

2012 JUN 15 AM 10: 23

1-800-646-0400

PUCO

June 15, 2012

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

Application For A Certificate of Environmental Compatibility and Public Need
Clinic Hospital Substation Project
Case No. 11-2754-EL-BSB

Dear Ms. McCauley,

Transmitted herewith on behalf of American Transmission Systems, Incorporated and The Cleveland Electric Illuminating Company (jointly "Applicants") pursuant to the Rules and Regulations of the Ohio Power Siting Board (Board) are one (1) original and thirty (30) copies of the Application for a Certificate of Environmental Compatibility and Public Need for the Clinic Hospital Substation Project, Case No. 11-2754-EL-BSB. The proposed Project involves installing the new Clinic Hospital Substation ("CH Substation") in the City of Cleveland, Ohio. The new CH Substation will serve as a transmission switching substation with 138 to 36 kV transformation.

Shortly after this application submittal to the Board, ATSI will submit a Letter of Notification to the Board seeking approval for the related project, the Inland-Jordan Q-11 & Q-14 138 kV Transmission Loops to CH Substation.

The proposed Project is designed to respond to anticipated load growth and to provide redundancy to the electric system serving the Cleveland Clinic's Main Campus. The numerous facilities of the Cleveland Clinic's Main Campus are located near or within the area generally bounded by East 88th Street on the west, Stokes Boulevard on the east, Chester Avenue on the north, and Cedar Avenue on the south. The proposed Project, in combination with the directly related Inland-Jordan Q-11 & Q-14 138 kV Transmission Loops to CH Substation Project, is designed the growth and reliability requirements.

This application is submitted pursuant to multiple requests for waivers, including waiver of Rule 4906-5 of the Ohio Administrative Code of the requirement for the submittal of fully developed alternative sites; and the requirement set forth in Section 4906.06(A)(6) of the Ohio Revised Code that applications for electric substation be filed not less than one year (nor more than five years) prior to the planned date of commencement of construction. The motion to waive these requirements was previously filed. In accordance with the requirements of Admin. Code 4906-5-02(A)(3), please be advised of the following:

This is to certify that the images appearing are an accurate and complete reproduction of a case file document delivered in the regular course of business.
Technician
Date Processed JUN 15 2012

Applicant's Name & Address:

American Transmission Systems, Incorporated
76 South Main Street
Akron, OH 44308-1890

The Cleveland Electric Illuminating Company
76 South Main Street
Akron, OH 44308-1890

Name & Location of Proposed Facility:
Clinic Hospital Substation Project

The proposed Clinic Hospital Substation is located in the City of Cleveland, Cuyahoga County, Ohio.

Applicant's Representative

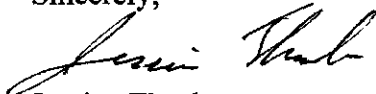
Jessica Thacker
Engineer
Energy Delivery Transmission & Substation Design
FirstEnergy Service Company
76 South Main Street
Akron, OH 44308-1890
Phone: 330-384-5955

Also enclosed are the original and ten copies of the signed executive officer statement required by the requirements of Admin. Code 4906-1-10. A copy of this statement has also been placed in the front cover of each application.

Based on the estimated cost of the most costly alternative of the Project, the complete application filings fee amount is \$50,000 for this Project as outlined in Section 4906-5-11(B)(1) of the Ohio Administrative Code, According to Admin. Code Rule 4906-5-11(B)(2). This amount is payable upon filing the accepted, complete application.

Should the Ohio Power Siting Board desire further information or discussion of this submittal, please contact the representative listed above.

Sincerely,



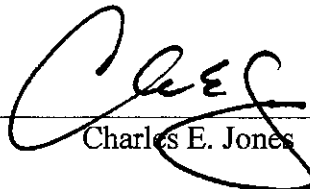
Jessica Thacker
Engineer
Energy Delivery Transmission & Substation Design
FirstEnergy Service Company

Case No. 11-2754-EL-BSB
APPLICATION FOR
A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED
FOR
CLINIC HOSPITAL SUBSTATION
SUBMITTED TO THE
OHIO POWER SITING BOARD

AFFIDAVIT OF CHARLES E. JONES

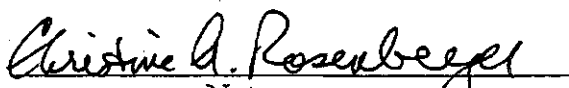
STATE OF OHIO)
)SS.
SUMMIT COUNTY)

On June 7, 2012, before me, a Notary Public in and for the State and County described herein, personally appeared Charles E. Jones, who after being duly sworn according to law, deposed and said that he is President of AMERICAN TRANSMISSION SYSTEMS, INCORPORATED and THE CLEVELAND ELECTRIC ILLUMINATING COMPANY, Ohio Corporations, that in such capacity he is authorized to make this Affidavit; and that the within information of AMERICAN TRANSMISSION SYSTEMS, INCORPORATED and THE CLEVELAND ELECTRIC ILLUMINATING COMPANY, is complete and correct to the best of his knowledge, information, and belief.



Charles E. Jones

Sworn to and subscribed before
me this 7 day of June 2012.



Notary
Christine A. Rosenberger
Notary Public, State of Ohio
My Commission Expires Feb. 20, 2016

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
4906-15-01 PROJECT SUMMARY AND FACILITY OVERVIEW.....	01-1
(A) PROJECT SUMMARY AND FACILITY OVERVIEW.....	01-1
(1) General Purpose of the Facility	01-1
(2) Summary Description	01-2
(3) Site Selection Process	01-2
(4) Principal Environmental and Socioeconomic Considerations	01-4
(5) Project Schedule Summary	01-6
(B) INFORMATION FILED IN RESPONSE TO REQUIREMENTS.....	01-6
(C) PREPARATION OF HARD COPY MAPS	01-8
4906-15-02 REVIEW OF NEED FOR PROPOSED PROJECT.....	02-1
(A) JUSTIFICATION OF NEED	02-1
(1) Purpose of the Proposed Facility	02-1
(2) System Conditions, Local Requirements and Other Pertinent Factors	02-1
(3) Load Flow Studies	02-6
(4) Base Case Model Data	02-10
(5) Base Case Data for Natural Gas Transmission Line	02-10
(B) EXPANSION PLANS	02-10
(1) Long-Term Forecast; and Regional Transmission Planning	02-10
(2) Gas Transmission Lines and Associated Facilities	02-11
(C) SYSTEM ECONOMY AND RELIABILITY	02-11
(D) ALTERNATE ANALYSIS	02-12
(E) FACILITY SELECTION RATIONALE	02-13
(F) FACILITY SCHEDULE	02-14
(1) Schedule Bar Chart	02-14
(2) Delays	02-14
4906-15-03 SITE AND ROUTE ALTERNATIVES ANALYSES	03-1
(A) SECTION SUMMARY	03-1
(B) SITE SELECTION STUDY	03-1
(1) Study Area and Methodology	03-1
(2) Site Ranking and Selection of Preferred and Alternate Sites	03-9
4906-15-04 TECHNICAL DATA	04-1
(A) SECTION SUMMARY	04-1
(B) ALTERNATIVE SITES/ROUTES OF PROJECTS.....	04-1
(1) Geography and Topography	04-1
(2) Slope and Soil Mechanics	04-4
(B) LAYOUT AND CONSTRUCTION	04-4
(1) Site Activities	04-4
(2) Layout for Associated Facilities	04-5
(C) TRANSMISSION EQUIPMENT	04-7
(1) Electric Transmission Line Data	04-7
(2) Electric Transmission Substation Data	04-7
(3) Gas Transmission Line Data.....	04-8

	(4)	Gas Transmission Facilities	04-8
(D)		ENVIRONMENTAL AND AVIATION COMPLIANCE INFORMATION	04-8
	(1)	List and Discussion of Permits Required	04-8
	(2)	Description, Quantification, Characterization, Removal and Disposal of Construction Debris	04-9
	(3)	Storm Water and Erosion Controls During Construction and Restoration of Soils, Wetlands, and Streams Disturbed as a Result of Construction of the Facility.....	04-9
	(4)	Plans for Disposition of Contaminated Soil and Hazardous Materials Generated or Encountered During Construction:.....	04-11
	(5)	Height of Tallest Anticipated Above Ground Structures and Construction Equipment within the Vicinity of Airports and Landing Strips.....	04-12
	(6)	Construction During Excessively Dusty or Excessively Muddy Soil Conditions.....	04-12
4906-15-05		FINANCIAL DATA.....	05-1
	(A)	SECTION SUMMARY	05-1
	(B)	OWNERSHIP	05-1
	(C)	ELECTRIC CAPITAL COST	05-2
	(D)	GAS CAPITAL COST	05-2
4906-15-06		SOCIOECONOMIC AND LAND USE IMPACT ANALYSIS....	06-1
	(A)	SOCIOECONOMIC CHARACTERISTICS	06-1
	(B)	SITE ALIGNMENTS AND LAND USE.....	06-2
	(1)	Proposed Routing Alignments and Turning Points	06-2
	(2)	Substations	06-2
	(3)	General Land Use.....	06-3
	(4)	Transportation Corridors.....	06-5
	(5)	Existing Utility Corridors.....	06-6
	(6)	Noise Sensitive Areas.....	06-6
	(7)	Agricultural Land (Agricultural District Land).....	06-7
(C)		LAND USE IMPACTS OF THE PROPOSED PROJECT	06-7
	(1)	Number of Residential Structures	06-7
	(2)	Impact of Construction	06-7
	(3)	Impact of Operation and Maintenance.....	06-9
	(4)	Mitigation Procedures	06-10
(D)		PUBLIC INTERACTION INFORMATION	06-11
	(1)	Counties, Townships, Cities and Villages within 1,000 feet of the Site Alternatives	06-11
	(2)	Public Officials Contacted	06-11
	(3)	Public Information Programs.....	06-12
	(4)	Liability Compensation.....	06-12
	(5)	Serving the Public Interest.....	06-13
	(6)	Tax Revenues.....	06-13
	(7)	Impact on Regional Development.....	06-13
(E)		HEALTH AND SAFETY	06-14
	(1)	Compliance with Safety Regulations	06-14
	(2)	Electric and Magnetic Fields	06-14
	(3)	Aesthetic Impact	06-18
	(4)	Estimate of Radio and Television Interference	06-19

(F)	CULTURAL IMPACTS OF THE PROPOSED PROJECT	06-20
(1)	Archaeological Resources and Correspondence with Agency	06-20
(2)	Construction Impacts on Cultural Resources.....	06-20
(3)	Operation and Maintenance Impacts on Cultural Resources	06-20
(4)	Mitigation Procedures	06-20
(G)	NOISE	06-21
(1)	Construction.....	06-21
(2)	Operation and Maintenance	06-21
(3)	Mitigation Procedures	06-22
(H)	OTHER SIGNIFICANT ISSUES	06-22
4906-15-07	ECOLOGICAL IMPACT ANALYSIS	07-1
(A)	SUMMARY OF ECOLOGICAL IMPACT STUDIES.....	07-1
(B)	ECOLOGICAL FEATURES	07-1
(1)	Route Alignments	07-1
(2)	Substations and Compressor Stations	07-2
(3)	All Areas Currently Not Developed For Agricultural, Residential, Commercial, Industrial, Institutional, or Cultural Purposes	07-2
(4)	Soil Associations in the Corridor	07-6
(C)	IMPACTS OF ALTERNATIVE SITES ON WATER BODIES.....	07-7
(1)	Construction Impact.....	07-7
(2)	Operation and Maintenance Impact.....	07-7
(3)	Mitigation Procedures	07-7
(D)	WETLANDS IMPACT	07-7
(1)	Construction Impact.....	07-7
(2)	Operation and Maintenance Impact.....	07-7
(3)	Mitigation Procedures	07-8
(E)	VEGETATION IMPACT	07-8
(1)	Construction Impact.....	07-8
(2)	Operation and Maintenance Impact.....	07-8
(3)	Mitigation Procedures	07-8
(F)	COMMERCIAL, RECREATIONAL, AND THREATENED/ENDANGERED SPECIES IMPACTS.....	07-8
(1)	Construction.....	07-9
(2)	Operation and Maintenance Impact.....	07-10
(3)	Mitigation Procedures	07-10
(G)	SLOPES AND ERODIBLE SOILS	07-10
(1)	Construction Impact.....	07-10
(2)	Operation and Maintenance Impact.....	07-10
(3)	Mitigation Procedures	07-10
(H)	OTHER ISSUES.....	07-11

TABLES

Table 03-1	Quantitative Siting Criteria.....	03-4
Table 03-2	Quantitative Siting Criteria.....	03-8
Table 05-1	Estimates of Applicable Intangible and Capital Costs for Both the Preferred and Alternative Sites.....	05-2
Table 06-1	Transmission Line Loading.....	06-16
Table 06-2	Modeled EMF Calculations.....	06-16
Table 07-1	Listed Species within Cuyahoga County, Ohio.....	07-4

**FIGURES
(in text)**

Figure 02-1	New 7 Breaker Ring Substation	02-8
Figure 02-2	New 12 Breaker Breaker-and-a-half Substation	02-9

**FIGURES
(following text)**

Figure 02-3	Project Schedule
Figure 03-1	Study Area and Siting Constraints Map
Figure 03-2	Candidate Detail Map – Site 1
Figure 03-3	Candidate Detail Map – Site 2
Figure 03-4	Candidate Detail Map – Site 3
Figure 03-5	Candidate Detail Map – Site 4
Figure 03-6	Candidate Detail Map – Site 5
Figure 03-7	Candidate Detail Map – Site 6
Figure 04-1	Land Use and Constraints Map
Figure 04-2	Preferred Site Layout – Plan View
Figure 04-3	Alternate Site Layout – Plan View
Figure 04-4	Preferred Site – Property Plot
Figure 04-5	Preferred Site – Electrical Layout
Figure 04-6	Electrical Layout Elevation Views
Figure 04-7	Preferred Site Grading Plan
Figure 04-8	Alternate Site Grading Plan
Figure 04-9	One Line Substation Diagram
Figure 06-1	Electric Field
Figure 06-2	Magnetic Field – Normal Rating
Figure 06-3	Magnetic Field – Emergency Rating
Figure 06-4	Magnetic Field – Winter Rating

**APPENDICES
(follow figures)**

Appendix 06-1	Agricultural District Land
Appendix 06-2	Agency Contact List
Appendix 06-3	Public Meeting Information

Appendix 07-1 ODNR and USFWS Correspondence

Chapter 4906-15

Instructions for the Preparation of Certificate Applications for Electric Power, Gas and Natural Gas Transmission Facilities

4906-15-01	Project summary and facility overview.
4906-15-02	Review of need for proposed project.
4906-15-03	Site and route alternatives analyses
4906-15-04	Technical data
4906-15-05	Financial data.
4906-15-06	Socioeconomic and land use impact analysis
4906-15-07	Ecological impact analysis

4906-15-01 Project summary and facility overview

- (A) An applicant for a certificate to site a major electric power, gas, or natural gas transmission facility shall provide a project summary and overview of the proposed project. In general, the summary should be suitable as a reference for state and local governments and for the public. The summary and overview shall include the following:
- (1) A statement explaining the general purpose of the facility.
 - (2) A description of the proposed facility.
 - (3) A description of the site or route selection process, including descriptions of the major alternatives considered.
 - (4) A discussion of the principal environmental and socioeconomic considerations of the preferred and alternate routes or sites.
 - (5) An explanation of the project schedule (a bar chart is acceptable).
- (B) Information filed by the applicant in response to the requirements of this section shall not be deemed responses to any other section of the application requirements.
- (C) If the applicant has prepared the required hard copy maps using digital, geographically referenced data, an electronic copy of all such data, excluding data obtained by the applicant under a licensing agreement which prohibits distribution, shall be provided to the board staff on computer disk concurrent with submission of the application.

Effective: 1/25/09

119.032 review dates: 11/30/13

Promulgated Under: 111.15

Statutory Authority: 4906.03

Rule Amplifies: 4906.06, 4906.03

Prior Effective Dates: 12/27/76, 10/10/78, 7/7/80, 7/7/88, 8/28/98, 12/15/03

4906-15-02 Review of need for proposed project

- (A) The applicant shall provide a statement explaining the need for the proposed facility, including a listing of the factors upon which it relied to reach that conclusion and references to the most recent long-term forecast report (if applicable). The statement shall also include but not be limited to, the following:
- (1) A statement of the purpose of the proposed facility.

- (2) Specific projections of system conditions, local requirements or any other pertinent factors that impacted the applicant's opinion on the need for the proposed facility.
 - (3) Relevant load flow studies and contingency analyses, if appropriate, identifying the need for system improvement.
 - (4) For electric power transmission facilities, load flow data shall be presented in the form of transcription diagrams depicting system performance with and without the proposed facility.
 - (5) For gas or natural gas transmission projects, one copy in electronic format of the relevant base case system data on diskette, in a format acceptable to the board staff, with a description of the analysis program and the data format.
- (B) Expansion plans.
- (1) For the electric power transmission lines and associated facilities, the applicant shall provide a brief statement of how the proposed facility and site/route alternatives fit into the applicant's most recent long-term electric forecast report and the regional plans for expansion, including, but not limited to, the following:
 - (a) Reference to any description of the proposed facility and site/route alternatives in the most recent long-term electric forecast report of the applicant.
 - (b) If no description was contained in the most recent long-term electric forecast report, an explanation as to why none was filed in the most recent long-term electric forecast report.
 - (c) Reference to regional expansion plans, including East Central Area Reliability Coordination Agreement bulk power plans, when applicable (if the transmission project will not affect regional plans, the applicant shall so state).
 - (2) For gas transmission lines and associated facilities, the applicant shall provide a brief statement of how the proposed facility and site/route alternatives fit into the applicant's most recent long-term gas forecast report, including the following:
 - (a) Reference to any description of the proposed facility and site/route alternatives in the most recent long-term gas forecast report of the applicant.
 - (b) If no description was contained in the most recent long-term gas forecast report, an explanation as to why none was filed in the most recent long-term gas forecast report.
- (C) For electric power transmission facilities, the applicant shall provide an analysis of the impact of the proposed facility on the electric power system economy and reliability. The impact of the proposed facility on all interconnected utility systems shall be evaluated, and all conclusions shall be supported by relevant load flow studies.
- (D) For electric power transmission lines, the applicant shall provide an analysis and evaluation of the options considered which would eliminate the need for construction of an electric power transmission line, including electric power generation options and options involving changes to existing and planned electric power transmission substations.
- (E) The applicant shall describe why the proposed facility was selected to meet the projected need.
- (F) Facility schedule.
- (1) Schedule. The applicant shall provide a proposed schedule in bar chart format covering all applicable major activities and milestones, including:
 - (a) Preparation of the application.

- (b) Submittal of the application for certificate.
 - (c) Issuance of the certificate.
 - (d) Acquisition of rights-of-way and land rights for the certified facility.
 - (e) Preparation of the final design.
 - (f) Construction of the facility.
 - (g) Placement of the facility in service.
- (2) Delays. The applicant shall describe the impact of critical delays on the eventual in-service date.
-

Effective: 1/25/09

Replaces: part of 4906-15-04

119.032 review dates: 11/30/13

Promulgated Under: 111.15

Statutory Authority: 4906.03

Rule Amplifies: 4906.06, 4906.03

Prior Effective Dates: 12/27/76, 11/6/78, 7/7/80, 7/7/88, 8/28/98, 12/15/03

4906-15-03 Site and route alternatives analyses

- (A) The applicant shall conduct a site and route selection study prior to submitting an application for an electric power transmission line, electric power transmission substation, gas or natural gas transmission line, or a gas compressor station. The study shall be designed to evaluate all practicable sites, routes, and route segments for the proposed facility identified within the project area.
- (1) The applicant shall provide the following:
- (a) A description of the study area or geographic boundaries selected, including the rationale for the selection.
 - (b) A map of suitable scale which includes the study area and which depicts the general routes, route segments, and sites which were evaluated.
 - (c) A comprehensive list and description of all qualitative and quantitative siting criteria, factors, or constraints utilized by the applicant, including any evaluation criteria or weighting values assigned to each.
 - (d) A description of the process by which the applicant utilized the siting criteria to determine the preferred and alternate routes and sites.
 - (e) A description of the routes and sites selected for evaluation, their final ranking, and the factors and rationale used by the applicant for selecting the preferred and alternate routes and sites.
- (2) The applicant shall provide one copy of any constraint map utilized for the study directly to the board staff for review.
- (B) The applicant shall provide a summary table comparing the routes, route segments, and sites, utilizing the technical, financial, environmental, socioeconomic, and other factors identified in the study. Design

and equipment alternatives shall be included where the use of such alternatives influenced the siting decision.

