3
Subtotal	Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (4)
<input type="checkbox"/>	Recovered (3)
<input type="checkbox"/>	Recovering (2)
<input checked="" type="checkbox"/>	Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (9)
<input type="checkbox"/>	Recovered (6)
<input type="checkbox"/>	Recovering (3)
<input checked="" type="checkbox"/>	Recent or no recovery (1)

4b. Habitat development. Select one.

<input type="checkbox"/>	Excellent (7)
<input type="checkbox"/>	Very good (6)
<input type="checkbox"/>	Good (5)
<input type="checkbox"/>	Moderately good (4)
<input type="checkbox"/>	Fair (3)
<input type="checkbox"/>	Poor to fair (2)
<input checked="" type="checkbox"/>	Poor (1)

Check all disturbances observed

<input type="checkbox"/>	mowing	<input type="checkbox"/>	shrub/sapling removal
<input type="checkbox"/>	grazing	<input type="checkbox"/>	herbaceous/aquatic bed removal
<input type="checkbox"/>	clearcutting	<input checked="" type="checkbox"/>	sedimentation
<input type="checkbox"/>	selective cutting	<input type="checkbox"/>	dredging
<input type="checkbox"/>	woody debris removal	<input type="checkbox"/>	farming
<input checked="" type="checkbox"/>	toxic pollutants	<input type="checkbox"/>	nutrient enrichment

12	subtotal this page
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Site: Groves-Bexley 138kV T-Line	Date: May 7, 2013
Wetland:	Rater: CMS

12 subtotal first page

12	0
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Subtotal Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- ☐ Bog (10 pts)
- ☐ Fen (10 pts)
- ☐ Old Growth Forest (10 pts)
- ☐ Mature forested wetland (5 pts)
- ☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- ☐ Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- ☐ Lake Plain Sand Prairies (Oak Openings) (10 pts)
- ☐ Relict Wet Prairies (10 pts)
- ☐ Known occurrence state/federal threatened or endangered species (10)
- ☐ Significant migratory songbird/waterfowl habitat or usage (10 pts)
- ☐ Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

9	-3
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Subtotal Points

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- ☐ Aquatic bed
- ☒ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other (list)

6b. Horizontal (plan view) interspersions

Select only one

- ☐ High (5)
- ☐ Moderately high (4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☒ Low (1)
- ☐ None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- ☒ Extensive >75 % cover (-5)
- ☐ Moderate 25-75% cover (-3)
- ☐ Sparse 5-25% cover (-1)
- ☐ Nearly Absent <5% cover (0)
- ☐ Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

- ☐ Vegetated hummocks/tussocks
- ☐ Coarse woody debris >15 cm (6")
- ☐ Standing dead > 25 cm (10") dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

9 **GRAND TOTAL (max 100 pts)**

Provisional Wetland Category: Category 1

Background Information Form

Name:	CMS	Date:	May 7, 2013
Affiliation:	BHE Environmental, Inc.		
User Address:	1 South Main Street, Akron, Ohio 44308		
Phone:	234-678-8889		
e-mail address	cstallone@bheenvironmental.com		
Wetlands Name	Wetland 4		
Location of Wetlands including address if available	39.958129°, -82.905052°		
		Sources of information used (check all that apply)	
UTM		Site Visit	<input checked="" type="checkbox"/>
USGS Quad		USGS Topo	<input checked="" type="checkbox"/>
Hydrologic Unit Code	5060001	NWI Map	<input checked="" type="checkbox"/>
Wetland Size (acres)	0.005	OWI Map	<input checked="" type="checkbox"/>
How was size estimated? Wetlands Delineation		Aerial Photo	<input checked="" type="checkbox"/>
		Soil Survey	<input checked="" type="checkbox"/>
		ODNR - DNAP	<input checked="" type="checkbox"/>
		Delineation Report/Map	<input checked="" type="checkbox"/>
Photograph			
			
final score:	9	Provisional Wetland Category:	Category 1

Narrative Rating Questions

Name:	CMS	Date:	May 7, 2013
Wetlands Name	Wetland 4		

1: Critical Habitat	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
2: Threatened or Endangered Species	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
3: Documented High Quality Wetland	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
4: Significant Breeding or Concentration Area (waterfowl)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
5: Category 1 Wetlands (hydrologically isolated)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
6: Bogs	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
7: Fens	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
8a: “Old Growth Forest”	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
8b: Mature Forested Wetlands	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
9a: Lake Erie Coastal and Tributary Wetlands	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
9b: Hydrology result of Erosion Control Measures (Lake Erie)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
9c: Hydrology unrestricted	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
9d: Native Species Predominate	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
9e: Non-native Species Predominate	<input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES
10: Oak Openings	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
11: Relict Wet Prairies	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES

Site: Groves-Bexley 138kV T-Line		Date: May 8, 2013	
Wetland:	Wetland 5	Rater:	CMS

1	1
Subtotal	Points

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

<input type="checkbox"/>	>50 acres (>20.2ha) (6 pts)
<input type="checkbox"/>	25 to <50 acres (10.1 to <20.2ha) (5 pts)
<input type="checkbox"/>	10 to <25 acres (4 to <10.1ha) (4 pts)
<input type="checkbox"/>	3 to <10 acres (1.2 to <4ha) (3 pts)
<input type="checkbox"/>	0.3 to <3 acres (0.12 to <1.2ha) (2pts)
<input checked="" type="checkbox"/>	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
<input type="checkbox"/>	<0.1 acres (0.04ha) (0 pts)

4	3
Subtotal	Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

<input type="checkbox"/>	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
<input type="checkbox"/>	MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
<input type="checkbox"/>	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
<input checked="" type="checkbox"/>	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

<input type="checkbox"/>	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
<input type="checkbox"/>	LOW. Old field (>10 years), shrubland, young second growth forest. (5)
<input checked="" type="checkbox"/>	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
<input type="checkbox"/>	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

14	10
Subtotal	Points

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

<input type="checkbox"/>	High pH groundwater (5)
<input type="checkbox"/>	Other groundwater (3)
<input checked="" type="checkbox"/>	Precipitation (1)
<input type="checkbox"/>	Seasonal/Intermittent surface water (3)
<input type="checkbox"/>	Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

<input type="checkbox"/>	100 year floodplain (1)
<input type="checkbox"/>	Between stream/lake and other human use (1)
<input type="checkbox"/>	Part of wetland/upland (e.g. forest), complex (1)
<input checked="" type="checkbox"/>	Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

<input type="checkbox"/>	>0.7 (27.6in) (3)
<input checked="" type="checkbox"/>	0.4 to 0.7m (15.7 to 27.6in) (2)
<input type="checkbox"/>	<0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

(select one or double check & average)

<input type="checkbox"/>	Semi- to permanently inundated/saturated (4)
<input checked="" type="checkbox"/>	Regularly inundated/saturated (3)
<input type="checkbox"/>	Seasonally inundated (2)
<input type="checkbox"/>	Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

<input type="checkbox"/>	None or none apparent (12)
<input type="checkbox"/>	Recovered (7)
<input checked="" type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

Check all disturbances observed

<input checked="" type="checkbox"/>	ditch	<input type="checkbox"/>	point source (nonstormwater)
<input type="checkbox"/>	dike	<input checked="" type="checkbox"/>	filling/grading
<input type="checkbox"/>	tile	<input type="checkbox"/>	road bed/RR track
<input type="checkbox"/>	weir	<input type="checkbox"/>	dredging
<input type="checkbox"/>	stormwater input	<input type="checkbox"/>	other- list

22	8
Subtotal	Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (4)
<input type="checkbox"/>	Recovered (3)
<input checked="" type="checkbox"/>	Recovering (2)
<input type="checkbox"/>	Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (9)
<input type="checkbox"/>	Recovered (6)
<input checked="" type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

4b. Habitat development. Select one.

<input type="checkbox"/>	Excellent (7)
<input type="checkbox"/>	Very good (6)
<input type="checkbox"/>	Good (5)
<input type="checkbox"/>	Moderately good (4)
<input checked="" type="checkbox"/>	Fair (3)
<input type="checkbox"/>	Poor to fair (2)
<input type="checkbox"/>	Poor (1)

Check all disturbances observed

<input type="checkbox"/>	mowing	<input type="checkbox"/>	shrub/sapling removal
<input type="checkbox"/>	grazing	<input type="checkbox"/>	herbaceous/aquatic bed removal
<input type="checkbox"/>	clearcutting	<input checked="" type="checkbox"/>	sedimentation
<input type="checkbox"/>	selective cutting	<input type="checkbox"/>	dredging
<input type="checkbox"/>	woody debris removal	<input type="checkbox"/>	farming
<input type="checkbox"/>	toxic pollutants	<input type="checkbox"/>	nutrient enrichment

22	subtotal this page
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Site: Groves-Bexley 138kV T-Line		Date: May 8, 2013	
Wetland:	Wetland 5	Rater:	CMS

22 subtotal first page

22	0
Subtotal	Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- ☐ Bog (10 pts)
- ☐ Fen (10 pts)
- ☐ Old Growth Forest (10 pts)
- ☐ Mature forested wetland (5 pts)
- ☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- ☐ Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- ☐ Lake Plain Sand Prairies (Oak Openings) (10 pts)
- ☐ Relict Wet Prairies (10 pts)
- ☐ Known occurrence state/federal threatened or endangered species (10)
- ☐ Significant migratory songbird/waterfowl habitat or usage (10 pts)
- ☐ Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

25	3
Subtotal	Points

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- ☐ Aquatic bed
- ☐ Emergent
- ☐ Shrub
- ☒ 2 Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other (list) _____

6b. Horizontal (plan view) interspersions

Select only one

- ☐ High (5)
- ☐ Moderately high (4)
- ☐ Moderate (3)
- ☒ Moderately low (2)
- ☐ Low (1)
- ☐ None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- ☐ Extensive >75 % cover (-5)
- ☐ Moderate 25-75% cover (-3)
- ☒ Sparse 5-25% cover (-1)
- ☐ Nearly Absent <5% cover (0)
- ☐ Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