- (C) The applicant may provide a copy of any route and site selection study produced by or for the applicant for the proposed project as an attachment to the application. The study may be submitted in response to paragraphs (A) and (B) of this rule, provided that the information contained therein is responsive to the requirements of paragraphs (A) and (B) of this rule.

Effective: 1/25/09

119.032 review dates: 11/30/13

Promulgated Under: 111.15

Statutory Authority: 4906.03

Rule Amplifies: 4906.06, 4906.03

Prior Effective Dates: 12/27/76, 11/6/78, 7/7/80, 7/7/88, 8/28/98, 12/15/03

4906-15-04 Technical data

- (A) Site/route alternatives. Information on the location, major features, and the topographic, geologic, and hydrologic suitability of site/route alternatives shall be submitted by the applicant. If this information is derived from reference materials, it shall be derived from the best available and current reference materials.

- (1) Geography and topography. The applicant shall provide map(s) of not less than 1:24,000 scale, including the area one thousand feet on each side of a transmission line alignment, and the area within the immediate vicinity of a substation site or compressor station site, which shall include the following features:

- (a) The proposed transmission line alignments, including proposed turning points.
- (b) The proposed substation or compressor station site locations.
- (c) Major highway and railroad routes.
- (d) Identifiable air transportation facilities, existing or proposed.
- (e) Utility corridors.
- (f) Proposed permanent access roads.
- (g) Lakes, ponds, reservoirs, streams, canals, rivers, and swamps.
- (h) Topographic contours.
- (i) Soil associations or series.
- (j) Population centers and legal boundaries of cities, villages, townships, and counties.

- (2) Slope and soil mechanics. The applicant shall:

- (a) Provide a brief, but specific description of the soils in the areas depicted on the above map(s) where slopes exceed twelve per cent. This information may be extracted from published sources.
- (b) Discuss the rationales as to suitability of the soils for foundation construction.

- (B) Layout and construction. The applicant shall provide information on the proposed layout and preparation of route/site alternatives, and the description of the proposed major structures and their installation as detailed below.
- (1) Site activities. The applicant shall describe the proposed site clearing, construction methods and reclamation operations, including:
 - (a) Surveying and soil testing.
 - (b) Grading and excavation.
 - (c) Construction of temporary and permanent access roads and trenches.
 - (d) Stringing of cable and/or laying of pipe.
 - (e) Post-construction reclamation.
 - (2) Layout for associated facilities. The applicant shall:
 - (a) Provide a map of 1:2,400 scale of the site of major transmission line associated facilities such as substations, compressor stations and other stations, showing the following proposed features:
 - (i) Final grades after construction, including the site and access roads.
 - (ii) Proposed location of major structures and buildings.
 - (iii) Fenced-in or secured areas.
 - (iv) Estimated overall dimensions.
 - (b) Describe reasons for the proposed layout and any unusual features.
 - (c) Describe plans for any future modifications in the proposed layout, including the nature and approximate timing of contemplated changes.
- (C) Transmission equipment. The applicant shall provide a description of the proposed transmission lines, as well as switching, capacity, metering, safety and other equipment pertinent to the operation of the proposed electric power and gas transmission lines and associated facilities. Include any provisions for future expansion.
- (1) Provide the following data for electric power transmission lines:
 - (a) Design voltage.
 - (b) Tower designs, pole structures, conductor size and number per phase, and insulator arrangement.
 - (c) Base and foundation design.
 - (d) Cable type and size, where underground.
 - (e) Other major equipment or special structures.
 - (2) Provide a description for electric power transmission substations that includes a single-line diagram and a description of the proposed major equipment, such as:
 - (a) Breakers.

- (b) Switchgear.
 - (c) Bus arrangement and structures.
 - (d) Transformers.
 - (e) Control buildings.
 - (f) Other major equipment.
- (3) Provide the following data for gas transmission lines:
- (a) Maximum allowable operating pressure.
 - (b) Pipe material.
 - (c) Pipe dimensions and specifications.
 - (d) Other major equipment.
- (4) Provide a description of gas transmission facilities such as:
- (a) Control buildings.
 - (b) Heaters, odorizers, and above-ground facilities.
 - (c) Any other major equipment.
- (D) Environmental and aviation compliance information. The applicant shall provide:
- (1) A list and brief discussion of all permits that will be required for construction of the facility.
 - (2) A description, quantification and characterization of debris that will result from construction of the facility, and the plans for disposal of the debris.
 - (3) A discussion of the process that will be used to control storm water and minimize erosion during construction and restoration of soils, wetlands, and streams disturbed as a result of construction of the facility.
 - (4) A discussion of plans for disposition of contaminated soil and hazardous materials generated or encountered during construction.
 - (5) The height of tallest anticipated above ground structures. For construction activities within the vicinity of airports or landing strips, provide the maximum possible height of construction equipment as well as all installed above ground structures.
 - (6) A description of the plans for construction during excessively dusty or excessively muddy soil conditions.

Effective: 1/25/09

119.032 review dates: 11/30/13

Promulgated Under: 111.15

Statutory Authority: 4906.03

Rule Amplifies: 4906.06, 4906.03

Prior Effective Dates: 12/27/76, 11/6/78, 7/7/80, 7/7/88, 8/28/98, 12/15/03

4906-15-05 Financial data.

- (A) **Ownership.** The applicant shall state the current and proposed ownership status of the proposed facility, including sites, rights-of-way, structures, and equipment. The information shall cover sole and combined ownerships, any leases, options to purchase, or franchises, and shall specify the extent, terms, and conditions of ownership, or other contracts or agreements.
- (B) **Electric capital costs.** The applicant shall submit estimates of applicable capital and intangible costs for the various components of electric power transmission facility alternatives. The data submitted shall be classified according to the federal energy regulatory commission uniform system of accounts prescribed by the public utilities commission of Ohio for the utility companies, unless the applicant is not an electric light company, a gas company or a natural gas company as defined in Chapter 4905. of the Revised Code (in which case, the applicant shall file the capital costs classified in the accounting format ordinarily used by the applicant in its normal course of business). The estimates shall include:
- (1) Land and land rights.
 - (2) Structures and improvements.
 - (3) Substation equipment.
 - (4) Poles and fixtures.
 - (5) Towers and fixtures.
 - (6) Overhead conductors.
 - (7) Underground conductors and insulation.
 - (8) Underground-to-overhead conversion equipment.
 - (9) Right-of-way clearing and roads, trails, or other access.
- (C) **Gas capital cost.** The applicant shall submit estimates of applicable capital and intangible costs for the various components of gas transmission facility alternatives. The data submitted shall be classified according to the federal energy regulatory commission uniform system of accounts prescribed by the public utilities commission of Ohio for utility companies, unless the applicant is not an electric light company, a gas company or a natural gas company as defined in Chapter 4905. of the Revised Code (in which case, the applicant shall file the capital costs classified in the accounting format ordinarily used by the applicant in its normal course of business). The estimates shall include:
- (1) Land and land rights.
 - (2) Structures and improvements.
 - (3) Pipes.
 - (4) Valves, meters, boosters, regulators, tanks, and other equipment.
 - (5) Roads, trails, or other access.

Effective: 12/15/2003

119.032 review dates: 9/30/13

Promulgated Under: 111.15

Statutory Authority: 4906.03

Rule Amplifies: 4906.06, 4906.03

Prior Effective Dates: 12/27/76, 11/6/78, 7/7/80, 3/14/83, 1/15/85, 7/7/88, 6/5/93, 8/28/98

4906-15-06 Socioeconomic and land use impact analysis

- (A) The applicant shall conduct a literature search and map review for the area within one thousand feet on each side of each proposed transmission line centerline and within one thousand feet of the perimeter of each substation or compressor station designed to identify specific land use areas as required in paragraph (B)(3) of this rule. On-site investigations shall be conducted within one hundred feet of each side of each proposed transmission line centerline and within one hundred feet of the perimeter of each substation or compressor station to characterize the potential effects of construction, operation, and maintenance of the proposed facility.
- (B) The applicant shall provide, for each of the site/route alternatives and adjacent areas, map(s) of not less than 1:24,000 scale, including the area one thousand feet on each side of a transmission alignment, and the area within the immediate vicinity of a substation site, which map(s) shall include the following features:
 - (1) Proposed approximate centerline for each transmission line alternative being proposed.
 - (2) Proposed substation or compressor station locations.
 - (3) General land use, depicted as areas on the maps, including, but not limited to:
 - (a) Residential use.
 - (b) Commercial use.
 - (c) Industrial use.
 - (d) Cultural use (as identified in paragraph (F) of this rule).
 - (e) Agricultural use.
 - (f) Recreational use.
 - (g) Institutional use (e.g., schools, hospitals, churches, government facilities, etc.).
 - (4) Transportation corridors.
 - (5) Existing utility corridors.
 - (6) Noise-sensitive areas.
 - (7) Agricultural land (including agricultural district land) existing at least sixty days prior to submission of the application located within each transmission line right-of-way or within each site boundary.
- (C) The applicant shall provide for each of the site/route alternatives, a description of the impact of the proposed facility on each land use identified in paragraph (B)(3) of this rule. As it relates to agricultural land, the description shall include the acreage impacted and the applicant's evaluation of impacts to cultivated land, permanent pasture land, managed wood lots, orchards, nurseries, and agricultural-related structures.

- (1) Provide the number of residential structures within one thousand feet of the proposed facility, and identify all residential structures for which the nearest edge of the structure is within one hundred feet of the proposed facility.
 - (2) Construction: The applicant shall estimate the probable impact of the proposed facility on each land use (including: (a) buildings that will be destroyed, acquired, or removed as the result of the planned facility and criteria for owner compensation; and (b) field operations [such as plowing, planting, cultivating, spraying, and harvesting], irrigation, and field drainage systems).
 - (3) Operation and maintenance: The applicant shall estimate the probable impact of the operation and maintenance of the proposed facility on each land use.
 - (4) Mitigation procedures: The applicant shall describe the mitigation procedures to be used during the construction of the proposed facility and during the operation and maintenance of the proposed facility to minimize impact to land use, such as effects on subsurface field drainage systems.
- (D) The applicant shall provide the following public interaction information for each of the site/route alternatives:
- (1) A list of counties, townships, villages, and cities within one thousand feet on each side of the centerline or facility perimeter.
 - (2) A list of the public officials contacted regarding the application, their office addresses, and office telephone numbers.
 - (3) A description of the program or company/public interaction planned for the siting, construction, and operation of the proposed facility, i.e. public information programs.
 - (4) A description of any insurance or other corporate program, if any, for providing liability compensation for damages, if such should occur, to the public resulting from construction or operation of the proposed facility.
 - (5) A description of how the facility will serve the public interest, convenience, and necessity.
 - (6) An estimate of the increase in tax revenues as a result of facility placement.
 - (7) A description of the impact of the facility on regional development, referring to pertinent formally adopted regional development plans.
- (E) The applicant shall provide the following health, safety, and aesthetic information for each site/route alternative:
- (1) The applicant shall provide a description of how the facility will be constructed, operated, and maintained to comply with the requirements of applicable state and federal statutes and regulations, including the 2002 edition of the "National Electrical Safety Code", applicable occupational safety and health administration regulations, U.S. department of transportation gas pipeline safety standards, and Chapter 4901:1-16 of the Administrative Code.
 - (2) For electric power transmission facilities, the applicant shall discuss the production of electric and magnetic fields during operation of the preferred and alternate site/route. If more than one conductor configuration is to be used on the proposed facility, information shall be provided for each configuration that constitutes more than ten per cent of the total line length, or more than one mile of the total line length being certificated. Where an alternate structure design is submitted, information shall also be provided on the alternate structure. The discussion shall include:

- (a) Calculated electric and magnetic field strength levels at one meter above ground, under the conductors and at the edge of the right-of-way for:
 - (i) Winter normal conductor rating.
 - (ii) Emergency line loading.
 - (iii) Normal maximum loading.

Provide corresponding current flows, conductor ground clearance for normal maximum loading and distance from the centerline to the edge of the right-of-way. Estimates shall be made for minimum conductor height. The applicant shall also provide typical cross-section profiles of the calculated electric and magnetic field strength levels at the normal maximum loading conditions.

- (b) References to the current state of knowledge concerning possible health effects of exposure to electric and magnetic field strength levels.
 - (c) Description of the company's consideration of electric and magnetic field strength levels, both as a general company policy and specifically in the design and siting of the transmission line project including: alternate conductor configurations and phasing, tower height, corridor location and right-of-way width.
 - (d) Description of the company's current procedures for addressing public inquiries regarding electric and magnetic field strength levels, including copies of informational materials and company procedures for customer electric and magnetic field strength level readings.
- (3) The applicant shall discuss the aesthetic impact of the proposed facility with reference to plans and sketches, including the following:
- (a) The views of the proposed facility from such sensitive vantage points as residential areas, lookout points, scenic highways, and waterways.
 - (b) Structure design features, as appropriate.
 - (c) How the proposed facility will likely affect the aesthetic quality of the site and surrounding area.
 - (d) Measures that will be taken to minimize any visual impacts created by the proposed facility.
- (4) For electric power transmission facilities, the applicant shall provide an estimate of the level of radio and television interference from operation of the proposed facility, identify the most severely impacted areas, if any, and discuss methods of mitigation.

(F) The applicant shall provide, for each of the site/route alternatives, a description of the impact of the proposed facility on cultural resources. This description shall include potential and identified recreational areas and those districts, sites, buildings, structures, and objects which are recognized by, registered with, or identified as eligible for registration by the Ohio historical society or the Ohio department of natural resources. It shall include but not be limited to the following:

- (1) Location studies: The applicant shall describe studies used to determine the location of cultural resources within the study corridor. Correspondence with the Ohio historical preservation office shall be included.
- (2) Construction: The applicant shall estimate the probable impact of the construction of the proposed facility on cultural resources.

- (3) Operation and maintenance: The applicant shall estimate the probable impact of the operation and maintenance of the proposed facility on cultural resources.
 - (4) Mitigation procedures: The applicant shall describe the mitigation procedures to be used during the operation and maintenance of the proposed facility to minimize impact to cultural resources.
- (G) The applicant shall submit data and related information on noise emissions generated by the proposed transmission line and associated facilities. Construction noise information shall be submitted for only those portions of transmission line routes requiring more than four months of actual construction time to complete in residential, commercial, and other noise-sensitive areas.
- (1) Construction: To assure noise control during construction, the applicant shall estimate the nature of any intermittent, recurring, or particularly annoying sounds from the following sources:
 - (a) Dynamiting or blasting activities.
 - (b) Operation of earth moving and excavating equipment.
 - (c) Driving of piles.
 - (d) Erection of structures.
 - (e) Truck traffic.
 - (f) Installation of equipment.
 - (2) Operation and maintenance: The applicant shall estimate the effect of noise generation due to the operation or maintenance of the transmission line and associated facilities.
 - (3) Mitigation procedures: The applicant shall describe any equipment and procedures designed to mitigate noise emissions during both the site clearing and construction phase, and during the operation and maintenance of the facility to minimize noise impact.
- (H) The applicant shall provide site-specific information that may be required in a particular case to adequately describe other significant issues of concern that were not addressed above. The applicant shall describe measures that were taken and/or will be taken to avoid or minimize adverse impact. The applicant shall describe public safety-related equipment and procedures that were and/or will be taken.

Effective: 1/25/09

119.032 review dates: 11/30/13

Promulgated Under: 111.15

Statutory Authority: 4906.03

Rule Amplifies: 4906.06, 4906.03

Prior Effective Dates: 10/10/78, 6/5/93, 8/28/98, 12/15/03

4906-15-07 Ecological impact analysis.

- (A) The applicant shall provide a summary of any studies that have been made by or for the applicant on the natural environment in which the proposed facility will be located. The applicant shall conduct and report the results of a literature search, including map review, for the area within one thousand feet on each side of a transmission line alignment and the area within the immediate vicinity of a substation or compressor station site. On-site investigations shall be conducted within one hundred feet on each side of a transmission line centerline or within one hundred feet of a substation or compressor station site to characterize the potential effects of construction, operation, or maintenance of the proposed facility.

- (B) The applicant shall provide for each of the site/route alternatives a map(s) of not less than 1:24,000 scale, including the area one thousand feet on each side of the transmission line alignment and the area within the immediate vicinity of a substation site or compressor station site. The map(s) shall include the following:
- (1) Proposed transmission line alignments.
 - (2) Proposed substation or compressor station locations.
 - (3) All areas currently not developed for agricultural, residential, commercial, industrial, institutional, or cultural purposes including:
 - (a) Streams and drainage channels.
 - (b) Lakes, ponds, and reservoirs.
 - (c) Marshes, swamps, and other wetlands.
 - (d) Woody and herbaceous vegetation land.
 - (e) Locations of threatened or endangered species.
 - (4) Soil associations in the corridor.
- (C) The applicant shall provide for each of the site/route alternatives a description of each stream or body of water (and associated characteristics including floodplain) that is present and may be affected by the proposed facility, including but not limited to the following:
- (1) Construction: The applicant shall estimate the probable impact of the construction of the proposed facility on streams and bodies of water. This shall include the impacts from route clearing.
 - (2) Operation and maintenance: The applicant shall estimate the probable impact of the operation and maintenance of the proposed facility after construction on streams and bodies of water. This shall include the permanent impacts from route clearing.
 - (3) Mitigation procedures: The applicant shall describe the mitigation procedures to be used during construction of the proposed facility and during the operation and maintenance of the proposed facility to minimize the impact on streams and bodies of water.
- (D) The applicant shall provide for each of the site/route alternatives a description of each wetland that is present and may be affected by the proposed facility. The applicant shall describe the probable impact on these wetlands, including but not limited to the following:
- (1) Construction: The applicant shall estimate the probable impact of the construction of the proposed facility on wetlands and wildlife habitat.
 - (2) Operation and maintenance: The applicant shall estimate the probable impact of the operation and maintenance of the proposed facility after construction on wetlands and wildlife habitat. This would include the permanent impacts from route clearing and any impact to natural nesting areas.
 - (3) Mitigation procedures: The applicant shall describe the mitigation procedures to be used during construction of the proposed facility and during the operation and maintenance of the proposed facility to minimize the impact on wetlands and wildlife habitat.
- (E) The applicant shall provide for each of the site/route alternatives a description of the naturally occurring vegetation that is present and may be affected by the proposed facility. The applicant shall describe the

probable impact to the environment from the clearing and disposal of this vegetation, including but not limited to the following:

- (1) Construction: The applicant shall estimate the probable impact of the construction of the proposed facility on the vegetation. This would include the impacts from route clearing, types of vegetation waste generated, and the method of disposal or dispersal.
 - (2) Operation and maintenance: The applicant shall estimate the probable impact of the operation and maintenance of the proposed facility after construction on species described above. This would include the permanent impact from route clearing and any impact to natural nesting areas.
 - (3) Mitigation procedures: The applicant shall describe the mitigation procedures to be used during construction of the proposed facility and during the operation and maintenance of the proposed facility to minimize the impact on species described above.
- (F) The applicant shall provide for each of the site/route alternatives a description of each major species of commercial or recreational value and species designated as endangered or threatened, in accordance with U.S. and Ohio species lists, that is present and may be affected. The applicant shall describe the probable impact to the habitat of the species described above, including but not limited to the following:
- (1) Construction: The applicant shall estimate the probable impact of the construction of the proposed facility on commercial, recreational, threatened, or endangered species. This would include the impacts from route clearing and any impact to natural nesting areas.
 - (2) Operation and maintenance: The applicant shall estimate the probable impact of the operation and maintenance of the proposed facility after construction on species described above. This would include the permanent impact from route clearing and any impact to natural nesting areas.
 - (3) Mitigation procedures: The applicant shall describe the mitigation procedures to be used during construction of the proposed facility and during the operation and maintenance of the proposed facility to minimize the impact on species described above.
- (G) The applicant shall provide for each of the site/route alternatives a description of the areas with slopes and/or highly erodible soils (according to the natural resource conservation service and county soil surveys) that are present and may be affected by the proposed facility. The applicant shall describe the probable impact to these areas, including but not limited to the following:
- (1) Construction: The applicant shall provide a description of the measures that will be taken to avoid or minimize erosion and sedimentation during the site clearing, access road construction, facility construction process, and any other temporary grading. If a storm water pollution prevention plan is required for the proposed facility, the applicant shall include the schedule for the preparation of this plan.
 - (2) Operation and maintenance: The applicant shall describe and estimate the probable impact of the operation and maintenance of the proposed facility after construction on the environment. This would include permanent impacts from sites where grading has taken place.
 - (3) Mitigation procedures: The applicant shall describe the mitigation procedures to be used during construction of the proposed facility and during operation and maintenance of the proposed facility to minimize the impact on the environment due to erosion from storm water run-off.
- (H) The applicant shall provide site-specific information that may be required in this particular case to adequately describe other significant issues of concern that were not addressed above. The applicant shall describe measures that were taken and/or will be taken to avoid or minimize adverse impacts. The applicant shall describe public safety-related equipment and procedures that were and/or will be taken.