- ☐ Vegetated hummocks/tussocks
- ☐ Coarse woody debris >15 cm (6")
- ☐ Standing dead > 25 cm (10") dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more


Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

25 **GRAND TOTAL (max 100 pts)**

Provisional Wetland Category: Category 1

Background Information Form

Name:	CMS	Date:	May 7, 2013
Affiliation:	BHE Environmental, Inc.		
User Address:	1 South Main Street, Akron, Ohio 44308		
Phone:	234-678-8889		
e-mail address	cstallone@bheenvironmental.com		
Wetlands Name	Wetland 5		
Location of Wetlands including address if available	39.969702°, -82.904150°		
		Sources of information used (check all that apply)	
UTM		Site Visit	<input checked="" type="checkbox"/>
USGS Quad		USGS Topo	<input checked="" type="checkbox"/>
Hydrologic Unit Code	5060001	NWI Map	<input checked="" type="checkbox"/>
Wetland Size (acres)	0.117727	OWI Map	<input checked="" type="checkbox"/>
How was size estimated? Wetlands Delineation		Aerial Photo	<input checked="" type="checkbox"/>
		Soil Survey	<input checked="" type="checkbox"/>
		ODNR - DNAP	<input checked="" type="checkbox"/>
		Delineation Report/Map	<input checked="" type="checkbox"/>
Photograph			
			
final score:	25	Provisional Wetland Category:	Category 1

Narrative Rating Questions

Name: CMS	Date: May 8, 2013
Wetlands Name Wetland 5	

1: Critical Habitat	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
2: Threatened or Endangered Species	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
3: Documented High Quality Wetland	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
4: Significant Breeding or Concentration Area (waterfowl)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
5: Category 1 Wetlands (hydrologically isolated)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
6: Bogs	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
7: Fens	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
8a: “Old Growth Forest”	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
8b: Mature Forested Wetlands	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
9a: Lake Erie Coastal and Tributary Wetlands	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
9b: Hydrology result of Erosion Control Measures (Lake Erie)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
9c: Hydrology unrestricted	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
9d: Native Species Predominate	<input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES
9e: Non-native Species Predominate	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
10: Oak Openings	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
11: Relict Wet Prairies	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Groves-Bexley 138kV T-Line City/County: Franklin Sampling Date: 5/06/13
 Applicant/Owner: Power Engineers, Inc. State: OH Sampling Point: Wet 1 - in
 Investigator(s): CMS, ALF Section, Township, Range: Columbus
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): none
 Slope (%): 2% Lat: 39.935294 Long: -82.889663 Datum: DD NAD 83
 Soil Map Unit Name Udorthents-Urban land complex, gently rolling NWI Classification: NA
 Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation X, soil X, or hydrology X significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation , soil , or hydrology naturally problematic? present?

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	<u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: <u>Wetland 1</u>
Hydric soil present?	<u>Y</u>	
Indicators of wetland hydrology present?	<u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Located in manmade swale with hydrology from roadside storwater collection systems

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15'</u>)				Prevalence Index Worksheet Total % Cover of: OBL species <u>65</u> x 1 = <u>65</u> FACW species <u>32</u> x 2 = <u>64</u> FAC species <u>2</u> x 3 = <u>6</u> FACU species <u>70</u> x 4 = <u>280</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>169</u> (A) <u>415</u> (B) Prevalence Index = B/A = <u>2.46</u>
1	<u>Lonicera tatarica</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	
2	<u>Juniperus virginiana</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
3	<u>Malus sp.</u>	<u>7</u>	<u>N</u>	<u>NA</u>	
4					
5					
		<u>72</u>	= Total Cover		
Herb stratum	(Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid test for hydrophytic vegetation <input type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Typha angustifolia</u>	<u>65</u>	<u>Y</u>	<u>OBL</u>	
2	<u>Solidago gigantea</u>	<u>21</u>	<u>Y</u>	<u>FACW</u>	
3	<u>Agrostis gigantea</u>	<u>11</u>	<u>N</u>	<u>FACW</u>	
4	<u>Cirsium vulgare</u>	<u>3</u>	<u>N</u>	<u>FACU</u>	
5	<u>Parthenocissus quinquefolia</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
6	<u>Toxicodendron radicans</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
7					
8					
9					
10					
		<u>104</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30'</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: Wet 1 - in

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-5	10 YR 3/1	100					clay silt loam	many fine roots
5-10	10 YR 4/2	95	10YR 5/6	5	C	M	clay silt loam	
10-20	10 YR 5/2	95	10 YR 5/6	5	C	M	clay silt loam	gravel & channers

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

 Type: _____
 Depth (inches): _____
Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input checked="" type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input checked="" type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input checked="" type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |
| <input checked="" type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input checked="" type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Water table present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>12"</u>
Saturation present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>0"</u>

 (includes capillary fringe)
Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project/Site	Groves-Bexley 138kV T-Line	City/County:	Franklin	Sampling Date:	5/06/13
Applicant/Owner:	Power Engineers, Inc.	State:	OH	Sampling Point:	SP-2 Wet 1 - out
Investigator(s):	CMS, ALF	Section, Township, Range:		Columbus	
Landform (hillslope, terrace, etc.):	Depression	Local relief (concave, convex, none):		none	
Slope (%):	1%	Lat:	39.935346	Long:	-82.889536
				Datum:	DD NAD 83
Soil Map Unit Name	Udorthents-Urban land complex, gently rolling	NWI Classification:		NA	
Are climatic/hydrologic conditions of the site typical for this time of the year?			Y	(If no, explain in remarks)	
Are vegetation _____, soil _____, or hydrology _____ significantly disturbed?				Are "normal circumstances" present?	
Are vegetation _____, soil _____, or hydrology _____ naturally problematic?				Yes	
SUMMARY OF FINDINGS			(If needed, explain any answers in remarks.)		