Effective: 12/15/2003

119.032 review dates: 9/30/13

Promulgated Under: 111.15

Statutory Authority: 4906.03

Rule Amplifies: 4906.06, 4906.03

Prior Effective Dates: 10/10/78, 3/20/87, 8/28/98

4906-15-01 PROJECT SUMMARY AND FACILITY OVERVIEW**(A) PROJECT SUMMARY AND FACILITY OVERVIEW**

This Application seeks a Certificate of Environmental Compatibility and Public Need ("Certificate") from the Ohio Power Siting Board ("Board") for the Clinic Hospital Substation Project ("Project") proposed by The Cleveland Electric Illuminating Company ("CEI") and American Transmission Systems, Incorporated ("ATSI"), the Applicants, wholly owned subsidiaries of FirstEnergy Corp. The scope of the project involves installing the new Clinic Hospital Substation ("CH Substation") in the City of Cleveland, Ohio. The new CH Substation will serve as a transmission switching substation with 138 to 36 kV transformation. CEI and ATSI will construct, maintain, operate and own the proposed substation. A Preferred Site and an Alternate Site for the project are proposed in this Application. Both sites are currently paved parking lots owned by The Cleveland Clinic Foundation d.b.a. Cleveland Clinic Health System ("Cleveland Clinic").

The Board has jurisdiction over major utility facility installations located wholly within the state of Ohio. As the CH Substation can operate as a transmission switching substation, it is considered a major utility facility by the Board. Consequently, under Ohio law, CEI and ATSI are required to file this Application with the Board for a Certificate for the proposed Project. This Application contains specific project details regarding environmental, socioeconomic, technical, ecological, justification of need, and financial matters.

(1) General Purpose of the Facility

The proposed Project is needed to respond to anticipated load growth and to provide redundancy to the electric system serving the Cleveland Clinic's Main Campus. The numerous facilities of the Cleveland Clinic's Main Campus are located near or within the area generally bounded by East 88th street on the west, Stokes Boulevard on the east, Chester Avenue on the north, and Cedar Avenue on the south.

(2) Summary Description

The proposed Project will result in the installation of a new 138 kV to 36 kV substation that will include four 138 kV to 36 kV transformers which will serve the Cleveland Clinic's Main Campus. Four 138 kV connections, created by looping the existing Inland-Jordan Q-11 and Q-14 138 kV transmission lines to the substation, will energize the CH Substation. The proposed alignments and details for the transmission line loops to the proposed CH Substation will be provided in a Letter of Notification to be submitted to Board under separate cover. From the new substation, energy delivery to the hospital will be provided through a 36 kV underground distribution network and four distribution substation that are not within the jurisdiction of the Board.

The Preferred Site of the CH Substation is located on an approximately 2.8 acre property parcel situated at the southeast corner of the intersection of Cedar Avenue and Stokes Boulevard. The Cleveland Clinic owns the majority of this property and currently utilizes it as a parking lot. The Cleveland Clinic and the adjoining property owner, Case Western Reserve University, have entered into an agreement that provides for a small property swap of part of the Preferred Site, to facilitate the use of the site for the construction of the Project. Access to the substation will be from Cedar Avenue to the north via a permanent access drive located to the east of the current entrance to the existing parking lot.

The Alternate Site of the CH Substation is located on an approximately 3.4 acre property parcel situated at the northeast corner of the intersection of Cedar Avenue and East 105th Street. The Cleveland Clinic owns this property and currently utilizes it as a parking lot. Access to the Alternate Site will be from Cedar Avenue to the south via a permanent access drive.

(3) Site Selection Process

A Site Selection Study was conducted to identify and evaluate potential sites for the CH Substation. The Site Selection Study information is provided in this Application in Section 3. The goal of the Site Selection Study was to identify viable site locations based on the siting criteria, while avoiding or limiting impacts to sensitive land uses, ecological, and cultural features in the project vicinity. Potential sites were evaluated, compared and ranked to aid the selection of a Preferred and an Alternate Site by CEI

and ATSI. Based on the need for the Project and considering the location and needed configuration for the new substation, the following criteria were required for the new substation location:

1. The substation site must have at least 2 acres available to be developed to meet the minimum requirements for the substation footprint.
2. The substation site must be adjacent or in close proximity to the Inland-Jordan Q-11 and Q-14 138 kV transmission lines.
3. The substation site should avoid to the maximum extent possible the need to purchase and demolish residential areas (in this area, 2 acres generally represents a city block).
4. The substation site must be adjacent or in close proximity to the 36 kV distribution system serving the Cleveland Clinic.

The identification of candidate sites meeting these conditions was constrained by the dense urban nature of the surrounding vicinity. Applicants identified and evaluated six sites that met the substation criteria identified above. The results of the Site Selection Study identified Site 1, a Cleveland Clinic-owned property located at the southeast corner of Stokes Boulevard and Cedar Avenue as the best overall candidate site. This site was subsequently identified as the Preferred Site in this Application. Selection of an Alternate Site from the other 5 candidate sites was complicated because of the similarity between the impacts of constructing the substation on any of these 5 sites and the fact that all 5 sites were significantly less desirable than Site 1. Ultimately, Site 3, another Cleveland Clinic-owned property at the northeast corner of Cedar Avenue and East 105th Street, Site 5 at the southeast corner of East 105th Street and Norman Avenue, and Site 6, located south of Quincy Avenue and a railroad corridor were identified as potential Alternate Sites in the Site Selection Study and studied further.

Based on the selection criteria and on-site evaluation, the Applicants identified Site 1 as the best candidate for the Preferred Site and Site 3 as the best candidate for the Alternate Site based on, among other considerations, the size of the properties, the ability to connect to the 138 kV transmission lines, the absence of residences on the properties, and the proximity of both sites to the 36 kV distribution infrastructure. Based

on the Site Selection Study and the subsequent qualitative evaluation of all the sites, Site 1 was deemed better than all other options and was therefore chosen as the Preferred Site. Both the Preferred and Alternate Sites were presented to the Cleveland Clinic, the City of Cleveland, and at a public meeting held on May 17, 2011. Site 1 continued as the Applicants' preference for the Preferred Site following these meetings. The Applicants selected Site 1 as the Preferred Site and Site 3 as the Alternate Site for submittal to the Board in this Application.

(4) Principal Environmental and Socioeconomic Considerations

Applicants performed a socioeconomic survey of the study area that included preparation of a land use map, review of the current population estimates and expected population growth in the area, consideration of the Project's compatibility with local and regional development plans, and a qualitative assessment of the impact of the proposed substation on the surrounding community.

(a) Land Use Impacts: The Project proposes to construct a new substation on one of two existing Cleveland Clinic parking lots. The Project vicinity around both the Preferred and Alternate sites is an urban area with mixed land use. No conversion of land uses beyond the properties proposed for the substation is planned. Sensitive land uses within 1,000 feet of the Preferred Site include 21 residences, four churches, one school, and two parks. None of these noise sensitive areas are located within 100 feet of the Preferred Site. Impacts to these areas are expected to be minimal if the Project is constructed at the Preferred Site. Sensitive areas within 1,000 feet of the Alternate Site include 75 residences, one hospital, and five churches. Two of the residences are within 100 feet east of the Alternate Site. None of the other noise sensitive areas are located within 100 feet of the Alternate Site. Aesthetic impacts, while varying based on the viewer and vantage point, are likely for the two residences adjacent to the Alternate Site. Impacts associated with the 138 kV interconnects would also be greater for the Alternate Site due to both the increased length and the construction of overhead lines through an urban area. Based on a review of available land use plans, and contacts with local agencies, neither the Preferred nor Alternate Sites are inconsistent or incompatible with local or regional development projects. Overall, the Preferred Site has fewer land use impacts.

(b) **Economic Impacts:** The proposed Project is needed to respond to anticipated load growth and to provide redundancy to the electric distribution system serving the Cleveland Clinic's Main Campus, a major employer in the region. Thus, the Project is anticipated to have an indirect positive impact on regional development. The construction process of the Project is anticipated to have a small, but positive, impact on the local economy. A portion of the labor for the construction and materials of the facility is likely to be drawn from local sources.

(c) **Ecological Impacts:** Applicants performed an ecological study of the Preferred and Alternate sites. The study included analysis of published literature and maps and a field survey to assess the presence of endangered plant and animal species, streams, and wetlands. The Preferred and Alternate sites were field surveyed for vegetation, habitat of endangered plants and animals, streams, and wetlands. The results of this survey are discussed in detail in Section 7 of this Application. Based on desktop review, a water treatment facility and associated reservoir is located across a railroad corridor and Stokes Boulevard approximately 500 feet to the south and southwest of the Preferred Site. These areas were mapped by the National Wetland Inventory (NWI). Doan Brook is mapped approximately 1,000 feet to the southeast of the Preferred Site in Ambler Park. No other wetlands, marshes, swamps, or streams were mapped within 1,000 feet of the Preferred or Alternate sites. Based on field reconnaissance, no streams, wetlands, ponds, or threatened and endangered species habitat areas were identified within 100 feet of the Preferred or Alternate sites. No filling or work in streams, ponds, wetlands or other water bodies are anticipated during construction of the proposed CH Substation at either the Preferred or Alternate sites.

Based on a desktop review of U.S. Fish and Wildlife Service ("USFWS") published documentation, records on the Ohio Department of Natural Resources' ("ODNR") Biodiversity Database, and correspondence from ODNR, a total of 24 threatened or endangered species of concern are listed within Cuyahoga County. None of these species were observed during the field investigation of the Preferred or Alternate sites. In a correspondence response dated May 12, 2011, USFWS noted that due to the project type, size, and location, no impact to federally listed endangered, threatened, or candidate species or their habitats is anticipated. No federal wilderness areas, wildlife refuges, or designated critical habitat were reported within the Project area. The ODNR Biodiversity Database shapefile received October 21, 2010 identified one state-listed

threatened species, the peregrine falcon, in the project area. This record of the peregrine falcon is located approximately 2,200 feet northwest of the Preferred Site and 800 feet northwest from the Alternate Site. The record appears to be at one of the larger buildings on the Cleveland Clinic's main campus and will not be impacted by the Project.

Storm water best management practices such as placement of silt fencing will be employed where necessary to mitigate potential erosion and degradation during construction.

(d) Cultural Impacts: No previously recorded archeological sites were recorded by the Ohio Historical Preservation Office within 1,000 feet of the Preferred Site. One National Register of Historic Places (NRHP) structure, one NRHP district, and two Ohio Historic Inventory (OHI) structures were identified within 1,000 feet of the Preferred Site, the closest of which is 850 feet to the southeast. No previously recorded archeological sites or NRHP districts were recorded by the Ohio Historical Preservation Office within 1,000 feet of the Alternate Site. One NRHP structure and six OHI structures were identified within 1,000 feet of the Alternate Site, the closest of which was mapped adjacent to the northeast of the Project. No impacts to cultural resources are anticipated as a result of the Project.

(e) Other Environmental Impacts: No other potential environmental impacts beyond those discussed above are expected as a result of this Project.

(5) Project Schedule Summary

The CH Substation Project is anticipated to be placed in-service to meet expected load requirements by mid- 2015. Construction is proposed to begin in 2013.

(B) INFORMATION FILED IN RESPONSE TO REQUIREMENTS

The information filed in response to the requirements of Administrative Core Rule 4906-15-01 is in addition to information in any other section of the CH Substation Project Application for a Certificate.

Ohio Power Siting Board Process

The Board has jurisdiction over major substation and transmission line installations located wholly within the state of Ohio. As such, CEI and ATSI are required to file an

application with the Board for a Certificate of Environmental Compatibility and Public Need. This Application contains specific project details regarding environmental, socioeconomic, technical, ecological, justification of need, and financial matters.

The Board process is initiated with a pre-application public information meeting held by the Applicant within the general project area. This meeting is intended to provide general project information to the local residents and to detail upcoming Board activities and was held for the Project on May 17, 2011. Next, the Application is filed with the Board. The Board then has 60 days to either certify the application filing as complete, or identify the Application as incomplete and notify the Applicant by mail of the specific grounds for concluding the Application is incomplete. Upon receiving a completeness determination, the Applicant is required to serve a copy of the complete Application on the chief executive officer of each municipal corporation and county, and the head of each public agency charged with the duty of protecting the environment or of planning land use in the area in which any portion of the project is to be located.

After complete applications have been served in the general project area, the Board schedules public hearings. The Applicant is then required to provide two separate public notices of the project and upcoming hearings in newspapers of general circulation within the project area. The first public notice is to be published within 7 days of the complete Application service date, and the second public notice is to be published at least seven but not more than 21 days prior to the public hearing. In addition, the Applicant shall send a letter describing the facility to each property owner within the planned site or right-of-way of the proposed facility and to each property owner who may be approached by the applicant for any additional easement necessary for the construction, operation, or maintenance of the facility. The Board Staff is to conduct an investigation of the complete Application and submit a written report not less than fifteen days prior to the beginning of public hearings.

One session of the Public Hearings for the project is usually held at a convenient location within the general project area with the other session(s) held at the principal office of the Board. An Administrative Law Judge appointed by the Chairman of the Board will preside over the hearings. The Administrative Law Judge will regulate the proceedings and provide members of the public opportunity during a portion of the

hearing to offer testimony. Within a reasonable time after conclusion of the hearings, the Board shall issue a final decision based on the record of the proceedings.

(C) PREPARATION OF HARD COPY MAPS

Digital, geographical referenced data used in the preparation of maps for the CH Substation Project Application for a Certificate of Environmental Compatibility and Public Need will be provided under separate cover and submitted concurrent with the Application.

4906-15-02 REVIEW OF NEED FOR PROPOSED PROJECT

(A) JUSTIFICATION OF NEED

(1) Purpose of the Proposed Facility

The purpose of the proposed Clinic Hospital (CH) Substation Project ("Project") is to provide increased electrical capacity at a high level of reliability to the Cleveland Clinic's Main Campus facilities in Cleveland, Ohio.

(2) System Conditions, Local Requirements and Other Pertinent Factors

Cleveland Clinic Reliability and Expansion Needs: The Cleveland Clinic, a world renowned medical facility, has articulated the need for - and actively pursued - a highly reliable electric service for their main hospital campus. The Cleveland Clinic is a major institution in Cleveland, both in terms of their size and their prominence in the medical industry.

The Cleveland Clinic requested as part of its review of the infrastructure supporting the hospital, both as part of existing operations and in conjunction with a planned expansion, that The Cleveland Electric Illuminating Company ("CEI") improve the capacity and reliability of the electric service to the hospital through the construction of a new 138 kV transmission supplied substation and redundant loop configured service that follows independent routes to the Cleveland Clinic's facilities. The Cleveland Clinic's expansion is projected to nearly double their load to approximately 90 MVA over the next several years.

The Public Utilities Commission of Ohio has previously considered the Cleveland Clinic's expansion in Docket 10-388-EL-SSO, *In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company, and the Toledo Edison Company for Authority to Establish a Standard Service Offer Pursuant to Section 4928.143, Revised Code*, when it considered the Electric Security Plan proposed in that case. In its August 25, 2010 Opinion and Order, the Public Utilities Commission of Ohio ordered the following regarding the Cleveland Clinic's expansion plans:

(25) CEI shall be responsible for the cost of the electric utility plant, facilities, and equipment to support the Cleveland Clinic's Main Campus expansion plan to the extent that such cost might otherwise be demanded by CEI from the Clinic in the form of a contribution in aid of construction or otherwise. CEI shall be entitled to classify the original cost of investment made in utility plant, facilities, and equipment at or below the subtransmission level as distribution plant in service subject to the Commission's jurisdiction for ratemaking purposes at the time of the next base rate case. The first \$70 million of the original cost of such plant, facilities, and equipment shall be funded by a nonbypassable distribution rider that shall apply to retail residential, commercial, and industrial customers (exclusive of customers on rates schedules STL, TRF, and POL). Further, Cleveland Clinic will be obligated to work in good faith to install cost-effective energy efficiency measures in its facilities, with, where needed, the assistance of an independent energy facility auditor selected by Cleveland Clinic with input from the Companies and Staff. Cleveland Clinic will work with the Companies and Staff for the purpose of committing its new-customer-sited capabilities to the Companies for integration in their Section 4928.55, Revised Code, benchmarks in exchange for the Companies' investment in the distribution utility plant, facilities, and equipment (id. at 27-28).

Existing Services to Cleveland Clinic: Presently, CEI provides multiple service voltages from radial sub-transmission and distribution systems to the Cleveland Clinic's Main Campus, including critical care and research facilities. CEI's Ivy Substation supplies three predominately overhead 36 kV circuits to the main 36 kV to 11 kV substation "CCL" on East 89th Street and two underground 36 kV circuits to the 36 kV to 11 kV substation "CCL-2" on East 105th Street. CEI's Lakeshore Substation supplies five underground 11 kV services and its Iona Substation supplies six predominantly underground 4 kV services to various Cleveland Clinic Main Campus buildings.

At the main East 89th Street "CCL" Substation, each of the three incoming 36 kV circuits supply three 11/14 MVA transformers owned by CEI to an 11 kV bus with normally closed bus tie breakers owned by the Cleveland Clinic. Each 36 kV supply circuit is equipped with automatic switching to keep two transformers in-service in the event of a 36 kV supply contingency. Two of the 36 kV supply circuits have dual circuit construction sharing the same pole, creating a risk of a double-circuit outage for one event. Transfer-trip protective relaying exists from Ivy Substation.

At the East 105th Street "CCL-2" Substation, two 36 kV supply circuits owned by CEI supply two Cleveland Clinic owned 12 MVA transformers and 11 kV buses with normally open bus tie breakers. There are plans to install a third 36 kV supply circuit and transformer. Transfer-trip protective relaying exists from Ivy Substation.

At each substation the Cleveland Clinic normally operates their equipment following an "N-1" reliability philosophy, i.e., one transformer can be removed from service without loss of service to the Cleveland Clinic.

Need for Project: The existing CEI services have adequate capacity to supply the current Cleveland Clinic load. However, to provide capacity for the load expansion associated with the planned expansion of the hospital and significantly improve service reliability, substantial rebuilding of CEI's existing overhead and underground sub-transmission, distribution and substation infrastructure would be required. In addition, new sub-transmission sources and routes from the Ivy Substation to a new substation located on the Cleveland Clinic's Main Campus would also need to be identified and constructed.

Even though these infrastructure improvements would provide capacity for the load expansion and increase service reliability, they would not provide the same level of reliability as the proposed Project. Sub-transmission and distribution system operating issues, such as single circuit feeds that could result in momentary outages from overhead exposure, would remain.

In the past, the Cleveland Clinic has requested a new substation from CEI supplied from the 138 kV transmission system, with a loop configuration where the supply lines take independent routes to their destination to provide redundant service to their facilities.

Overview of Proposed Project: The proposed project includes the new 138 kV to 36 kV CH Substation Project, new 36 kV underground loop system and four new 36 kV to 11 kV substations.

The proposed CH Substation consists of looping and connecting two existing 138 kV transmission circuits in a 138 kV breaker-and-a-half scheme to establish four 138 kV sources to the new 138 kV to 36 kV Substation. The 4-bank substation is to supply the projected 90 MVA of load which is to be distributed in an underground loop configuration to each pair of four new 36 kV to 11 kV, 3-bank substations strategically located throughout the Cleveland Clinic's Main Campus. The 138 kV to 36 kV Substation is capable of operating at 120 MVA to provide for additional growth potential.

The overall system is to operate at an "N-2" level of reliability, i.e., any two system components can be removed from service without consequential loss of service to the Cleveland Clinic. This would include any two 138 kV sources, 138 kV to 36 kV transformers, 36 kV buses, 36 kV breakers, 36 kV circuits and 36 kV to 11 kV transformers. Please note that this level of reliability exceeds the North American Electric Reliability Corporation (NERC) reliability standards used to evaluate the Bulk Electric System (BES), which allows certain amounts of consequential loss of load for N-1 and N-2 contingencies, but is necessary for this Project to support the critical operations of the Cleveland Clinic Hospital.

The 138 kV to 36 kV Substation is capable of providing 120 MVA of capacity at an N-2 level of reliability and will operate with normally closed 36 kV bus tie breakers for increased reliability. Each of the four 36 kV to 11 kV substations are capable of providing 30 MVA of capacity at an N-2 level of reliability and may operate with normally closed 11 kV bus tie breakers for increased reliability. The 138 kV to 36 kV Substation is to be owned by CEI and American Transmission Systems, Incorporated ("ATSI"). Additionally some 138 kV off-site and fiber optic communications work will be required.

A new underground cable, conduit, and manhole system, separate from any existing system, is to be installed to establish two loops of three 36 kV circuits and two fiber optic cables between the proposed CH Substation and the four 36 kV to 11 kV substations. The two loops provide each of the four substations with 36 kV sources and fiber optic communication from two different directions and independent routes and originate from different 36 kV buses in the proposed CH Substation.

Each of the proposed four 36 kV to 11 kV substations will consist of three independent sets of three 36 kV breaker switchgear (nine 36 kV breakers per substation) and three 36 kV to 11 kV transformers, each capable of 30 MVA during N-2 conditions. Each of the proposed four new 36-11 kV substations will be co-owned by CEI and the Cleveland Clinic and located strategically in each quadrant of the Cleveland Clinic's Main Campus.

After the new substations are placed in-service, all of the existing loads are to be transferred and the existing 36 kV services to "CCL" and "CCL-2" substations and separate 11 kV and 4 kV services removed. This will free up capacity at CEI's Ivy, Lakeshore and Iona Substations to support growth in the area.

A one line diagram of the overall proposed Project can be seen in Figure 02-2.

Proposed 138-36 kV Cleveland Clinic Substation: The proposed CH Substation is crucial to the overall project to provide increased electrical capacity at a high level of reliability to the Cleveland Clinic's Main Campus.

The proposed CH Substation connects to the 138 kV transmission system using a 138 kV breaker-and-a-half scheme arrangement to establish four 138 kV sources to the new substation. The substation is to consist of four 40/50 MVA 3-phase 138 kV to 36 kV transformers with load tap changers, grounding reactors, 36 kV bus capacitors and 36 kV breakers. The emergency rating of each transformer should be capable of 60 MVA to provide a substation total of 120 MVA during N-2 conditions. The substation is to operate with normally closed 36 kV bus tie breakers.

The substation is to include SEL protective relays, transformer load tap changer controls, capacitor bank controls, and SCADA (breaker and transformer control and status, transformer watt, var, amp, bus voltage, feeder amp, alarms, etc). The overall design should not preclude future expansion of the 36 kV system at the substation.

The 36 kV switchgear and breakers are to be housed inside of a control building. Each of the four 36 kV bus sections are to be contained in a thermally separate switchgear

unit to minimize fault of fire damage from one event. Each 36 kV bus section is to be electrically interconnected through fire stops.

The proposed Preferred Site of the CH Substation is on of the southeast corner of the intersection of Stokes Boulevard and Cedar Avenue. The proposed location is currently owned by the Cleveland Clinic and serves as a parking facility. The substation property is to be acquired by CEI from the Cleveland Clinic, the present owner of the majority of the property.

(3) Load Flow Studies

The NERC is responsible for developing and enforcing mandatory reliability standards on the Bulk Electric System ("BES"), where non-compliance is punishable with penalties of up to \$1 million per day. The NERC reliability standards dictate that the BES must be designed to operate under prescribed thermal and voltage criteria during anticipated peak loading conditions and in consideration of credible outages of elements on the BES.

Using the established NERC reliability standards as a guideline, the documented FirstEnergy planning philosophy, utilized on behalf of its affiliates including ATSI and CEI, states that the following criteria must be met given certain NERC defined outages on the BES. These outages and associated criteria are defined as follows:

- NERC Category A (N-0) requires that the FirstEnergy bulk electric system will be developed so that it can be operated at the expected peak and at lower load levels such that with the bulk electric system in its normal configuration, the loading on each facility shall not exceed the seasonal normal rating of the facility and the voltage at each substation shall be within the defined normal range.
- NERC Category B (Single element outage or N-1) states that the loss of any single generating unit, transmission line, transformer, circuit breaker, capacitor, or single pole of a bi-polar DC line will not cause bulk electric system facility loading to exceed the seasonal emergency rating of any facility or violate either the maximum deviation or the emergency minimum voltage criteria.

- NERC Category C (Multiple element outage or N-2) requires that the loss of any double-circuit bulk electric system line, bi-polar DC line, faulted circuit breaker, bus section, or the combination of facilities resulting from a line fault coupled with a stuck breaker shall not cause loadings to exceed the seasonal emergency rating of any facility or violate either the maximum deviation or the emergency minimum voltage criteria.

The analysis performed by FirstEnergy determined the effects on the BES from the addition of the Cleveland Clinic total load of 90 MVA. The analysis considered serving the requested Cleveland Clinic load under three scenarios. Please note that these scenarios were evaluated not to eliminate possible NERC criteria violations identified on the BES, but provide service to the Cleveland Clinic beyond the existing NERC reliability standards. This includes a multiple element (N-2) outage that does not consequentially cause load loss at the Cleveland Clinic facility.

Scenario 1: Utilize Existing Service at 36 kV from Ivy Substation

Presently 32 MVA is served from Ivy Substation. For the purpose of this review an additional 47.5 MVA of load (total) was added at Ivy Substation, specifically at 11.5 kV buses CCL 11.5A, CCL 11.5B and CCL 11.5C.

The load flow results showed no problems associated with serving this load addition at Ivy Substation on the bulk 138 kV transmission system. However, adding this load to the 36 kV system created criteria violations and reliability concerns at Ivy Substation.

Specifically, load flow analysis indicated that the No. 1 138 kV to 36 kV transformer at Ivy Substation will load to 105.9% of its rating under normal conditions. Without the new load, the transformer loads to 75.6% of its rating. Loss of the No. 1 transformer will load the No. 3 and No. 4 transformers to 112.1% and 128.4% respectively. Voltages at the CCL 11.5 busses drop to 83%.

Presently the loss of any of the Lloyd Substation 138 kV to 36 kV transformers overloads the remaining two transformers (109.5%). Adding the Cleveland Clinic load to the CCL 11.5 buses does not affect this overload.

Although adding the proposed Cleveland Clinic total load of 90 MVA did not cause NERC criteria violations on the BES, this scenario does not provide the level of N-2 reliability requested by the Cleveland Clinic. For example, the loss of the Q-14-IN-IV and Q-11-IN-IV 138 kV lines would remove all sources from Ivy Substation and would drop all Cleveland Clinic load served from that source. Accordingly, this scenario was rejected.

Scenario 2: Construct New 7 Breaker Ring Substation

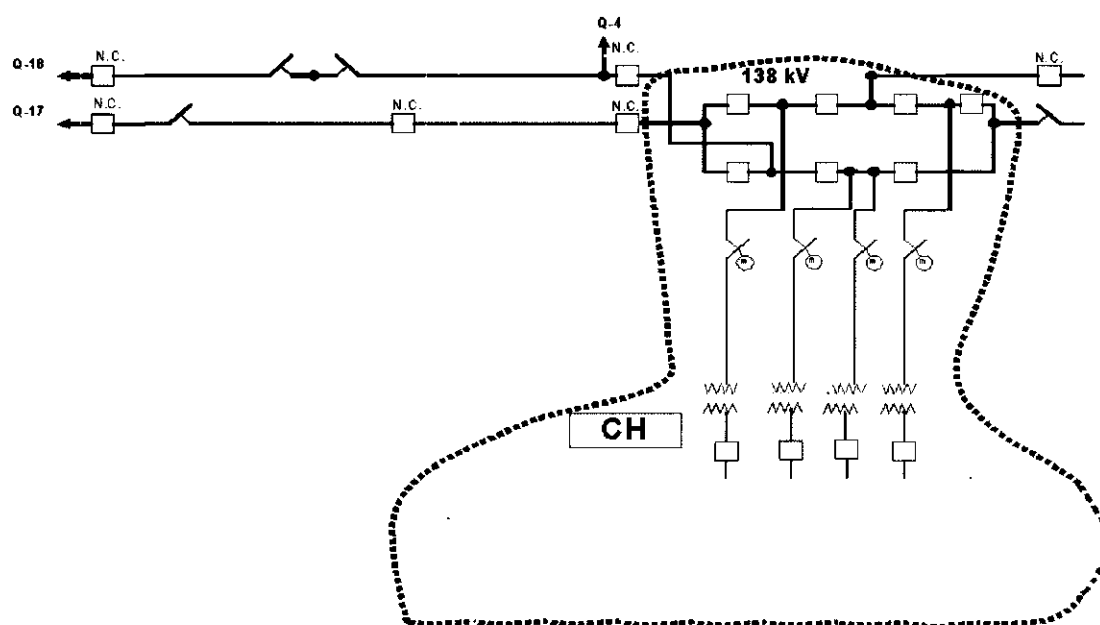


Figure 02-1

Figure 02-1 shows the new 7 Breaker Ring Substation.

Under base conditions (all lines in service), there were no line overloads or voltage criteria violations identified as a result of the new interconnection. All NERC B and NERC C Cleveland Area contingencies were reviewed. No thermal or voltage criteria violations were found for either type of contingency.

Although adding the proposed Cleveland Clinic total load of 90 MVA did not cause NERC criteria violations on the BES, this scenario does not provide the same level of

reliability as Scenario 3. There is a weakness in this scenario due to the loss of any two 138 kV breakers that are not adjacent to each other within the seven breaker ring substation. Under this outage scenario, the 138 kV Cleveland Clinic Substation bus is split into two separate buses, which could also cause through-flow on the Cleveland Clinic 138 kV to 36 kV facilities. Accordingly, this scenario was rejected.

Scenario 3: Construct New 12 Breaker Breaker-and-a-half Substation

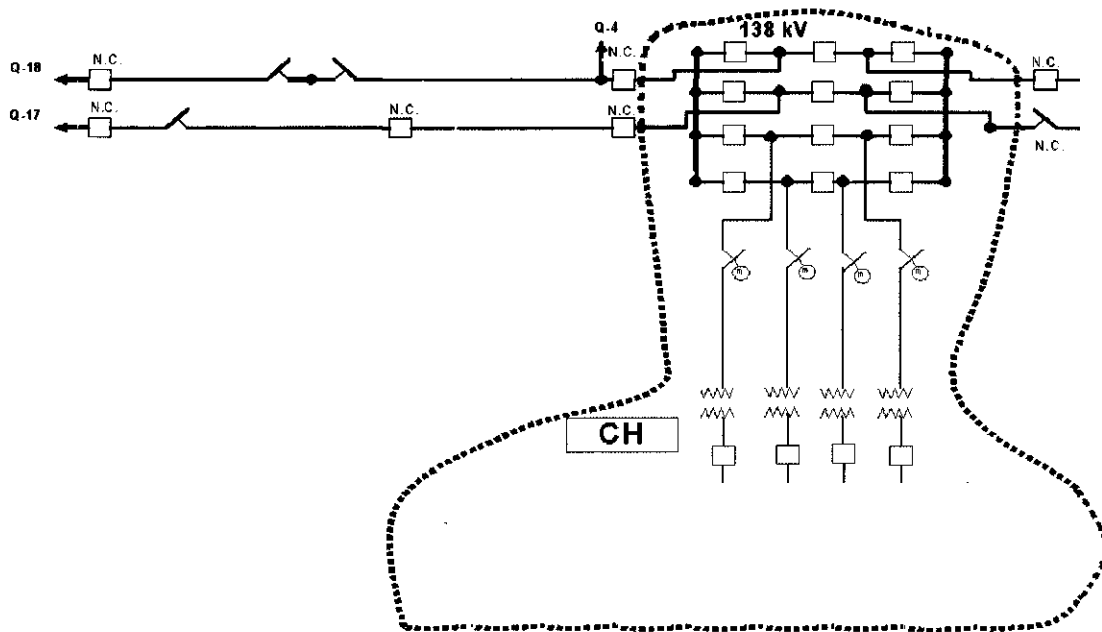


Figure 02-2

Figure 02-2 shows the new 12 Breaker Breaker-and-a-half Substation.

Under base conditions (all lines in service), there were no new line overloads or voltage criteria violations with the new interconnection. All NERC B and NERC C Cleveland Area contingencies were reviewed. No thermal or voltage criteria violations were found for either type of contingency. Accordingly, this scenario was accepted and developed into the Project.

This scenario provides the level of N-2 reliability requested by the Cleveland Clinic.

(4) Base Case Model Data

The load flow analysis was performed using General Electric's Positive Sequence Load Flow (PSLF) software application, which has the ability to model the details of transmission and distribution systems and simulate power flows and electrical bus voltages under various system conditions and configurations. Load flow models developed from the NERC/Multi-regional Modeling Working Group (MMWG) that include added detail of the ATSI system were used to perform the analysis, including projected load level increases on the ATSI and CEI systems based on FirstEnergy's official load growth forecast (depending on the type of case) and any planned system reinforcements. The load flow models were tested against a large number of system contingencies from NERC Categories B and C in order to identify any thermal overloads or voltage criteria violations.

The load flow model used for this study was developed in 2009 by the MMWG with the ATSI sub-transmission and CEI distribution system details inserted and load and generation scaled to the 2013 forecasted levels. The Cleveland Clinic load was adjusted to reflect a total consumption of 90 MVA, which includes a combination of existing and future load being consumed by the Cleveland Clinic. The existing Cleveland Clinic load at Ivy was increased to 90 MVA in the case for Scenario 1. The existing Cleveland Clinic load connected at Ivy was removed in the cases for Scenarios 2 and 3 and placed at the new Cleveland Clinic Substation bus.

(5) Base Case Data for Natural Gas Transmission Line

This application is for an electric substation, therefore this section is not applicable.

(B) EXPANSION PLANS**(1) Long-Term Forecast; and Regional Transmission Planning**

The Project conforms to the Applicants' 10-year forecast that, as required by Section 4901:5-5 of the Ohio Administrative Code, is filed annually with The Public Utilities Commission of Ohio. Specifically, the Project is identified in FirstEnergy Corp.'s 2011 Electric Long-Term Forecast Report ("LTFR") submitted to the Public Utility Commission of Ohio in Case Number 11-1435-EL-FOR.

The Project will be constructed and operated in compliance with all applicable mandatory reliability standards or other standards that are promulgated or established by NERC.

(2) Gas Transmission Lines and Associated Facilities

This application is for an electric substation, therefore this section is not applicable.

(C) SYSTEM ECONOMY AND RELIABILITY

The proposed CH Substation and the overall project will provide increased capacity at a high level of reliability to support the Cleveland Clinic's Main Campus expansion.

The electric industry generally measures system reliability under a variety of conditions, with the two most typical conditions being "normal system conditions" and "N-1 conditions." The term "normal system conditions" measures system reliability when all system components and facilities are on-line and operating as they were designed to be operated. The term "N-1 conditions" measures system reliability during periods when one component of the system is out of service, as would be the case for planned maintenance or during an unplanned outage.

The benefit of the proposed CH Substation and the overall project is that it takes this general principal to the next or higher level of reliability, to provide an "N-2" level of reliability to the Cleveland Clinic's Main Campus. The proposed CH Substation and the overall project may be reliably operated and maintained during "N-2 conditions," such that the loss of any two system components, for planned or unplanned outages, will not cause loading on the remaining components to exceed the operating ratings for these components or be subject to consequential loss of load. These system components include any two 138 kV sources, 138-36 kV transformers, 36 kV buses, 36 kV breakers, 36 kV circuits and 36-11 kV transformers.

Additional reliability benefits to the Cleveland Clinic Main Campus include a new 138 kV to 36 kV substation with four 138 kV transmission sources and 138 kV to 36 kV transformers, normally closed 36 kV bus tie breakers, underground 36 kV redundant loop system, elimination of existing overhead exposure, reduced system exposure with

load closer to source and dedicated supplies. In addition the proposed Project will increase area transmission system reliability by placing a new 138 kV interconnecting station between the Inland and Jordan substations. The terminal equipment at Inland and Jordan substations that serve the new CH Substation will also be upgraded as part of the Project. This ultimately reduces system exposure for line faults, which cause facility outages. The existing distance between the Inland and Jordan substations is 5.6 miles. However with this Project, the distance becomes 1.8 miles from Inland to the CH Substation and 3.8 miles from CH Substation to the Jordan Substation. The Project also reduces system losses in this area by 1 MW.

The proposed CH Substation and the overall project will free up capacity at Ivy, Lakeshore and Iona Substations. This capacity will be available to support area growth around the Cleveland Clinic's Main Campus, the Opportunity Corridor Project and other development in the area and defer capital expenditures at these facilities.

(D) ALTERNATE ANALYSIS

Various alternatives were considered to provide the increased electrical capacity at a high level of reliability to the Cleveland Clinic's Main Campus facilities before the proposed CH Substation and the overall project was recommended as the best approach to address Project need. Each alternative was reviewed and eliminated because of limitations in supplying the projected load or improving reliability. Some of these eliminated alternatives include:

Alternate #1: Rebuild existing substation and overhead and underground 36 kV, 11 kV, and 4 kV infrastructure to the existing customer substations. This alternative was eliminated due to only providing N-1 level of reliability, routing issues and limitations to supply the projected load and perpetuating existing reliability issues.

Alternate #2: New 138 kV to 36 kV transformer and 36 kV breakers at Ivy Substation and establish new 36 kV circuit routes to new 36 kV to 11 kV customer substation on the Cleveland Clinic's Main Campus. This alternative was eliminated due to only providing N-1 level of reliability and perpetuating existing reliability issues.

Alternate #3: New main 138 kV to 36 kV substation with three 36 kV circuits to the two existing 36-11 kV substations. This option was eliminated due to only providing N-1 level of reliability and limitations to supply the projected load.

Alternate #4: New main 138 kV to 36 kV substation with two 36 kV circuits to each of four 36-11 kV substations. This alternative was eliminated due to customer operational considerations for loss of one supply and only providing N-1 level of reliability.

Alternate #5: New main 138 kV to 36 kV substation with two transformers and three 36 kV buses and also with three transformers and four 36 kV buses. These alternatives were eliminated due to only providing N-1 level of reliability.

Alternate #6: New main 138 kV to 36 kV substation with three 36 kV circuits to four 36 kV to 11 kV substations (no loop between each pair of 36-11 kV substations). This alternative was eliminated due to only providing N-1 level of reliability.

Alternate #7: New main 138 kV to 11 kV substation with 11 kV distribution to supply four Cleveland Clinic-owned 11 kV substations. This alternative was eliminated due to the amount of underground conduit and parallel circuits required to supply the projected load, the utility easements necessary to accommodate them along with operational issues of parallel cables.

(E) FACILITY SELECTION RATIONALE

The proposed CH Substation and the overall project will meet the Cleveland Clinic's request for a new substation with a N-2 reliable power source, supplied from the 138 kV transmission system, with a loop configuration where the supply lines take different routes to their destination to provide redundant service to their facilities and support expansion.

The CH Substation and the overall project is the lowest cost alternative that will have the least impacts to meet the expected load growth and high reliability requirements for the Cleveland Clinic's Main Campus expansion. An independent engineering

consultant firm studied the various underground routes to identify the least cost option and confirmed this conclusion.

The proposed CH Substation and the overall project will provide increased electrical capacity at a high level of reliability to the Cleveland Clinic's Main Campus facilities

(F) FACILITY SCHEDULE

(1) Schedule Bar Chart

The major scheduled activities associated with the Preferred and Alternate Sites of the CH Substation are shown in bar chart form on Figure 02-3.