Hydrophytic vegetation present?	<u> N </u>	Is the sampled area within a wetland? <u> N </u> If yes, optional wetland site ID: _____
Hydric soil present?	<u> N </u>	
Indicators of wetland hydrology present?	<u> N </u>	
Remarks: (Explain alternative procedures here or in a separate report.) 		

Tree Stratum		Absolute % Cover	Dominant Species	Indicator Staus
1				
2				
3				
4				
5				
		0 = Total Cover		
Sapling/Shrub stratum		Absolute % Cover	Dominant Species	Indicator Staus
1	<i>Lonicera tatarica</i>	21	Y	FACU
2	<i>Juniperus virginiana</i>	15	Y	FACU
3				
4				
5				
		36 = Total Cover		
Herb stratum		Absolute % Cover	Dominant Species	Indicator Staus
1	<i>Agrostis gigantea</i>	57	Y	FACW
2	<i>Solidago canadensis</i>	27	Y	FACU
3	<i>Poa annua</i>	15	N	FACU
4	<i>Achillea millefolium</i>	14	N	FACU
5	<i>Trifolium hybridum</i>	11	N	FACU
6	<i>Solidago nemoralis</i>	11	N	NA
7	<i>Cerastium fontanum</i>	5	N	FACU
8	<i>Cirsium vulgare</i>	3	N	FACU
9				
10				
		143 = Total Cover		
Woody vine stratum		Absolute % Cover	Dominant Species	Indicator Staus
1				
2				
		0 = Total Cover		

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 4 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 25.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	57	x 2 =	114
FAC species	0	x 3 =	0
FACU species	111	x 4 =	444
UPL species	0	x 5 =	0
Column totals	168 (A)		558 (B)

Prevalence Index = B/A = 3.32

Hydrophytic Vegetation Indicators:

_____ Rapid test for hydrophytic vegetation

_____ Dominance test is >50%

_____ Prevalence index is ≤3.0*

_____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

_____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: SP-2 Wet 1 - out

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10 YR 4/2	100					silt loam	many fine roots
6-12	10 YR 4/3	100					silt loam	
12-20	10 YR 3/1	60	10 YR 7/3	20	D	M	clay silt loam	gravel & channers
			10 YR 6/8	20	C	M		

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): <u> </u>
Water table present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): <u> 12" </u>
Saturation present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): <u> 0" </u>

 (includes capillary fringe)
Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Groves-Bexley 138kV T-Line City/County: Franklin Sampling Date: 5/06/13
 Applicant/Owner: Power Engineers, Inc. State: OH Sampling Point: SP-3 Wet 2 - in
 Investigator(s): CMS, ALF Section, Township, Range: Columbus
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave
 Slope (%): 3% Lat: N 39.952603° Long: W 82.901627° Datum: DD NAD 83
 Soil Map Unit Name Bennington-Urban land complex, 0 to 2 percent slopes NWI Classification: NA
 Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation X, soil X, or hydrology X significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation , soil , or hydrology naturally problematic? present? Yes
SUMMARY OF FINDINGS (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: <u>Wetland 2</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.) The sampled are contains disturbed vegetation and soils due to associate land use. The sampled area has been determined to be a wetland.	

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>9</u> (A) Total Number of Dominant Species Across all Strata: <u>10</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>90.00%</u> (A/B)
1 <u>Populus deltoides</u>	<u>11</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Acer saccharinum</u>	<u>7</u>	<u>Y</u>	<u>FACW</u>	
3 <u>Ulmus americana</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
4 <u> </u>	<u> </u>	<u> </u>	<u> </u>	Prevalence Index Worksheet Total % Cover of: OBL species <u>71</u> x 1 = <u>71</u> FACW species <u>55</u> x 2 = <u>110</u> FAC species <u>31</u> x 3 = <u>93</u> FACU species <u>7</u> x 4 = <u>28</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>164</u> (A) <u>302</u> (B) Prevalence Index = B/A = <u>1.84</u>
5 <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>23</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15'</u>)				
1 <u>Acer negundo</u>	<u>11</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2 <u>Salix nigra</u>	<u>7</u>	<u>Y</u>	<u>OBL</u>	
3 <u>Lonicera japonica</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
4 <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5 <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>23</u> = Total Cover				
Herb stratum (Plot size: <u>5'</u>)				
1 <u>Veronica anagallis-aquatica</u>	<u>53</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Geum aleppicum</u>	<u>21</u>	<u>Y</u>	<u>FACW</u>	
3 <u>Dichanthelium clandestinum</u>	<u>13</u>	<u>N</u>	<u>FACW</u>	
4 <u>Carex lurida</u>	<u>11</u>	<u>N</u>	<u>OBL</u>	
5 <u>Toxicodendron radicans</u>	<u>9</u>	<u>N</u>	<u>FAC</u>	
6 <u>Solidago gigantea</u>	<u>7</u>	<u>N</u>	<u>FACW</u>	
7 <u> </u>	<u> </u>	<u> </u>	<u> </u>	Hydrophytic vegetation present? <u>Y</u>
8 <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9 <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10 <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>114</u> = Total Cover				
Woody vine stratum (Plot size: <u>30'</u>)				
1 <u>Vitis riparia</u>	<u>2</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Rubus allegheniensis</u>	<u>2</u>	<u>Y</u>	<u>FACU</u>	
<u>4</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)
Hydrophytic vegetation is present.