(2) Delays

Delaying the proposed Project will delay delivery of increased electrical capacity at a high level of reliability to the Cleveland Clinic's Main Campus in Cleveland, Ohio, perpetuating potential reliability concerns and restricting potential expansion of these facilities.

ACTIVITY	2010 ...			2011			2012			2013			2014			2016					
	Feb.	...	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Preparation of the Application																					
Submission of the Application																					
CPSS Review																					
Issuance of CPSS Certificate																					
Acquire Substation Site																					
Substation Engineering																					
Order Major Equipment																					
Substation Construction																					
Acquire 138 kV Right-of-Way																					
138 kV T-Line Engineering																					
Submit & CPSS Review of 138 kV LON																					
138 kV T-Line Construction																					
Acquire 36 kV Right-of-Way																					
36 kV Distribution Engineering																					
36 kV Distribution Construction																					
Customer Substation Engineering																					
Customer Substation Construction																					
Placement of the Facility In-service																					

ATSI.

Illuminating Company

an AT&T Intellectual Property Company

CH SUBSTATION PROJECT

FIGURE 02-3

PROJECT SCHEDULE PREFERRED & ALTERNATE SITE

FIGURE 02-3
PROJECT SCHEDULE PREFERRED & ALTERNATE SITE

4906-15-03 SITE AND ROUTE ALTERNATIVES ANALYSES**(A) SECTION SUMMARY**

This section of the Application provides the Site Selection Study for the proposed Project. This includes a description of the study area with related maps, identification of evaluated sites, siting criteria and factors, evaluation process, and rationale for selecting the Preferred and Alternate sites.

In this Application, CEI and ATSI, (collectively the "Applicants") are proposing to install the Clinic Hospital Substation (CH Substation), a 138 kV to 36 kV substation to respond to anticipated load growth and provide enhanced reliability at the Cleveland Clinic's Main Campus in Cleveland, Ohio. The 138 kV to 36 kV CH Substation will be supplied by loops from the Inland-Jordan Q-11 and Q-14 138 kV transmission lines. These existing transmission lines parallel the south side of a railroad corridor and are supported on a set of single poles located approximately 0.25 mile to the south of Cleveland Clinic's Main Campus. The new loops will be submitted to the Board in a Letter of Notification under separate cover. The CH Substation has four 138 kV transmission line connections to a 138 kV breaker and half scheme that supplies a 36 kV conduit and manhole distribution system connected to four new 36 to 11 kV distribution substations to be located on Cleveland Clinic property. The new underground 36 kV distribution lines will be constructed as two loops of three 36 kV circuits each, from the proposed CH Substation to the four new 36 to 11 kV distribution substations situated on the Cleveland Clinic's Main Campus, with each 36 kV loop serving two of the distribution substations. As distribution infrastructure, the new 36 kV lines and 36 to 11 kV substations are not subject to Board jurisdiction.

(B) SITE SELECTION STUDY**(1) Study Area and Methodology**

FirstEnergy Service Company (FE) on behalf of ATSI and CEI, FirstEnergy Corporation subsidiaries, contracted URS to conduct a constrained Site Selection Study for the proposed CH Substation Project. The "constrained" condition is used to describe the significant constraints imposed on the choice of location by the developed nature of the area. The requirement for an approximately 2-acre site in an urban area is likely to yield

only a handful of options. The objective of the study was to identify potential sites for the substation and routes for the associated transmission line loops that minimize the impacts to ecological, socioeconomic, and land use features, while taking into consideration the significant limitations imposed by the built-up nature of the area, and engineering and construction needs of the project.

There are numerous methods available for site selection studies, ranging from purely quantitative to purely qualitative with degrees in between. Where there are a great number of possible outcomes, such as would be the case with a siting study in a rural area, a system of numeric data collection, grouping (to simplify) and scoring would be necessary to help with valid comparison and ranking. In this study, only six possible sites do not have extensive impacts, so data simplification through scoring and weighting is not considered necessary and may, in fact, serve to hide data resolution unnecessarily. Given the restricted number of possible outcomes, use of raw data and simple comparative ranking is a valid siting method.

The purpose of the substation is to provide reliable power to the Cleveland Clinic Main Campus via a loop to ATSI's existing Inland-Jordan Q-11 and Q-14 138 kV transmission lines. The following conditions are considered "must haves" for the proposed project:

1. Approximate undeveloped acreage for the minimum substation footprint of 2 acres.
2. The substation site must be adjacent or in close proximity to the Inland-Jordan Q-11 and Q-14 138 kV transmission lines.
3. Must avoid purchase and demolition of residential areas to the maximum extent possible (in this area, 2 acres generally represents a city block).
4. The substation site must be adjacent or in close proximity to the proposed 36 kV distribution system.

(a) **Study Area:** Given the conditions cited above, and the urban setting, the first step in the analysis was to review the objective of the project with FE to identify viable options in the immediate area.

According to the information provided by FE, the objective of the CH Substation Project is to respond to anticipated load growth at the Cleveland Clinic's Main Campus in

Cleveland, Ohio, while providing superior reliability. The location of the campus is directly related to suitable solutions for providing superior electrical reliability meeting N-2 status. N-2 reliability enables the system to continue to provide power in the event that up to two components of the electric system fails or is out of service. The campus is generally bounded by Chester Avenue to the north, Cedar Avenue to the south, East 86th Street to the west, and Stokes Boulevard to the east.

The most desirable sites for the proposed 138 kV substation would be located adjacent to the existing 138 kV transmission lines. This would limit potential land use and cultural impacts as well as engineering difficulties associated with routing four new 138 kV transmission lines through an urban setting. Better candidate sites would also remain close to the proposed 36 kV distribution system. Candidate sites become less desirable as the distances from these areas increase. Therefore, the study area was bounded by the existing 138 kV transmission lines to the east and southeast. Boundaries to the north, south, and west were less defined, but were generally considered to be within a few blocks of the Main Campus.

(b) Study Area Map: The study area (Figure 03-1) is characterized by dense urban development consisting of mixed residential, institutional, commercial, and light industrial land uses. Land holdings of the Cleveland Clinic comprise a substantial portion of the study area. Open or vacant land suitable for the project is limited throughout the area.

(c) Siting Criteria: The project is intended to address the anticipated load growth at Cleveland Clinic's Main Campus. The urban setting of the campus places significant constraints on the selection of viable candidates for the substation site and associated transmission line loops.

For the Site Selection Study, the new proposed substation was assumed to require a fenced-in area of approximately 240 feet by 380 feet (2 acres). Sites closer to the 138 kV line were considered more suitable, as they would reduce the need for transmission line construction. A 60-foot wide right-of-way (ROW) was considered the minimum for each of these looped connections. While some overlap with the ROW of each looped connection and road ROW is likely, such overlap opportunity may not be available for long stretches through the project area without acquisition of private property and potential removal of existing structures.

The goal of the Site Selection Study was to identify viable site locations based on the siting criteria, while avoiding or limiting impacts to sensitive land uses, ecological, and cultural features in the project vicinity. It is desirable to maximize certain criteria at a given site location, (e.g., available acreage). These criteria are known as attributes. Undesirable criteria, such as wetlands, historic properties, etc., are termed constraints and the study seeks to avoid/minimize their occurrence. Therefore the goal of siting is to maximize attributes while minimizing constraints. The criteria considered in the siting study are listed in Table 03-1.

TABLE 03-1	
QUANTITATIVE SITING CRITERIA	
Criteria	Data Source
Ecological	
Area of Woodlots (acres)	Woodlots as digitized from aerial photography
Area of Ohio Wetland Inventory (OWI) Wetlands within 60-ft ROW (acres)	OWI wetland areas as identified by the Ohio Department of Natural Resources (ODNR)
Linear Feet of Streams	United States Geologic Survey (USGS) Topographic Maps
Threatened and Endangered Species Listings within 1,000 feet	ODNR Biodiversity Database
Cultural	
National Register of Historic Places and Districts within 1,000 feet	Ohio Historic Preservation Office (OHPO) online database
Known Archaeology Sites within 100 feet	OHPO online database
Cemeteries within 100 feet	OHPO online database
Land Use	
Residences within 100 feet of substation	Cuyahoga County Auditor GIS data, aerial photography, and field observation
Residences within 1,000 feet of substation	Cuyahoga County Auditor GIS data, aerial photography, and field observation
Institutional Land Uses within 1,000 feet of substation	Schools and places of worship - USGS maps, ESRI GIS data layer, field observation
Institutional Land Uses within 1,000 feet of substation	Schools and places of worship - USGS maps, ESRI GIS data layer, field observation
Other Sensitive Land Uses within 100 feet	Includes airports, air strips, parks, preserves, park district property, designated managed areas, conservation and observatory sites, and golf courses; sources: USGS, ESRI GIS data, and field observation
Other Sensitive Land Uses between 100 and 1,000 feet	Includes airports, air strips, parks, preserves, park district property, designated managed areas, conservation and observatory sites, and golf courses; sources: USGS, ESRI GIS data, and field observation
Number of Land Owners	Parcel data

TABLE 03-1	
QUANTITATIVE SITING CRITERIA	
Criteria	Data Source
Number of Sensitive Land Uses within 1/2 mile from which the Station will be visible	Based on GIS software "Viewshed" analysis of OSIP LIDAR data; Includes schools, churches, parks, airports, and conservation land; sources: ESRI GIS data, Cuyahoga County Auditor parcel data
Engineering	
Size of Site (acres)	Calculated by GIS software
Distance to Existing 138 kV Transmission Line (feet)	Calculated by GIS software
Distance to Cleveland Clinic Main Campus	Calculated by GIS software

In addition to the ecological, land use, cultural, and engineering constraints, several qualitative factors were considered. These issues include future development plans, land availability, and likely facility layout within the identified boundaries.

(d) Site Selection Process: Based on the established needs and criteria of the project and the limitations imposed by existing development, the study area was evaluated to identify candidate locations for the substation. A criteria map of the study area was developed using ArcMap GIS software. Georeferenced data layers for the identified criteria, obtained from published State and Federal materials and local planning documents, were superimposed on available parcel boundaries and year 2006 aerial photography obtained from the Ohio Statewide Imagery Program. Based on the map, potentially suitable substation sites consisting of open lots within the study area were identified. Sites closest to the transmission lines were identified first. Additional sites were identified moving outward.

A windshield survey of the project area was conducted to verify the nature of the study area and status of the candidate sites. Once initial site alternatives were selected, they were both quantitatively and qualitatively assessed based on their impacts and effects on the suite of evaluation criteria. These criteria are shown in Table 03-1. Both the quantitative and qualitative criteria were then considered for each site leading to the selection of the preferred and alternate sites.

(e) Identified Sites and Evaluation: The project area is an urban setting with little undeveloped or vacant land. The Cleveland Clinic facilities, medium- to high-density residential and commercial development, a historic district, major infrastructure facilities

including a water treatment plant and regional transit hub, and local roads greatly constrain the potential for candidate sites without demolition of existing structures or potential significant impacts to adjacent areas. This limited available sites that fit the minimum criteria even when slightly reducing the acreage requirement below 2 acres.

Only six potential sites were identified. This number of sites represents viable locations within the urban project vicinity and is considered adequate to effectively identify potential preferred and alternate sites. Figure 03-1 shows the locations of the six sites evaluated. These sites were assigned an identification number based on the order in which they were identified. This number does not have any significance with respect to preference.

Site 1: Site 1 is located at the southeast corner of Stokes Boulevard and Cedar Avenue, across railroads and nearly adjacent to the northwest of the existing 138 kV lines to be looped (see Figure 03-2). Interconnection to the existing transmission line will be across the railroads. The site is currently a surface parking lot for the Cleveland Clinic. The property is owned by Cleveland Clinic, and was suggested by members of their administration as a possible site. The dimensions of the property are suitable based on the preliminary design layout of the proposed CH Substation.

Site 2: Site 2 is located at the northeast corner of Stokes Boulevard and Cedar Avenue, across Cedar Avenue from Site 1 (see Figure 03-3). It is currently a parking lot and has two property owners potentially complicating obtaining the site. Size and shape of the site is restricted by surrounding development, including the Cuyahoga County Coroner's office. The size of the site is not adequate to construct a conventional 138 to 36 kV substation, therefore requiring other technologies, such as a gas-insulated substation, at a potentially prohibitive cost. Utilization of this site would also require extension of the 138 kV interconnections, likely across Site 1.

Site 3: Site 3 is located at the northeast corner of the intersection of Cedar Avenue and East 105th Street, adjacent to Cleveland Clinic Main Campus (see Figure 03-4). It offers adequate size for the preliminary layout, but would require over 1,500 feet of new overhead transmission ROW, likely along Stokes Boulevard and Cedar Avenue, to loop the existing 138 kV transmission line. Preliminary evaluation suggested that at least two structures may require demolition to allow for adequate 138 kV ROW to reach this site.

This site is also located along one of the alternatives for the Cleveland Opportunity Corridor, an Ohio Department of Transportation (ODOT) project designed to connect I-490 and the University Circle neighborhood. The Cleveland Opportunity Corridor is in the planning stages. According to the Applicant's understanding of information describing alternatives presented to the public, East 105th Street will be widened from south to north between Quincy Avenue and Cedar Avenue. Widening of East 105th may reduce the size of the site and increase difficulty with construction timing. Cleveland Clinic currently owns the property and utilizes it for parking.

Site 4: Site 4 is located at the southeast corner of the intersection of Cedar Avenue and East 105th Street (see Figure 03-5). The site is too small to construct a conventional 138 to 36 kV substation. As with site 2, other technologies, such as a gas-insulated substation, would be required, at a potentially prohibitive cost. Similarly to Site 3, the location would require over 1,500 feet of ROW, likely along Stokes Boulevard and Cedar Avenue, to tap the existing 138 kV transmission line, and would likely lead to the demolition of at least two structures. This property is located along the planned Cleveland Opportunity Corridor. Specific limitations induced by the Cleveland Opportunity Corridor are unknown, but reducing the size of Site 4 may eliminate it as a viable candidate. Cleveland Clinic currently owns the property and utilizes it for parking. The size and shape of the site is also restricted by surrounding development and may require significant redesign from the proposed substation layout.

Site 5: Site 5 is located at the southeast corner of East 105th Avenue and Norman Avenue, across the railroad and nearly adjacent to the northwest of the existing 138 kV transmission line to be tapped (see Figure 03-6). The site is comprised of a series of vacant lots that are partially wooded and overgrown with vegetation. The site appears to meet the size requirements, although the irregular shape could require slight modifications to the ideal design layout. There are three property owners, one of which is the City of Cleveland. Areas to the north and west are currently residential. This property is located along the planned Cleveland Opportunity Corridor and would likely be affected to a greater extent than Sites 3 and 4 because of the planned widening of the East 105th Street Bridge over the adjacent railroad to the southeast.

Site 6: Site 6 is located south of the intersection of Quincy Avenue and East 105th Street between two railroad corridors (see Figure 03-7). The site is nearly adjacent to the northwest of the existing 138 kV transmission line to be tapped. The site is currently

occupied by an apparent stone quarry or materials company. The site appears to meet the size requirements. The Cuyahoga County Juvenile Detention Center is located across the railroad to the northwest. This site is located along the planned Cleveland Opportunity Corridor. Widening of the East 105th Street Bridge over the adjacent railroad to the northwest is reportedly planned. Due to the extensive existing infrastructure in the vicinity of this site, the land area could be constrained by construction of the Cleveland Opportunity Corridor, although exact plans are unknown at this time.

Table 03-2 provides a quantitative comparison of the sites evaluated.

TABLE 03-2 QUANTITATIVE SITING CRITERIA						
Criteria	Site					
	1	2	3	4	5	6
Ecological						
Area of Woodlots (acres)	0	0	0	0	0.4	0
Area of OWI Wetlands within 60-ft ROW (acres)	0	0	0	0	0	0
Linear Feet of Streams	0	0	0	0	0	0
Threatened and Endangered Species Listings within 1,000 feet	0	0	1	0	0	0
Cultural						
National Register of Historic Places and Districts within 1,000 feet	2	1	1	1	0	1
Known Archaeology Sites within 100 feet	0	0	0	0	0	0
Cemeteries within 100 feet	0	0	0	0	0	0
Land Use						
Residences within 100 feet of substation	0	0	2	8	8	0
Residences within 1,000 feet of substation	21	26	75	123	156	50
Institutional Land Uses within 100 feet of substation	0	0	0	0	0	0
Institutional Land Uses between 100 and 1,000 feet of substation	5	5	6	6	4	1
Other Sensitive Land Uses within 100 feet	0	0	0	0	0	0
Other Sensitive Land Uses between 100 and 1,000 feet	2	2	0	0	0	0
Number of Land Owners	1	2	1	1	3	2
Number of Sensitive Land Uses within 1/2 mile from which the Station will be	250	280	470	490	660	1,180

TABLE 03-2 QUANTITATIVE SITING CRITERIA						
	Site					
Criteria	1	2	3	4	5	6
Visible						
Engineering						
Size of Site (acres)	2.8	1.8	3.4	1.4	2.2	3.2
Distance to Existing 138 kV Transmission Line (feet)	180	750	1,400	1,200	80	260
Distance to Cleveland Clinic Main Campus (feet)	1,400	1,200	50	50	1,300	2,400

(2) Site Ranking and Selection of Preferred and Alternate Sites

The quantitative comparison suggests that ecological and cultural constraints are limited in the study area. Only one special status species was identified in close proximity to any of the site. This listing is a peregrine falcon that reportedly nests on one of the Cleveland Clinic buildings. Only one small area of young scrub and trees is on one of the sites. Previously identified cultural resources are limited to NRHP sites and a district that would generally be screened from the proposed substation by existing buildings and infrastructure. Due to general avoidance during selection of the candidates, impacts are expected to be minimal or non-existent to ecological and cultural resources independent of the site selected.

The land use and engineering categories show the greatest fluctuation and, thus, the best comparative quantitative value. Fewer residences are in close proximity to Sites 1 and 2, with none within 100 feet and less than 30 within 1,000 feet. Site 6 also has no identified residences within 100 feet, but 50 residences were identified within 1,000 feet. Site 3 has two residences within 100 feet, with eight residences within 100 feet of Sites 4 and 5. Significantly more residences (75 to 156) were identified within 1,000 feet of sites 3, 4, and 5 compared to Sites 1, 2, and 6. No institutional or other sensitive land uses are within 100 feet of any of the sites, although a church and a mosque are located across Stokes Boulevard from Site 1. The number of sensitive land use parcels from which the substation will be visible is lowest at Site 1 and the greatest at Site 6.

Sites 1, 5, and 6 provide the best balance between size of site and proximity to the existing 138 kV infrastructure, although Sites 5 and 6 offer challenges with extending the

distribution circuits due to narrow streets and likely existing utilities. Site 3 is the largest candidate and is in close proximity to Cleveland Clinic. Extension of the 138 kV transmission interconnections appears difficult, but is seemingly possible without demolition of any existing structures. Overall, Site 1 appears to balance the desire to limit impacts to ecological, land use, and cultural resources, while maintaining engineering requirements.

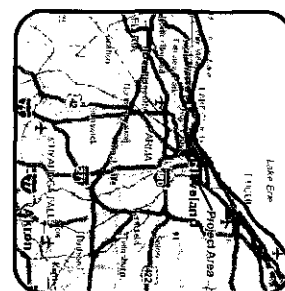
In addition to the quantitative comparison, it is useful to consider some basic qualitative observations. Based on very basic criteria, primarily size and shape, Sites 1, 3, 5, and 6 have the advantage of having sufficient acreage. Sites 1, 5, and 6 have the added advantage of minimizing transmission constraints. The impacts to and effects of the Opportunity Corridor present an additional difficulty to sites 3, 4, 5, and 6. An added advantage of Sites 1, 2, and 3 is property ownership by Cleveland Clinic Hospital. It would seem appropriate that a project intended solely for the hospital should take advantage of hospital owned property, if possible.

Given the size, location, and ownership status of Site 1, it is not surprising that it compares very favorably in a quantitative evaluation with the other five sites. The property is owned by and was suggested by the property owner, Cleveland Clinic, the primary beneficiary of the project, and is not located along the currently presented Cleveland Opportunity Corridor proposed alignment. Site 1 appears to be the best candidate to become the preferred site.