SOIL

Sampling Point: SP-3 Wet 2 - in

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-2	10YR 4/1	40	10YR 5/2	20	D	M	clay	
			10YR 7/3	20	C	M	clay	
2-6	10YR 5/2	90	10YR 5/6	10	C	M	clay	abundant gravel
6-12	10YR 4/1	80	10YR 5/8	10	C	M	clay	gravel and channers
			10YR 6/3	10	C	M	clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

 Type: Manmade harpan
 Depth (inches): 12
Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |
| <input checked="" type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): <u> </u>
Water table present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): <u> </u>
Saturation present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): <u> </u>

 (includes capillary fringe)
Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology is present.

Project/Site	Groves-Bexley 138kV T-Line	City/County:	Franklin	Sampling Date:	5/06/13
Applicant/Owner:	Power Engineers, Inc.	State:	OH	Sampling Point:	SP-4 Wet 2 -out
Investigator(s):	CMS, ALF	Section, Township, Range:	Columbus		
Landform (hillslope, terrace, etc.):	berm	Local relief (concave, convex, none):	none		
Slope (%):	1%	Lat:	39.952625	Long:	-82.901598
		Datum:	DD NAD 83		
Soil Map Unit Name	Bennington-Urban land complex, 0 to 2 percent slopes		NWI Classification:	NA	
Are climatic/hydrologic conditions of the site typical for this time of the year?			Y	(If no, explain in remarks)	
Are vegetation _____, soil _____, or hydrology _____ significantly disturbed?				Are "normal circumstances" present? Yes	
Are vegetation _____, soil _____, or hydrology _____ naturally problematic?					
SUMMARY OF FINDINGS			(If needed, explain any answers in remarks.)		

Hydrophytic vegetation present?	N	Is the sampled area within a wetland? N If yes, optional wetland site ID: _____
Hydric soil present?	N	
Indicators of wetland hydrology present?	N	
Remarks: (Explain alternative procedures here or in a separate report.)		

Tree Stratum		Absolute % Cover	Dominant Species	Indicator Staus
1	<i>Acer negundo</i>	9	Y	FAC
2				
3				
4				
5				
		9 = Total Cover		
Sapling/Shrub stratum		Absolute % Cover	Dominant Species	Indicator Staus
1	<i>Lonicera tatarica</i>	17	Y	FACU
2	<i>Rosa multiflora</i>	15	Y	FACU
3				
4				
5				
		32 = Total Cover		
Herb stratum		Absolute % Cover	Dominant Species	Indicator Staus
1	<i>Securigera varia</i>	61	Y	NA
2	<i>Carex blanda</i>	21	Y	FAC
3	<i>Poa annua</i>	17	N	FACU
4	<i>Arctium minus</i>	16	N	FACU
5	<i>Geum aleppicum</i>	14	N	FACW
6	<i>Lamium purpureum</i>	7	N	NA
7	<i>Toxicodendron radicans</i>	5	N	FAC
8	<i>Barbarea vulgaris</i>	2	N	FAC
9	<i>Taraxacum officinale</i>	1	N	FACU
10				
		144 = Total Cover		
Woody vine stratum		Absolute % Cover	Dominant Species	Indicator Staus
1	<i>Vitis aestivalis</i>	11	Y	FACU
2				
		11 = Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 6 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	14	x 2 =	28
FAC species	37	x 3 =	111
FACU species	77	x 4 =	308
UPL species	0	x 5 =	0
Column totals	128 (A)		447 (B)

Prevalence Index = B/A = 3.49

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation
☐ Dominance test is >50%
☐ Prevalence index is ≤3.0*
☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
☐ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present?