The results of the Site Selection Study demonstrated that Site 1, a Cleveland Clinic-owned property located at the southeast corner of Stokes Boulevard and Cedar Avenue, was the best candidate for the Preferred Site. Selection of an Alternate Site from amongst the remaining alternatives was much more difficult as each site appeared to be significantly less desirable than Site 1 for a variety of reasons. Site 3, a Cleveland Clinic-owned property at the northeast corner of Cedar Avenue and East 105th Street, Site 5, at the southeast corner of East 105th Street and Norman Avenue, and Site 6, located south of Quincy Avenue and a railroad corridor were identified as potential Alternate Sites in the Site Selection Study.

The Applicants confirmed the identification of Site 1 as the best candidate for the Preferred Site and identified Site 3 as the best candidate for selection as the Alternate Site. This identification was based on, among other considerations, the size of the properties, the ability to connect to the 138 kV transmission lines to the sites, residences

not present on the properties, and the proximity of both sites to the Cleveland Clinic's distribution infrastructure. Sites 5 and 6 were not chosen as the Alternate Site due to the distance from the Cleveland Clinic's distribution infrastructure and the likelihood of those sites having significant impact from the planned Cleveland Opportunity Corridor project. Those substantial disadvantages led to choosing Site 3 as the Alternate Site. Site 3 is also the largest site and while extending the 138 kV transmission interconnections would be difficult, it is a viable alternative. Both sites were presented to the Cleveland Clinic, the City of Cleveland, and at a public meeting held May 17, 2011. Based upon these meetings, Site 1 was preferred for selection as the Preferred Site. The Applicants selected Site 1 as the Preferred Site and Site 3 as the Alternate Site for submittal to the Board in this Application.



Overview Map

LEGEND:

- Candidate Site
- Cleveland Clinic Main Campus
- Existing Transmission Line
- Opportunity Corridor
- School
- Place of Worship
- Cemetery
- Previously Recorded Archaeology Site
- Ohio Historic Inventory
- National Register of Historic Places
- Potentially Eligible National Register of Historic Places
- National Register of Historic Places District
- CONR Record of
- Threatened and Endangered Species
- Park

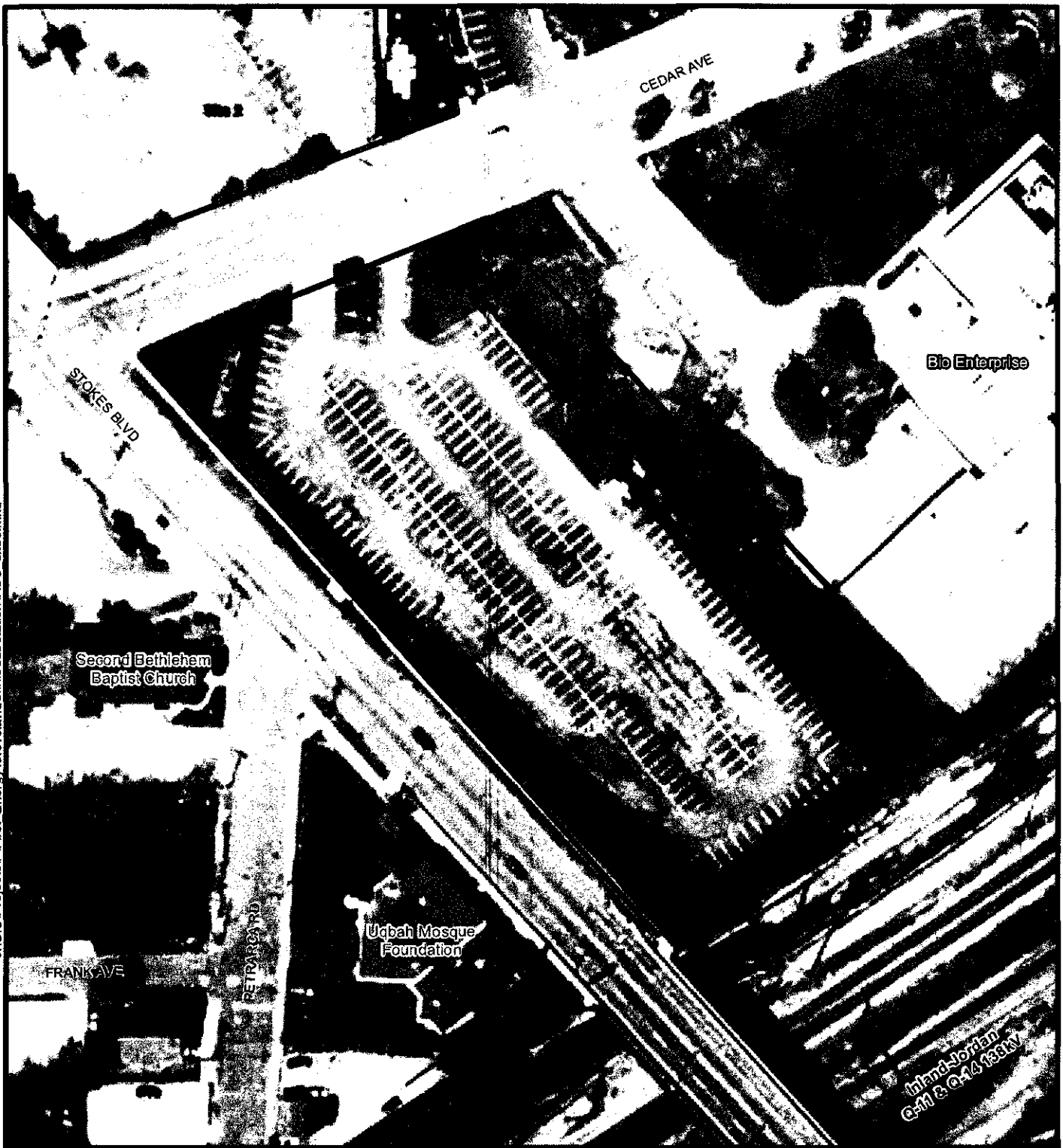


BASE MAP SOURCE:
Ohio Statewide Imagery Program, 2006
Cuyahoga County

Illustrating
Company
ATSI
Clinic Hospital
Superstation

FIGURE 03-1
STUDY AREA AND
SITING CONSTRAINTS MAP

CREATED BY: AG DATE: 03/2012
CHECKED BY: DB 1 INCH = 500 FEET
JOB NO. 14449786 **URS**



LEGEND:

 Candidate Site

0 100 200
Feet



BASE MAP SOURCE:
Ohio Statewide Imagery Program, 2006
Cuyahoga County

the Illuminating Company
A FirstEnergy Company

ATSI

Clinic Hospital
Substation

**FIGURE 03-2
CANDIDATE DETAIL MAP
SITE 1**

CREATED BY: AG

DATE: 6/4/2012

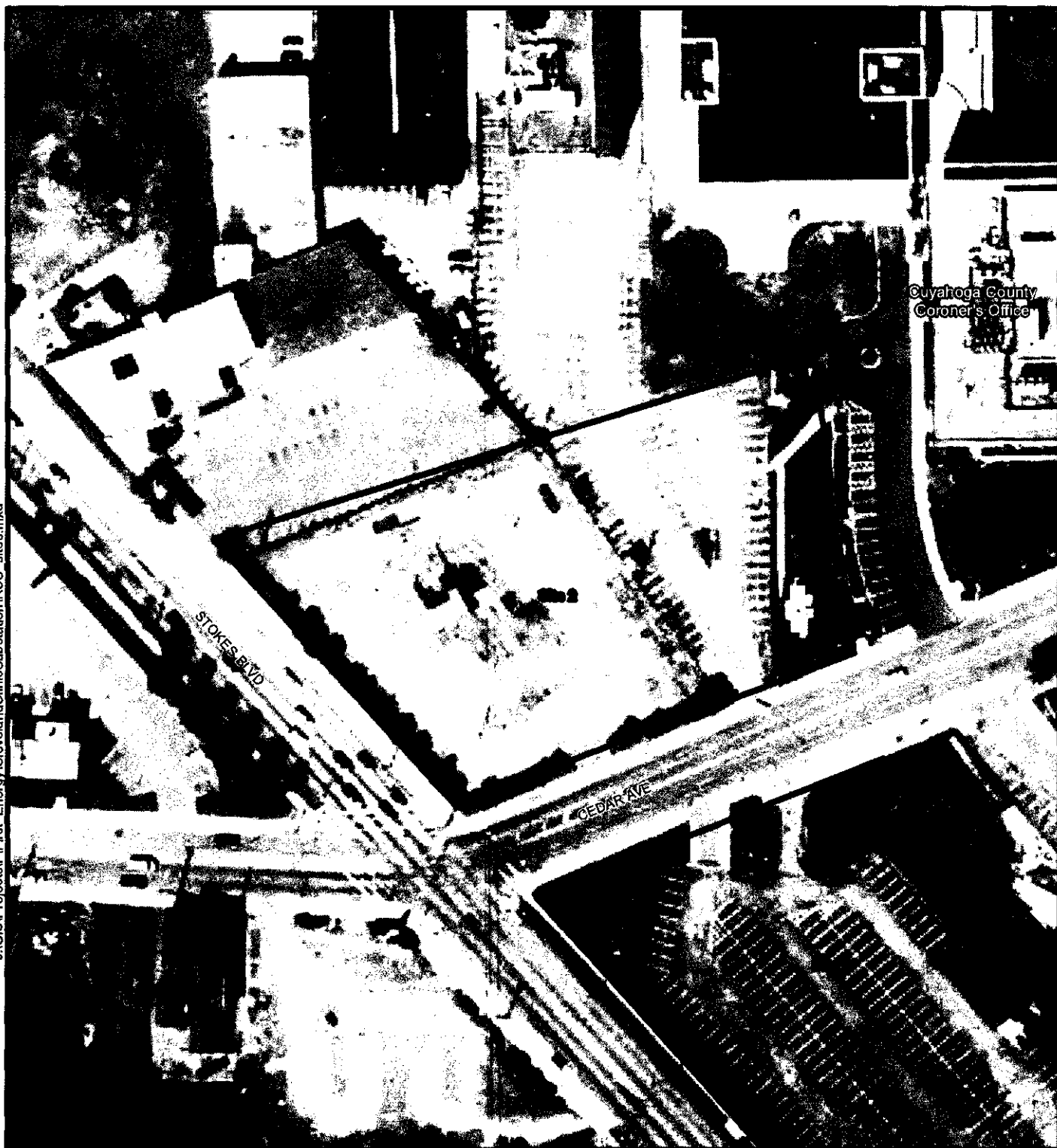
CHECKED BY: DB

1 INCH = 100 FEET

JOB NO. 14949786

URS

J:\GIS\Projects\F\First_Energy\Cleveland\ClinicSubstation\IRSS_sites.mxd



LEGEND:

 Candidate Site

0 100 200
Feet



BASE MAP SOURCE:
Ohio Statewide Imagery Program, 2006
Cuyahoga County

illumina
Company
A FirstEnergy Company

ATSI

Clinic Hospital
Substation

FIGURE 03-3
CANDIDATE DETAIL MAP
SITE 2

CREATED BY: AG

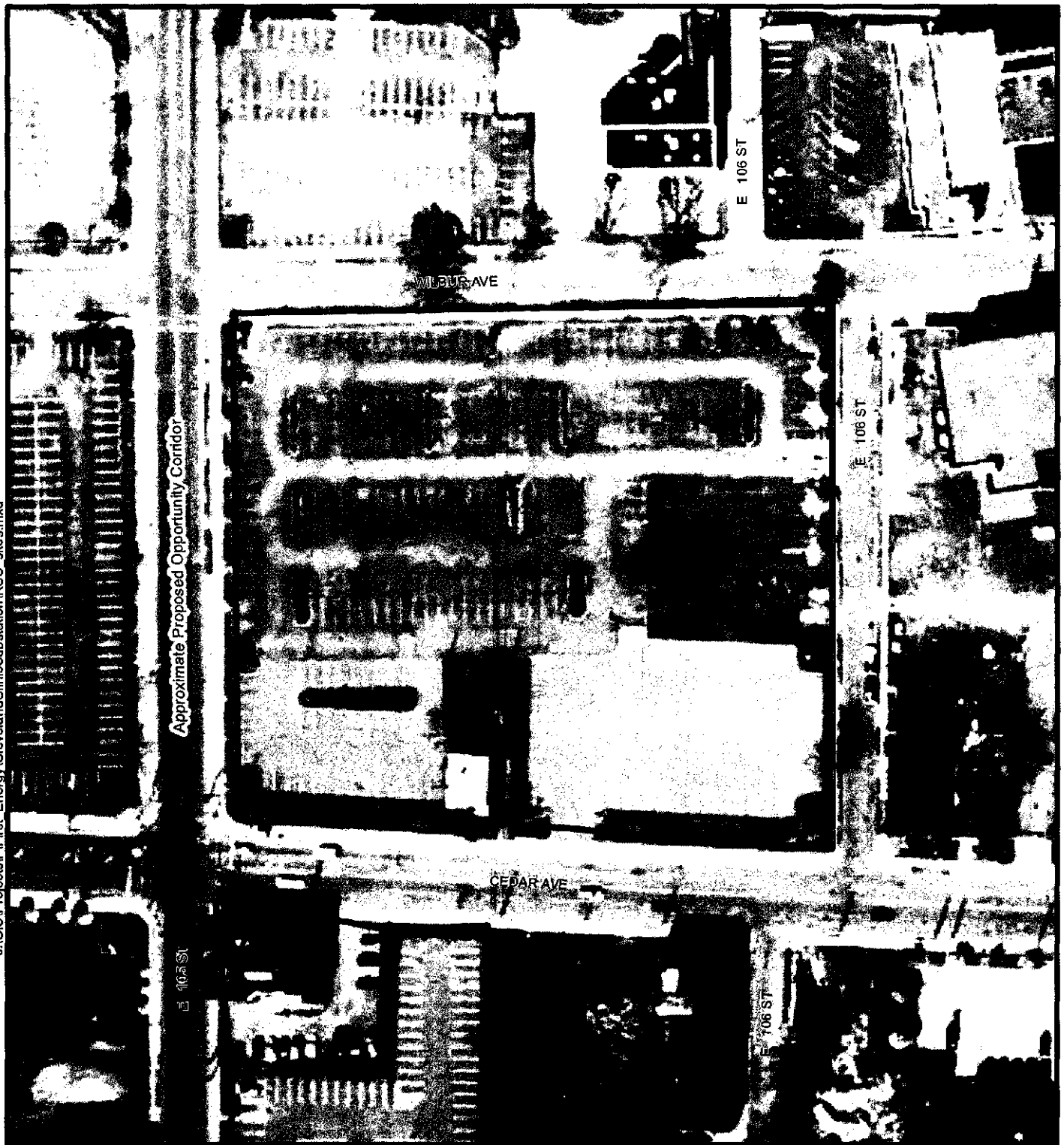
DATE: 6/4/2012

CHECKED BY: DB

1 INCH = 100 FEET

JOB NO. 14949786

URS



LEGEND:

 Candidate Site

0 100 200
Feet



BASE MAP SOURCE:
Ohio Statewide Imagery Program, 2006
Cuyahoga County

the Illuminating Company
A FirstEnergy Company

ATSI

Clinic Hospital
Substation

**FIGURE 03-4
CANDIDATE DETAIL MAP
SITE 3**

CREATED BY: AG

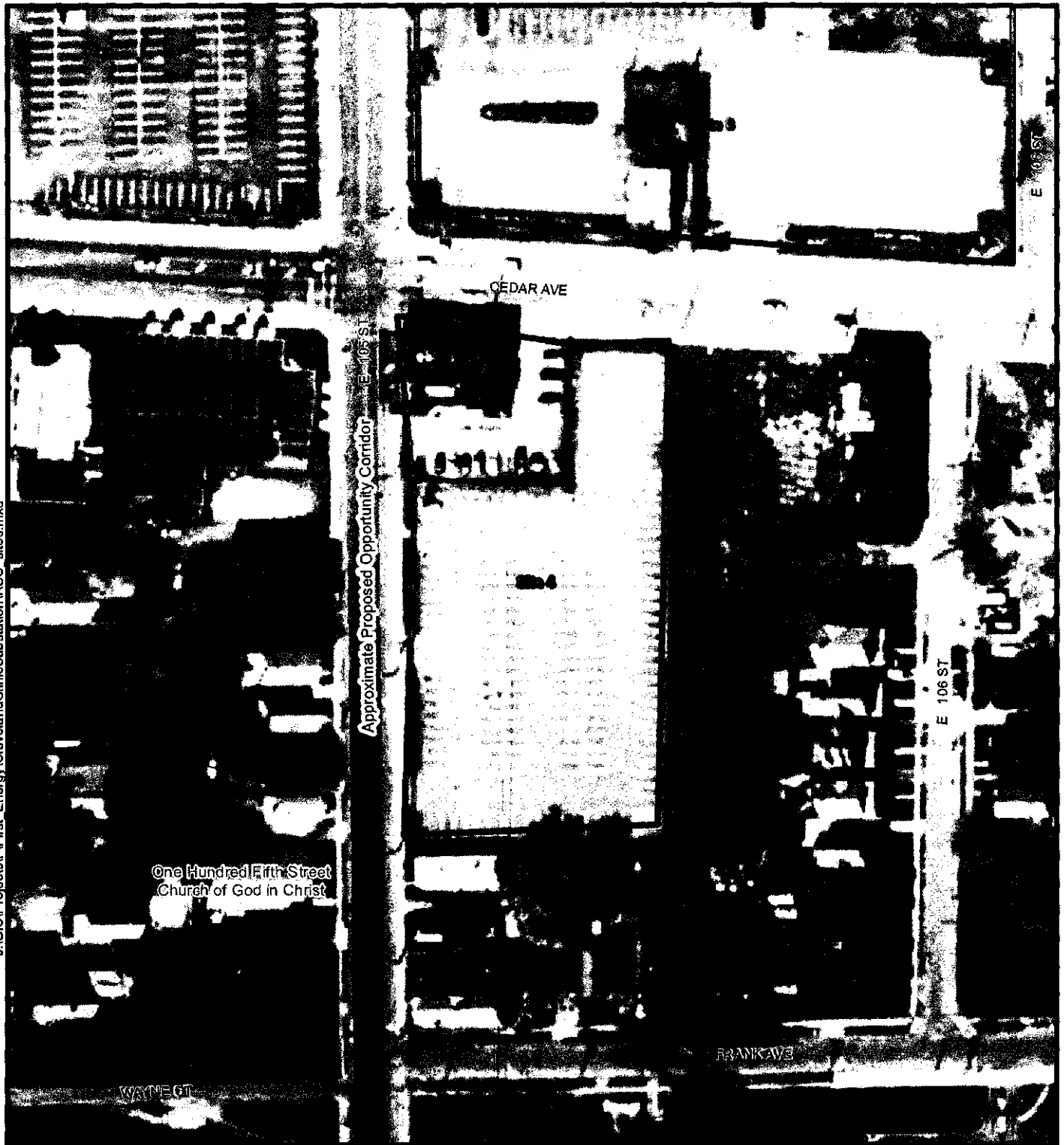
DATE: 6/4/2012

CHECKED BY: DB

1 INCH = 100 FEET

JOB NO. 14949786

URS



LEGEND:

 Candidate Site

0 100 200
Feet



BASE MAP SOURCE:
Ohio Statewide Imagery Program, 2006
Cuyahoga County

the Illuminating Company
A FirstEnergy Company

ATSI

Clinic Hospital
Substation

**FIGURE 03-5
CANDIDATE DETAIL MAP
SITE 4**

CREATED BY: AG

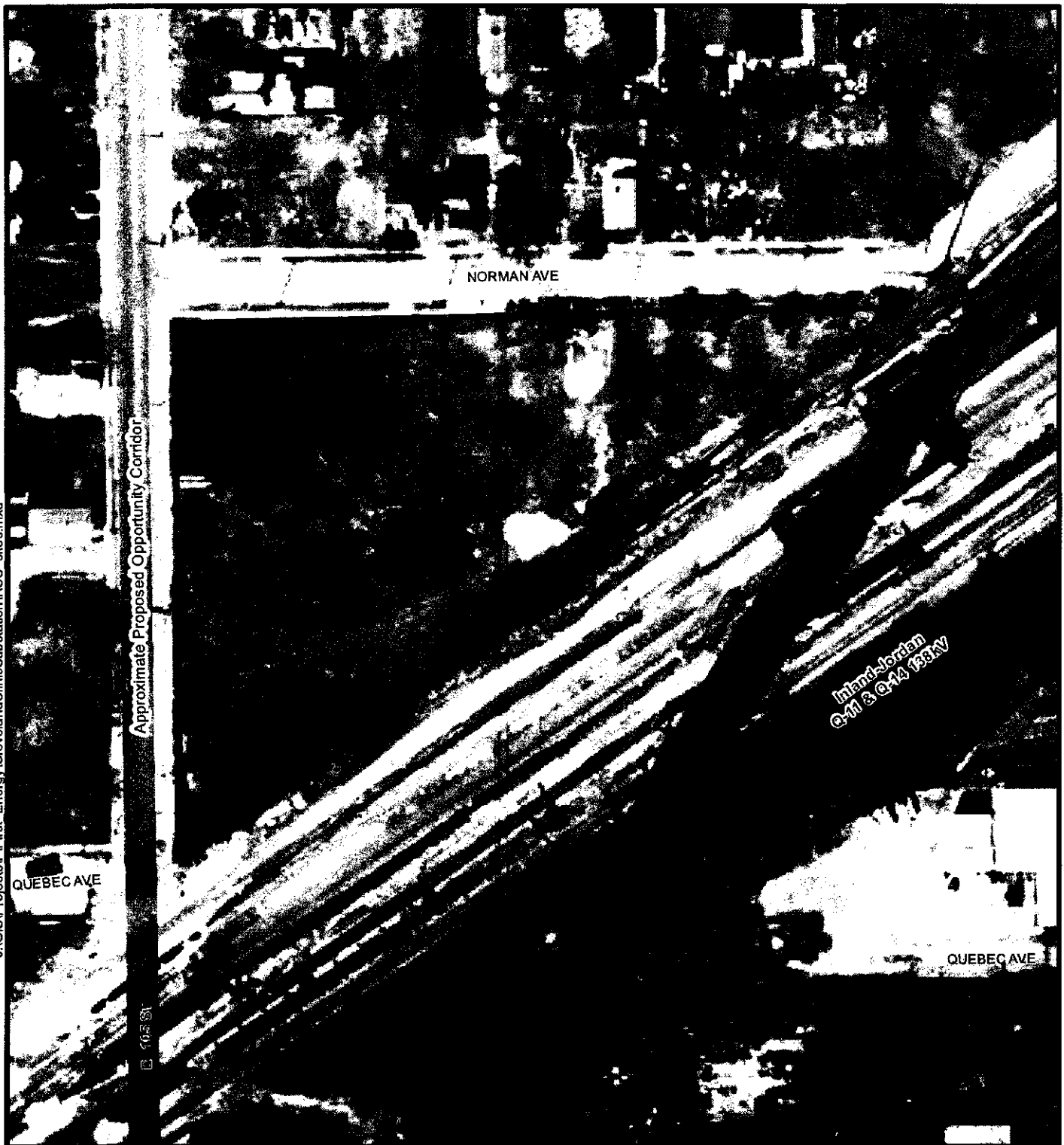
DATE: 6/4/2012

CHECKED BY: DB

1 INCH = 100 FEET

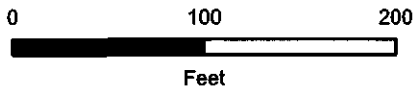
JOB NO. 14949786

URS



LEGEND:

 Candidate Site



BASE MAP SOURCE:
Ohio Statewide Imagery Program, 2006
Cuyahoga County



illumina
Company
A FirstEnergy Company

ATSI

Clinic Hospital
Substation

**FIGURE 03-6
CANDIDATE DETAIL MAP
SITE 5**

CREATED BY: AG

DATE: 6/4/2012

CHECKED BY: DB

1 INCH = 100 FEET

JOB NO. 14949786

URS

Cuyahoga County
Juvenile Detention Center
(Under Construction)

J:\GIS\Projects\FirEnergy\ClevelandClinicSubstation\RSS_sites.mxd

Approximate Proposed Opportunity Corridor

Island Jordan
Q-17 & Q-14 10/1/12

LEGEND:

 Candidate Site

0 100 200
Feet



BASE MAP SOURCE:
Ohio Statewide Imagery Program, 2006
Cuyahoga County

illumina
Company
A FirstEnergy Company

ATSI

Clinic Hospital
Substation

FIGURE 03-7
CANDIDATE DETAIL MAP
SITE 6

CREATED BY: AG

DATE: 6/4/2012

CHECKED BY: DB

1 INCH = 100 FEET

JOB NO. 14949786

URS

4906-15-04 TECHNICAL DATA**(A) SECTION SUMMARY**

This section of the Application provides data on the proposed substation, including data on location, major features, and the topographic, geologic, and hydrologic suitability of the site alternatives of the CH Substation Project. This section also provides data on the layout and construction of the proposed substation and provides information on the proposed substation equipment.

(B) ALTERNATIVE SITES/ROUTES OF PROJECTS**(1) Geography and Topography**

A map at 1:24,000 scale, showing the proposed Preferred and Alternate substation sites for the Project, is presented as Figure 04-1. This map includes the area 1,000 feet around each of the proposed substation locations. The map was developed from the United States Geological Survey (USGS) 7.5 minute topographic maps of East Cleveland, Ohio (published 1994) and Shaker Heights, Ohio (photo revised 1970, published 1963).

The information on the map was updated through review of aerial photography, property parcel data from the Cuyahoga County Auditor, and field reconnaissance conducted in November 2010 and May 2011. The aerial photographs are ortho-corrected color images that directly overlay the USGS electronic quadrangle maps in Geographical Information Systems (GIS) software packages.

(a) *Proposed Transmission Line Alignments:* The proposed alignments and details for the transmission line loops from the Inland-Jordan Q-11 and Q-14 138 kV transmission lines to the Preferred Site of the proposed CH Substation will be provided in a separate Letter of Notification to be submitted to Board.

(b) *Proposed Substation Locations:* The proposed locations for the Preferred and Alternate sites can be seen on Figure 04-1.

(c) **Major Highway and Railroad Routes:** U.S. Highway 20 (Euclid Avenue) and US Highway 322 (Chester Avenue) are within the Project vicinity. Smaller main transportation corridors within the project vicinity include Carnegie Avenue, Fairmont Boulevard (also known as Stokes Boulevard), and Euclid Heights Boulevard as shown on Figure 04-1. Interstate 77, Interstate 90, and Interstate 490 are located approximately 3 miles west of the Project. Several active railroads were identified in the project vicinity as shown on Figure 04-1, including CSX, Norfolk Southern, and Greater Cleveland Regional Transit Authority tracks adjacent to the southeast of the Preferred Site.

(d) **Air Transportation Facilities:** According to the Federal Aviation Administration's Office of Aeronautical Information Services, 27 airports, landing strips, or heliports are located in Cuyahoga County. Of these registered facilities, only two helipads are located within one mile of the Preferred Site. University Hospitals of Cleveland Heliport is located approximately 2,600 feet to the northeast. The Cleveland Clinic Foundation Heliport is located approximately 3,300 feet northwest of the Preferred Site. Major air transportation facilities include Burke Lakefront Airport, located approximately 3 miles to the northwest, Cuyahoga County Airport, located approximately 7 miles to the northeast, and Cleveland-Hopkins International Airport, located 12.5 miles to the southwest of the Preferred and Alternate sites.

(e) **Utility Corridors:** The Inland-Jordan Q-11 & Q-14 138 kV transmission lines are located in the immediate vicinity of the Preferred Site and in the general area of the Alternate Site. The centerline of the Inland-Jordan Q11 & Q14 138 kV lines are located across the CSX, Norfolk Southern, and Greater Cleveland Regional Transit Authority railroad corridor approximately 200 feet southeast of the Preferred Site and 1,400 feet southeast of the Alternate Site. A 138 kV Cleveland Public Power transmission line also parallels the railroad corridor approximately 30 feet southeast of the Preferred Site. The Inland-Lakeshore Q-4 138 kV transmission line is located approximately 1.5-miles to the southwest of the Preferred and Alternate sites. The alignments of existing transmission lines are shown on Figure 04-1.

(f) **Proposed Permanent Access Roads:** A permanent access road or driveway will be necessary for a substation installed at either the Preferred or Alternate Site. The proposed location of the access road for the Preferred Site is shown on Figure 04-2 and for the Alternate Site is shown on Figure 04-3. Access to the Preferred Site substation

will be provided from Cedar Avenue, and will be a single paved curb cut and apron similar to but located east of the existing ingress and egress points for the current parking lot. The Alternate Site will have access similar to the Preferred Site from Cedar Avenue to the south.

(g) Lakes, Ponds, Reservoirs, Streams, Canals, Rivers, and Swamps: A full description of the lakes, ponds, reservoirs, streams, canals, rivers, and swamps (i.e. wetlands) located within 1,000 feet of the proposed Preferred and Alternate sites is provided in Section 4906-15-07(B)(3) of this Application. No wetlands, streams, ponds, or other water bodies were delineated on the Preferred or Alternate sites. A map at 1:24,000 scale showing water bodies in the study area is included as Figure 04-1.

(h) Topographic Contours: Topographic contours of the study area, provided at 10 foot contour intervals, are shown on Figure 04-1. The topographic relief of the study area is relatively flat with a slight slope to the north toward Lake Erie, with elevations ranging from 690 to 710 feet above mean sea level at the Preferred and Alternate sites. No steep slopes are located within the proposed construction area for the Preferred and Alternate sites. The present and proposed contours for the Preferred Site are shown in Figure 04-7. The present and proposed contours for the Alternate Site are shown in Figure 04-8.

(i) Soil Associations at the Preferred and Alternate Sites: The Urban Land-Elnora-Oshtemo and Mitiwanga-Urban Land-Mahoning soil associations are mapped at the Preferred Site. The Urban Land-Elnora-Oshtemo soil association is mapped at the Alternate Site (U.S. Department of Agriculture [USDA], 1990). Figure 04-1 shows the soil associations in the study area. No soil conditions were found that would potentially limit construction of the proposed Project.

(j) Population Centers and Legal Boundaries: Population centers and legal boundaries within the vicinity of the proposed substation locations are shown on Figure 04-1. Both of the proposed substation locations are located within the City of Cleveland in Cuyahoga County, Ohio.

(2) Slope and Soil Mechanics

Based on mapped soils, slopes in the areas of the Preferred and Alternate sites do not exceed 12 percent. The existing soil mechanics will not cause significant problems.

(B) LAYOUT AND CONSTRUCTION**(1) Site Activities**

The following paragraphs provide data on the layout, engineering design process, and construction of the Project.

(a) *Surveying and Soil Testing:* The substation location will be surveyed to establish the perimeter of the fence line. The surveying will be completed using conventional and/or aerial methods. Topographic features and man-made structures in the vicinity of the proposed substation that may affect the design will be located during the survey. Some minimal clearing of small trees and brush may be required if the surveyor's line of sight is obstructed. Offsets will be used to survey around large trees and other large obstructions. Profile measurements will also be obtained by conventional or aerial methods. Substation boundaries will be staked prior to construction.

Soil tests will be performed for the substation, as foundations for equipment are necessary. Auger borings shall be made by a machine driven auger at least 4 inches in diameter. Soil samples shall be obtained at approximately 2.5-foot intervals for the first 10 feet and 5-foot intervals below 10 feet, and at any change in strata. Sampling shall include split barrel samples in non-cohesive soils and thin walled tube samples in cohesive soils. Typically, the testing will performed to a depth of 30 to 40 feet. If rock is encountered, a carbide-tipped bit will be used to drill approximately 5 to 10 feet into the rock.

(b) *Grading and Excavation:* The immediate substation vicinity will be graded and compacted in preparation for construction and installation of the necessary equipment. The site will utilize retaining walls to expand usable area of the property and allow for proper safety clearances required for the installation of the substation equipment. Aggregate surfacing will be placed within the fence line of the new substation. Aggregate surfacing will be comprised of a 3-inch bottom course and 3 inch top course. Total thickness of aggregate surfacing shall be approximately 6 inches. The proposed grading of the Preferred Site and Alternate Site for the substation is shown in Figure 04-7 and Figure 04-8, respectively.

(c) **Access Roads and Trenches:** The substation access road shall be graded and compacted. The access road will be surfaced with concrete or asphalt.

(d) **Stringing of Cable:** Stringing of cable associated with the Project is primarily associated with construction of the transmission line connections to the substation. These transmission lines, interconnections to the Inland-Jordan Q-11 and Q-14 138 kV transmission lines, will be included in a separate Letter of Notification submitted to the Board under separate cover. Conductor installation for these transmission lines will be accomplished using the tension stringing method. Lightweight guy cables or ropes will be fed through the stringing sheaves of the sections of line that require stringing. Conductors will then be pulled through under sufficient tension to keep the conductor "in the air." This protects the conductor from surface damage.

Temporary guard or clearance poles will be used as a safety precaution at locations where the conductors could create a hazard to either crew members or the general public. The locations and heights of clearance poles will be such that the conductors are held clear of power and communication circuits, vehicular traffic, and other structures. The stringing operation will be under the observation of crew members at all times. The observers will be in radio and/or visual contact with the operator of the stringing equipment.

(e) **Post Construction Reclamation:** As construction work proceeds, the construction area will be kept clean of all rubbish and debris resulting from the work. Refuse and cleared vegetation will be properly disposed of in an approved landfill or other appropriate location.

(2) Layout for Associated Facilities

(a) **Map of Associated Facilities:** Figure 04-2 shows the preliminary engineering layout of the Preferred Site. Figure 04-3 shows the layout of the Alternate site. These figures show the property boundary, general routes of the associated 138 kV transmission line interconnects, fenced area of the substation, general arrangement of the substation equipment and the access road to the substation. Figure 04-4 shows the layout of Cleveland Clinic owned property at the Preferred Site. Figure 04-5 provides a detailed layout of the Preferred Site and Figure 04-6 provides cross section views of the equipment to be installed at the Preferred Site. The substation at the Alternate Site would have similar details. Figure 04-7 provides the general details of site grading for the

Preferred Site. Figure 04-8 provides the general details of site grading for the Alternate Site¹.

The general arrangements of the interconnections to the existing Inland-Jordan Q-11 and Q-14 138 kV transmission lines are shown on Figures 04-2 and 04-3. A more detailed description of these transmission line interconnections at the Preferred Site of the substation will be included in a separate Letter of Notification to be submitted to Board.

It should be noted that the layout and dimensions provided on Figures 04-2, and 04-5 through 04-9, as well as the approximate dimensions from roads and property boundaries to the substation at the Preferred Site provided throughout the Application, represent the Applicant's current best estimate of the details of the substation. These details have been significantly refined for the Preferred Site from the approximate details used in the initial stages of the project and are based on the preliminary substation engineering layout and design work of Burns & McDonnell, which has been retained by FirstEnergy to design the substation. It is expected that the final engineering design of the substation will incorporate minor refinements to the layout and facilities of the substation. The Applicant's intend to submit the final engineering layout drawings of the substation to the Board staff for their review prior to starting construction on the Project, and will provide the Board staff with the opportunity to confirm that the constructed substation is consistent with this Application.

(b) Reasons for Proposed Layout and Unusual Features: There are no unusual features associated with construction of this Project.

¹ The 11" by 17" size copies of Figures 04-2 through 04-9 included in the Application have been produced in accordance with OAC § 4906-5-03(C) which allows the scale to be reduced by a factor not to exceed four times. Full size copies of these figures are available and may be obtained by contacting Jessica Thacker, in writing, at FirstEnergy Service Company, 76 South Main Street, Akron, Ohio 44308, or via phone at 330-384-5955 or via e-mail at jthacker@firstenergycorp.com.

(c) **Future Modification Plans:** FirstEnergy's planning engineers on behalf of CEI and ATSI generally forecast future transmission projects in a five-year planning window. They currently have no plans for future modifications of the proposed substation.

(C) **TRANSMISSION EQUIPMENT**

(1) **Electric Transmission Line Data**

Details regarding the electric transmission line loops to the Inland-Jordan Q-11 and Q-14 138 kV transmission lines will be provided under separate cover as a Letter of Notification.

(2) **Electric Transmission Substation Data**

The equipment and facilities described below will be installed within the fenced in area of the proposed substation at the Preferred site. The equipment and facilities at the Alternate Site will be similar. A single-line diagram of the proposed substation is provided in Figure 04-9.

(a) **Breakers:** There will be twelve (12) 138 kV breakers installed at the substation. These breakers are SF₆ gas insulated, dead tank breakers. The 138 kV breakers are ganged 3-pole operation on a common frame.

(b) **Switchgear:** 138 kV switchgear is not applicable.

(c) **Bus Arrangement and Structures:** The CH Substation will be a 138 kV to 34.5 kV air insulated facility consisting of breakers in a breaker and a half arrangement. There will be connections for two 138 kV transmission line loops (four line segments) and four transformers.

Steel equipment support structures will be designed using hot-rolled structural steel shapes such as wide flange, tubing, channels and angles or as folded plate tapered tubular structures. Dead-end structures will be made of tapered tubular steel. All yard structures will be ASTM A36, ASTM A500, or ASTM A572 steel hot-dip galvanized for corrosion protection.

(d) **Transformers:** Four (4) 138 kV to 34.5 kV, 40/50 MVA outdoor, three phase, oil filled transformers will be installed. Transformer oil containment provisions will be designed and constructed to meet the requirements of the Environmental Protection Agency. The oil containment will be sized to accommodate 110% of the total volume of oil of the transformers.

(e) **Control Buildings:** The control house will consist of a pre-engineered or factory fabricated metal control building to contain all 35 kV switchgear and all substation control and relay panels and miscellaneous equipment. This will include an RTU, AC and DC distribution panels, batteries, battery chargers, and other miscellaneous equipment. The control house will include building HVAC and internal lighting. Plumbing facilities are not required. A self-contained eyewash will be installed near the battery area. The 35 kV switchgear will be fed using underground cables from the transformers and will have provisions for twelve (12) 36 kV outgoing underground feeders.

(f) **Other Major Equipment:** Other equipment can include surge arresters, CVT's and disconnect switches. There will be four (4) 36 kV, 10 MVAR outdoor metal enclosed capacitor banks. Each capacitor bank will be fed via underground cable from the 36 kV switchgear.

(3) Gas Transmission Line Data

This section is not applicable, as the proposed Project does not install gas transmission facilities.

(4) Gas Transmission Facilities

This section is not applicable, as the proposed Project does not install gas transmission facilities.

(D) ENVIRONMENTAL AND AVIATION COMPLIANCE INFORMATION

(1) List and Discussion of Permits Required

The Applicant anticipates submitting Notice of Intent (NOI) for coverage under Ohio EPA General NPDES Permit. Since no wetlands or streams will be impacted by the project, no U.S. Army Corps of Engineers permits are anticipated to be required.

(2) Description, Quantification, Characterization, Removal and Disposal of Construction Debris

As construction work proceeds, the site will be kept clean of all rubbish and debris resulting from the work. Debris associated with construction of the proposed substation is expected to consist of conductor scrap, construction material packaging including cartons, insulator crates, conductor reels and wrapping, and used stormwater erosion control materials. Clearance poles, conductor reels and other materials with salvage value will be removed from the construction area for reuse or salvage. It is estimated that approximately 200 cubic yards of construction debris could be generated from the Project. Construction debris will be disposed of in accordance with state and federal requirements in an Ohio EPA approved landfill or other appropriately licensed and operated facility.

Where vegetation must be cleared, the resulting brush will be removed. Generally, stumps outside of disturbed areas will not be removed.

(3) Storm Water and Erosion Controls During Construction and Restoration of Soils, Wetlands, and Streams Disturbed as a Result of Construction of the Facility

A Stormwater Pollution Prevention Plan (SWPPP) will be prepared and incorporated into the Construction Plans and Specifications, and shall be made available on site during construction of the Project. The SWPPP will include the following General Conditions, at a minimum.

(a) *Erosion and Sediment Controls:* Implementation of erosion and sediment control practices shall conform to the Ohio Department of Natural Resources Rainwater and Land Development Manual (2006); the Ohio EPA NPDES Permit Program for the discharge of storm water from construction sites, and any erosion and sediment control practices and standards required by the County. Streams and wetlands are not expected to be impacted.

Grubbing activities are expected to be required in limited areas. Demolition of the existing parking lot will be required for the installation of the substation. Erosion control measures shall be implemented within seven days of grubbing and demolition activities and shall continue to function until disturbed areas are permanently stabilized.