N

SOIL

Sampling Point: SP-4 Wet 2 -out

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-2.5	10 YR 2/1	100					silt loam	many fine roots
2.5-9	10 YR 3/1	80					silt loam	
	10 YR 3/3	20						
9-16	10 YR 2/1	70						
	10 YR 3/3	15						
	10 YR 3/2	5					silt loam	abundant gravel and channers

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: Manmad hardpan
 Depth (inches): 16"
Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| <input type="checkbox"/> Surface Water (A1) |
| <input type="checkbox"/> High Water Table (A2) |
| <input type="checkbox"/> Saturation (A3) |
| <input type="checkbox"/> Water Marks (B1) |
| <input type="checkbox"/> Sediment Deposits (B2) |
| <input type="checkbox"/> Drift Deposits (B3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) |
| <input type="checkbox"/> Iron Deposits (B5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Water-Stained Leaves (B9) |

- | |
|---|
| <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): <u> </u>
Water table present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): <u> </u>
Saturation present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): <u> </u>

 (includes capillary fringe)
Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Groves-Bexley 138kV T-Line City/County: Franklin Sampling Date: 5/06/13
 Applicant/Owner: Power Engineers, Inc. State: OH Sampling Point: SP-5 Wet 3 - in
 Investigator(s): CMS, ALF Section, Township, Range: Columbus
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): none
 Slope (%): 1% Lat: 39.95469 Long: -82.903487 Datum: DD NAD 83
 Soil Map Unit Name Bennington-Urban land complex, 0 to 2 percent slopes NWI Classification: NA
 Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation X, soil X, or hydrology X significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation , soil , or hydrology naturally problematic?

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	<u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: <u>Wetland 3</u>
Hydric soil present?	<u>Y</u>	
Indicators of wetland hydrology present?	<u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

In Manmade Swale, historically disturbed with manmade substrate

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>8</u> (A) Total Number of Dominant Species Across all Strata: <u>10</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>80.00%</u> (A/B)
1	<u>Ulmus americana</u>	<u>31</u>	<u>Y</u>	<u>FACW</u>	
2	<u>Acer saccharinum</u>	<u>22</u>	<u>Y</u>	<u>FACW</u>	
3					
4					
5					
		<u>53</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15'</u>)				Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>78</u> x 2 = <u>156</u> FAC species <u>25</u> x 3 = <u>75</u> FACU species <u>23</u> x 4 = <u>92</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>126</u> (A) <u>323</u> (B) Prevalence Index = B/A = <u>2.56</u>
1	<u>Lonicera tatarica</u>	<u>12</u>	<u>Y</u>	<u>FACU</u>	
2	<u>Cornus amomum</u>	<u>7</u>	<u>Y</u>	<u>FACW</u>	
3	<u>Rhamnus cathartica</u>	<u>7</u>	<u>Y</u>	<u>FAC</u>	
4					
5					
		<u>26</u>	= Total Cover		
Herb stratum	(Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Impatiens capensis</u>	<u>11</u>	<u>Y</u>	<u>FACW</u>	
2	<u>Toxicodendron radicans</u>	<u>11</u>	<u>Y</u>	<u>FAC</u>	
3	<u>Carex blanda</u>	<u>7</u>	<u>Y</u>	<u>FAC</u>	
4	<u>Solidago gigantea</u>	<u>7</u>	<u>Y</u>	<u>FACW</u>	
5					
6					
7					
8					
9					
10					
		<u>36</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30'</u>)				Hydrophytic vegetation present? <u>Y</u>
1	<u>Vitis aestivalis</u>	<u>11</u>	<u>Y</u>	<u>FACU</u>	
2					
		<u>11</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: SP-5 Wet 3 - in

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10 YR 2/1	90	10 YR 5/1	10	D	M	clay loam	many fine roots
6-12	10 YR 5/1	100					clay loam	gravel & channers

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: Manmade hardpan
 Depth (inches): 12"
Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|---|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input checked="" type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input checked="" type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input checked="" type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input checked="" type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |
| <input checked="" type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input checked="" type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <u> </u>
Water table present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>10"</u>
Saturation present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>8"</u>

 (includes capillary fringe)
Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Groves-Bexley 138kV T-Line City/County: Franklin Sampling Date: 5/06/13
 Applicant/Owner: Power Engineers, Inc. State: OH Sampling Point: SP-6 Wet 4 - in
 Investigator(s): CMS, ALF Section, Township, Range: Columbus
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): none
 Slope (%): 1% Lat: 39.958175 Long: -82.904966 Datum: DD NAD 83
 Soil Map Unit Name Bennington-Urban land complex, 0 to 2 percent slopes NWI Classification: NA
 Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation X, soil X, or hydrology X significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation , soil , or hydrology naturally problematic?

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: <u>Wetland 4</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.) <p style="text-align: center;">In manmade swale, with manmade hardpan, historically disturbed.</p>	

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across all Strata: <u>9</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>55.56%</u> (A/B)
1	<u>Juglans nigra</u>	<u>11</u>	<u>Y</u>	<u>FACU</u>	
2	<u>Fraxinus pennsylvanica</u>	<u>7</u>	<u>Y</u>	<u>FACW</u>	
3					
4					
5					
		<u>18</u>	<u>= Total Cover</u>		
Sapling/Shrub stratum	(Plot size: <u>15'</u>)				Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>50</u> x 2 = <u>100</u> FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>31</u> x 4 = <u>124</u> UPL species <u>40</u> x 5 = <u>200</u> Column totals <u>136</u> (A) <u>469</u> (B) Prevalence Index = B/A = <u>3.45</u>
1	<u>Lonicera tatarica</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
2	<u>Juglans nigra</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
3	<u>Cornus amomum</u>	<u>3</u>	<u>N</u>	<u>FACW</u>	
4					
5					
		<u>23</u>	<u>= Total Cover</u>		
Herb stratum	(Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Hemerocallis fulva</u>	<u>40</u>	<u>Y</u>	<u>UPL</u>	
2	<u>Phalaris arundinacea</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3	<u>Solidago gigantea</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
4	<u>Carex blanda</u>	<u>7</u>	<u>Y</u>	<u>FAC</u>	
5	<u>Toxicodendron radicans</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
6	<u>Viola sororia</u>	<u>3</u>	<u>N</u>	<u>FAC</u>	
7					
8					
9					
10					
		<u>95</u>	<u>= Total Cover</u>		
Woody vine stratum	(Plot size: <u>30'</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u>	<u>= Total Cover</u>		

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: SP-6 Wet 4 - in

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-7	10 YR 3/1	100					silty clay loam	many fine roots
7-18	10 YR 5/2	60					clay loam	
	10 YR 5/4	30	10 YR 5/8	10	C	M	clay loam	gravel and channers abundant

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: Manmade hardpan
Depth (inches): 18"

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| <input type="checkbox"/> Surface Water (A1) |
| <input type="checkbox"/> High Water Table (A2) |
| <input checked="" type="checkbox"/> Saturation (A3) |
| <input checked="" type="checkbox"/> Water Marks (B1) |
| <input checked="" type="checkbox"/> Sediment Deposits (B2) |
| <input type="checkbox"/> Drift Deposits (B3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) |
| <input type="checkbox"/> Iron Deposits (B5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input checked="" type="checkbox"/> Water-Stained Leaves (B9) |

Secondary Indicators (minimum of two required)

- | | |
|---|---|
| <input type="checkbox"/> Aquatic Fauna (B13) | <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> True Aquatic Plants (B14) | <input checked="" type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input checked="" type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Thin Muck Surface (C7) | <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Gauge or Well Data (D9) | <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Other (Explain in Remarks) | |

Field Observations:

Surface water present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Water table present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	16"
Saturation present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	12"

(includes capillary fringe)

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project/Site <u>Groves-Bexley 138kV T-Line</u>		City/County: <u>Franklin</u>		Sampling Date: <u>5/07/13</u>	
Applicant/Owner: <u>Power Engineers, Inc.</u>		State: <u>OH</u>		Sampling Point: <u>SP-7 Wet 4 -out</u>	
Investigator(s): <u>CMS, ALF</u>		Section, Township, Range:		<u>Columbus</u>	
Landform (hillslope, terrace, etc.): <u>berm</u>		Local relief (concave, convex, none):		<u>none</u>	
Slope (%): <u>1%</u>	Lat: <u>39.9581497</u>	Long: <u>-82.9050116</u>	Datum:	<u>DD NAD 83</u>	
Soil Map Unit Name <u>Bennington-Urban land complex, 0 to 2 percent slopes</u>			NWI Classification: <u>NA</u>		
Are climatic/hydrologic conditions of the site typical for this time of the year? <u>Y</u>			(If no, explain in remarks)		
Are vegetation <u> </u> , soil <u> </u> , or hydrology <u> </u> significantly disturbed?			Are "normal circumstances"		
Are vegetation <u> </u> , soil <u> </u> , or hydrology <u> </u> naturally problematic?			present? <u>Yes</u>		
SUMMARY OF FINDINGS			(If needed, explain any answers in remarks.)		

Hydrophytic vegetation present?	<u> N </u>	Is the sampled area within a wetland? <u> N </u> If yes, optional wetland site ID: _____
Hydric soil present?	<u> N </u>	
Indicators of wetland hydrology present?	<u> N </u>	
Remarks: (Explain alternative procedures here or in a separate report.) 		

Tree Stratum				Dominance Test Worksheet	
(Plot size: 30')		Absolute % Cover	Dominant Species	Indicator Staus	Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)
1	<i>Juglans nigra</i>	15	Y	FACU	Total Number of Dominant Species Across all Strata: 6 (B)
2	<i>Fraxinus pennsylvanica</i>	7	Y	FACW	
3					
4					
5					
		22 = Total Cover	Percent of Dominant Species that are OBL, FACW, or FAC: 33.33% (A/B)		
Sapling/Shrub stratum (Plot size: 15')				Prevalence Index Worksheet	
				Total % Cover of:	
1	<i>Lonicera tatarica</i>	30	Y	FACU	OBL species 0 x 1 = 0
2	<i>Juglans nigra</i>	7	N	FACU	FACW species 27 x 2 = 54
3	<i>Populus deltoides</i>	5	N	FAC	FAC species 9 x 3 = 27
4					FACU species 119 x 4 = 476
5					UPL species 0 x 5 = 0
		42 = Total Cover	Column totals 155 (A) 557 (B)		
Herb stratum (Plot size: 5')				Prevalence Index = B/A = 3.59	
1	<i>Poa annua</i>	40	Y	FACU	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid test for hydrophytic vegetation <input type="checkbox"/> Dominance test is >50% <input type="checkbox"/> Prevalence index is ≤3.0* <input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2	<i>Solidago canadensis</i>	20	Y	FACU	
3	<i>Solidago gigantea</i>	20	Y	FACW	
4	<i>Securigera varia</i>	7	N	NA	
5	<i>Taraxacum officinale</i>	5	N	FACU	
6	<i>Viola sororia</i>	2	N	FAC	
7	<i>Potentilla simplex</i>	2	N	FACU	
8	<i>Populus deltoides</i>	2	N	FAC	
9					
10					
		98 = Total Cover			
Woody vine stratum (Plot size: 30')				Hydrophytic vegetation present? N	
1					
2					
		0 = Total Cover			
Remarks: (Include photo numbers here or on a separate sheet)					

SOIL

Sampling Point: SP-7 Wet 4 -out

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-5	10 YR 2/1	100					silty loam	many fine roots
5-18	10 YR 2/1	80					silty loam	
	10 YR 3/1	20						gravel and channers abundant

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

 Type: Manmad hardpan
 Depth (inches): 18"

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| <input type="checkbox"/> Surface Water (A1) |
| <input type="checkbox"/> High Water Table (A2) |
| <input type="checkbox"/> Saturation (A3) |
| <input type="checkbox"/> Water Marks (B1) |
| <input type="checkbox"/> Sediment Deposits (B2) |
| <input type="checkbox"/> Drift Deposits (B3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) |
| <input type="checkbox"/> Iron Deposits (B5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Water-Stained Leaves (B9) |

- | |
|---|
| <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Depth (inches): <input type="text"/>
Water table present?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Depth (inches): <input type="text"/>
Saturation present?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Depth (inches): <input type="text"/>

 (includes capillary fringe)

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Groves-Bexley 138kV T-Line City/County: Franklin Sampling Date: 5/07/13
 Applicant/Owner: Power Engineers, Inc. State: OH Sampling Point: SP-8 Wet 5 - in
 Investigator(s): CMS, ALF Section, Township, Range: Columbus
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): none
 Slope (%): 1% Lat: 39.96962 Long: -82.90409 Datum: DD NAD 83
 Soil Map Unit Name Bennington-Urban land complex, 0 to 2 percent slopes NWI Classification: NA
 Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation X, soil X, or hydrology X significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation , soil , or hydrology naturally problematic?

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
If yes, optional wetland site ID: <u>Wetland 5</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across all Strata: <u>6</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1 <u>Fraxinus pennsylvanica</u>	25	Y	FACW	
2 <u>Acer rubrum</u>	20	Y	FAC	
3 <u> </u>				
4 <u> </u>				
5 <u> </u>				
	45	= Total Cover		
Sapling/Shrub stratum (Plot size: <u>15'</u>)				
1 <u>Fraxinus pennsylvanica</u>	47	Y	FACW	Prevalence Index Worksheet Total % Cover of: OBL species <u>41</u> x 1 = <u>41</u> FACW species <u>75</u> x 2 = <u>150</u> FAC species <u>80</u> x 3 = <u>240</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>196</u> (A) <u>431</u> (B) Prevalence Index = B/A = <u>2.20</u>
2 <u>Acer rubrum</u>	20	Y	FAC	
3 <u>Acer negundo</u>	13	N	FAC	
4 <u> </u>				
5 <u> </u>				
	80	= Total Cover		
Herb stratum (Plot size: <u>5'</u>)				
1 <u>Carex lurida</u>	41	Y	OBL	Hydrophytic Vegetation Indicators: Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2 <u>Toxicodendron radicans</u>	27	Y	FAC	
3 <u>Geum aleppicum</u>	3	N	FACW	
4 <u>Fraxinus pennsylvanica</u>	3	N	NA	
5 <u> </u>				
6 <u> </u>				
7 <u> </u>				
8 <u> </u>				
9 <u> </u>				
10 <u> </u>				
	74	= Total Cover		
Woody vine stratum (Plot size: <u>30'</u>)				
1 <u> </u>				Hydrophytic vegetation present? <u>Y</u>
2 <u> </u>				
	0	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: SP-8 Wet 5 - in

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-4	10 YR 2/1	80	10 YR 5/2	20	D	M	silty clay loam	many fine roots
4-14	10 YR 4/1	80	10 YR 5/3	10	D	M	silty clay loam	
			10 YR 5/6	10	C	M	silty clay loam	gravel and channers abundant

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other (explain in remarks)
<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed): Type: <u>Manmad hardpan</u> Depth (inches): <u>14"</u>	Hydric soil present? <u>Y</u>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators:			
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input checked="" type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input checked="" type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)			

Field Observations: Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>6"</u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0"</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0"</u> (includes capillary fringe)	Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

6/13/2013 11:10:56 AM

in

Case No(s). 13-1330-EL-BLN

Summary: Letter of Notification Groves-Bexley 138 kV Transmission Line Rebuild Project electronically filed by Erin C Miller on behalf of AEP Ohio Transmission Company, Inc.