Silt Fencing: Silt fencing and/or other appropriate best management practices for erosion control shall be constructed before upslope land disturbance begins.

All silt fences shall be placed as close to the contour as possible so that water will not concentrate at low points in the fence and so that small swales or depressions which may carry concentrated flows to the silt fence are dissipated along its length.

Where possible, vegetation shall be preserved for five feet upslope from the silt fence.

Silt fence shall be placed so that eight inches of cloth are below the ground surface. Excess material shall lay at the bottom of the six-inch deep trench and the trench shall be backfilled and compacted.

Silt fence shall allow runoff to pass only as diffuse flow through the geotextile fabric. If runoff overtops the silt fence, flows under or around the ends, one of the following shall be performed, as appropriate: 1) the layout of the silt fence shall be changed, 2) accumulated sediment shall be removed, or 3) other practices shall be installed.

Fence posts shall be a minimum of 32 inches in length made by 2"x2" hardwood of sound quality.

Silt fence fabric shall be ODOT Type C geotextile fabric or equivalent.

Soil Stabilization: Disturbed areas that remain unworked for more than 21 days shall be stabilized with seed and mulch no later than 14 days after the last construction in that area.

Maintenance / Inspection: All erosion and sediment control practices shall be inspected at least once every seven days and within 24 hours after any storm event greater than 0.5" of rain per 24-hour period.

All measures shall be maintained in good working order. If a repair is necessary, it will be initiated within 24 hours of report. Silt fencing will be inspected for depth of sediment, for tears, for assurance fabric is securely attached to the fence posts, and for assurance that the fence posts are firmly in the ground. Seeded areas will be inspected for evidence of bare spots or washouts. Permanent records of the maintenance and inspection must be maintained throughout the construction period. Records shall

include, at a minimum, the name of the Inspector, major observations, date of inspection, certification of compliance, and corrective measures taken.

(b) *Materials Management:* All materials stored on-site shall be kept in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure.

Products shall be kept in their original containers with the original manufacturer's label.

Manufacturer's recommendations for proper use and disposal will be followed.

Material Safety Data Sheets (MSDS) will be retained and available on-site at all times.

**(4) Plans for Disposition of Contaminated Soil and Hazardous Materials
Generated or Encountered During Construction:**

The following General Conditions will also be included in the SWPPP to address disposition of contaminated soil and hazardous materials generated or encountered during construction:

(a) *Spill Prevention:* All on-site vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers, which are clearly labeled.

Secondary containment shall be provided for all on-site fuel storage tanks.

All sanitary waste will be collected in portable units and emptied regularly by a licensed sanitary waste management contractor, as required by local regulations.

All spills will be cleaned up immediately after discovery. Manufacturer's recommended methods for spill cleanup will be followed. Materials and equipment necessary for spill cleanup will be kept in a designated storage area on-site.

Spills will be reported to the appropriate government agency as required.

Any suspected hazardous materials encountered during construction shall be reported to the FirstEnergy Environmental Department.

(5) Height of Tallest Anticipated Above Ground Structures and Construction Equipment within the Vicinity of Airports and Landing Strips.

According to the Federal Aviation Administration's Office of Aeronautical Information Services, 27 airports, landing strips, or heliports are located in Cuyahoga County. Major air transportation facilities include Burke Lakefront Airport, located approximately 3 miles to the northwest, Cuyahoga County Airport, located approximately 7 miles to the northeast, and Cleveland-Hopkins International Airport, located 12.5 miles to the southwest of the Preferred and Alternate sites. Of these 27 registered facilities, only two helipads are located within one mile of the Preferred Site. University Hospitals of Cleveland Heliport is located approximately 2,600 feet to the northeast. Based on Ohio Statewide Imagery Program Light Detecting and Ranging (LiDAR) last return data, the elevation of the base of the heliport is 858 feet above mean sea level. The top of a building between the heliport and the Preferred Site is reported to have an elevation of 900 feet above mean sea level. The Cleveland Clinic Foundation Heliport is located approximately 3,300 feet northwest of the Preferred Site and 1,900 feet west of the Alternate Site. The base of the heliport is reportedly 726 feet above mean sea level. The top of a building between the heliport and the Preferred and Alternate sites is reportedly 870 feet above mean sea level. The current elevation of the Preferred Site is approximately 710 feet and the current elevation of the Alternate Site is approximately 690 feet with a maximum new structure height of 60 feet. The proposed height of the transmission line loops to the proposed CH Substation will be provided in a separate Letter of Notification to be submitted to OPSB under separate cover. Therefore, construction on either the Preferred or Alternate Site is not anticipated to impact any airports, landing strips, or heliports.

(6) Construction During Excessively Dusty or Excessively Muddy Soil Conditions

(a) Dust Control: The Site and surrounding areas will be kept free from dust nuisance resulting from Site activities. During excessively dry periods of active construction, dust suppression will be implemented where necessary through irrigation, mulching, or application of tackifier resins.

(b) Excessive Muddy Soil Conditions: Construction entrances will be established and maintained to a condition which will prevent tracking or flowing of sediment onto

public rights of way. All sediment spilled, dropped, washed, or tracked onto public right of ways shall be removed immediately.

J:\GIS\Projects\First_Energy\ClevelandClinicSubstation\Figure04-1.mxd



LEGEND:

- | | | | |
|--|-------------------------------------|--|---|
| | Preferred Site | | Park |
| | Alternate Site | | School |
| | 1,000-foot Buffer of Preferred Site | | Place of Worship |
| | 1,000-foot Buffer of Alternate Site | | ODNR Record of Special Status Species |
| | Existing Transmission Line | | Soil Association Boundary |
| | Commercial Land Use | | Ohio Historic Inventory |
| | Residential Parcel | | National Register of Historic Properties (NRHP) |
| | Hospital | | NRHP Historic District |

0 1,000 2,000

Scale in Feet

BASE MAP SOURCE:
ArcGIS Map Service, NGS_Topo_US_2D
<http://services.arcgisonline.com/v92>

the Illuminating Company **ATSI** Clinic Hospital Substation
A PreEnergy Company Association Transmission Systems Inc. a subsidiary of PreEnergy

**FIGURE 04-1
LAND USE AND CONSTRAINTS MAP**

CREATED BY: AG

DATE: 05/24/2011

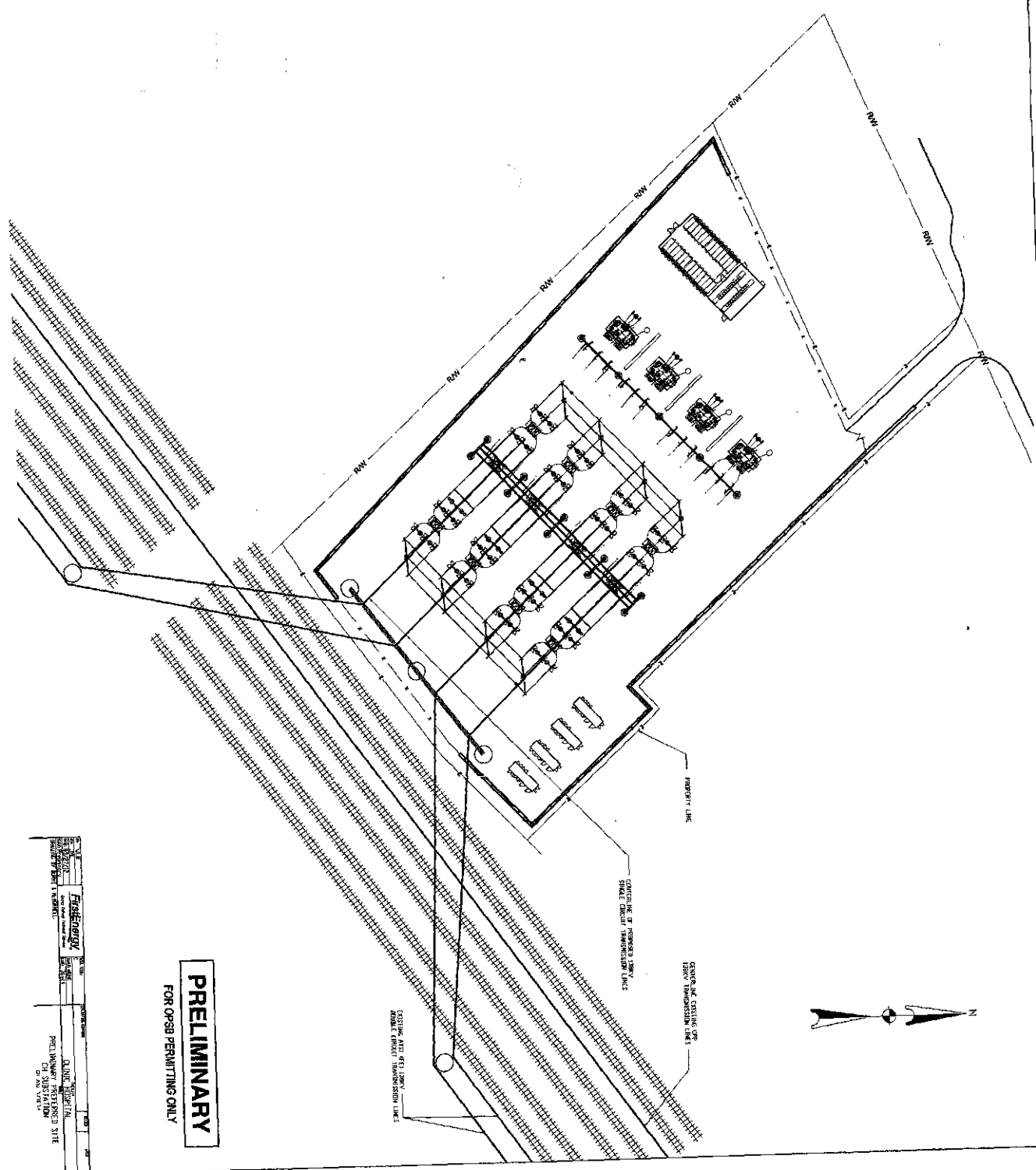
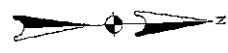
CHECKED BY: JN

1 INCH = 2,000 FEET

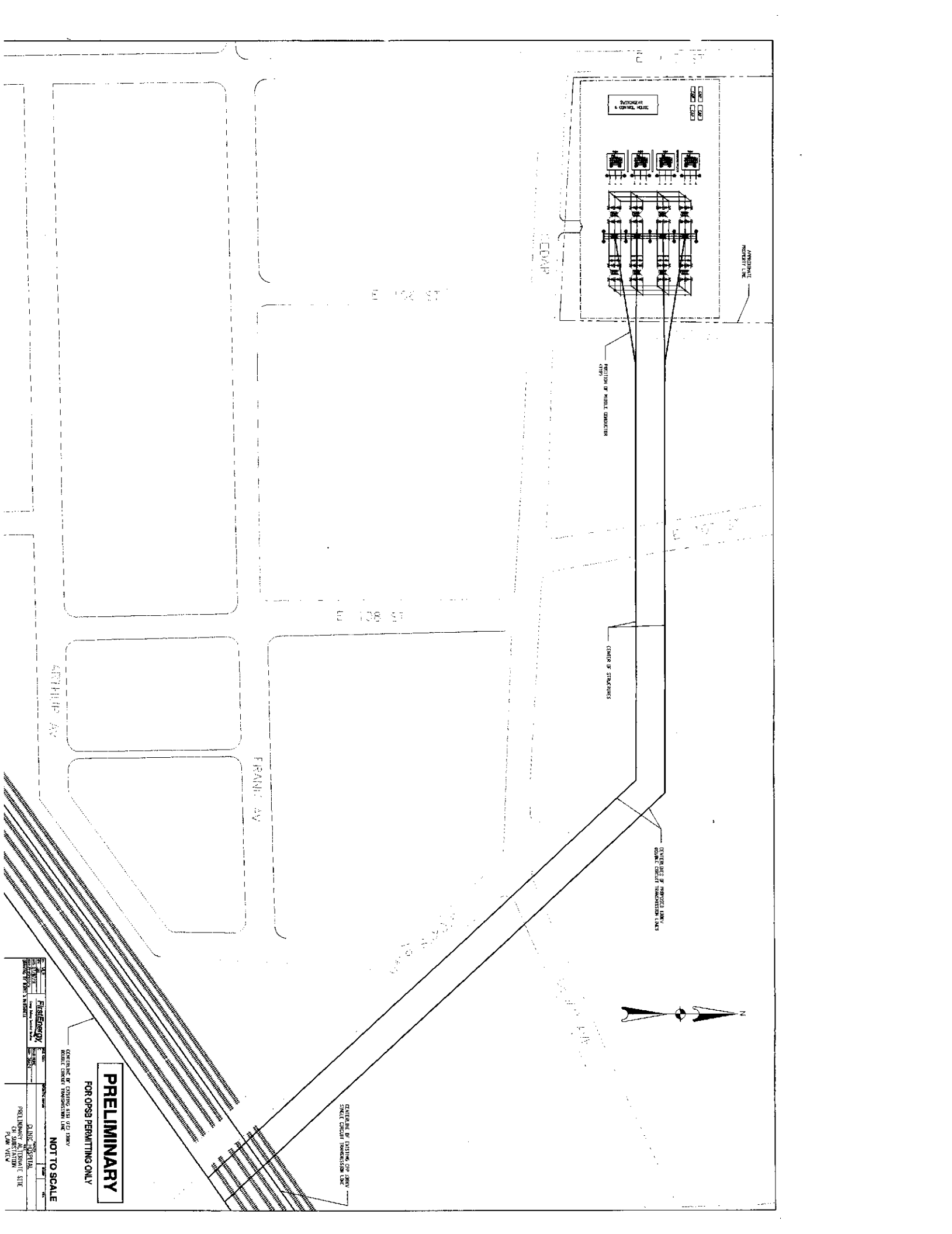
JOB NO. 14949786

URS

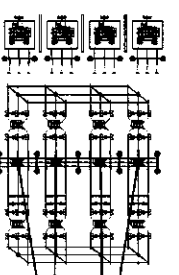
PRELIMINARY
FOR OPS&B PERMITTING ONLY



PRELIMINARY SITE PLAN
 PRELIMINARY PROPOSED SITE
 DATE: 10/1/2010
 DRAWN BY: [illegible]
 CHECKED BY: [illegible]
 PROJECT: [illegible]



OUTLINE OF EXISTING 33KV SUBSTATION



APPROXIMATE PROPERTY LINE

SECTION OF PUBLIC CONDUIT CITY

CENTER OF STRUCTURES

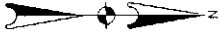
TURNS AND APPROXIMATELY 33KV PUBLIC CIRCUIT TRANSMISSION LINES

CENTERLINE OF EXISTING 33KV SINGLE CIRCUIT TRANSMISSION LINE

CENTERLINE OF EXISTING 33KV 2-110KV SINGLE CIRCUIT TRANSMISSION LINE

FRANK AV

4TH AV



PRELIMINARY

FOR OPS3 PERMITTING ONLY

NOT TO SCALE

PROJECT NO.	DATE	BY	CHECKED BY
OPS3	10/10/10	J. D. [illegible]	[illegible]
PRELIMINARY ALTERNATE SITE PLAN VIEW			

LEGEND

EXISTING PROPERTY LINE
PROPOSED PROPERTY LINE

ABBREVIATIONS

POB POINT OF BEGINNING

STOKES BLVD.

CECILIA AVE.

PETPARIA RD.

P.P.N. 121-25-007
THE CLEVELAND CLINIC FOUNDATION
2.96 ACRES

POB

N69°57'55"E
L=112.46'

S42°31'52.45"E
L=161.53'

S42°31'52.45"E
L=58.43'
S47°28'12.52"W
L=26.50'

S42°31'52.45"E
L=111.00'

S47°28'12.52"W
L=36.50'

N42°31'52.45"E
L=22.30'

S42°31'52.45"E
L=161.62'

S46°48'11.18"W
L=102.72'

S47°21'52.55"W
L=257.83'
S55°40'28.18"W
L=144.15'

N47°51'52.45"W
L=58.80'

STOKES BLVD.

PRELIMINARY

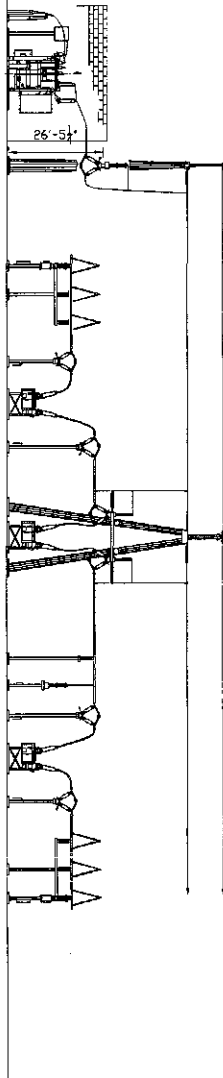
FOR OP&B PERMITTING ONLY

RECORD NUMBER:
121-25-007

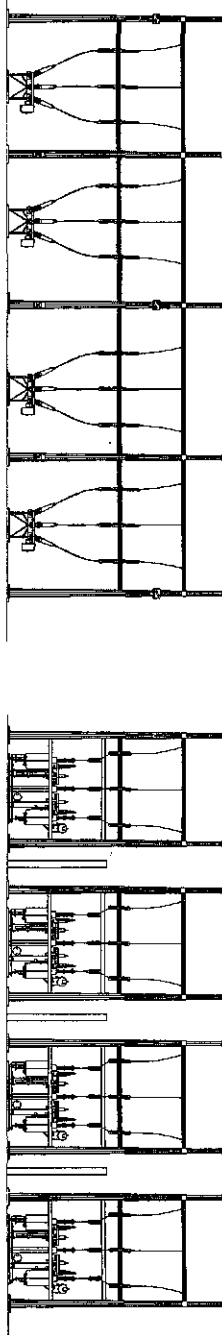




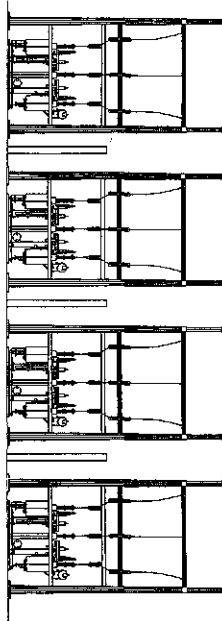
FOR OPSB PERMITTING ONLY



ELEVATION A-A



ELEVATION B-B



ELEVATION C-C

PRELIMINARY

FOR OPS PERMITTING ONLY



- LEGEND:**

PRELIMINARY CH	CL
-------------------	----

4906-15-05 FINANCIAL DATA**(A) SECTION SUMMARY**

This section of the application provides information on the current and proposed ownership status of the proposed substation, and estimated costs for the proposed Project.

(B) OWNERSHIP

ASTI and CEI will construct, own, operate, and maintain the proposed CH Substation. ATSI will own the transmission line facilities associated with the substation. These transmission line facilities include interconnects to the existing Inland-Jordan Q-11 and Q-14 138 kV lines, and will be included in a Letter of Notification to be submitted to the Board under separate cover.

The Preferred Site of the CH Substation is primarily located on an approximately 2.8 acre property parcel currently owned by the Cleveland Clinic. A Letter of Intent to purchase the property has been agreed on between CEI and the Cleveland Clinic. This includes a Letter of Intent between the Cleveland Clinic and adjacent property owner to the east, Case Western Reserve University, to make a small land swap that is beneficial to the layout of the substation as well to Case Western Reserve University's planned construction activities on their parcel. Figure 04-2 shows the layout of the property at the Preferred Site. The right-of-way associated with the Preferred Site for the Inland-Jordan Q-11 and Q-14 138 kV transmission interconnects will cross a railroad corridor with Greater Cleveland Regional Transit Authority, CSX, and Norfolk Southern tracks. In order to pass above the railroad corridor, installation of new steel poles and required construction work areas will be necessary on land parcels owned by the Greater Cleveland Regional Transit Authority and the City of Cleveland. Right-of-way easements or other comparable agreements will be obtained for both of these properties.

Development on the Alternate Site of the CH Substation would require approximately 1,500 feet of additional new overhead transmission right-of-way to connect the Alternate Site to the existing transmission lines. The Alternate Site is also currently owned by the

Cleveland Clinic and would require a land transfer similar to the Preferred Site plus significant additional right-of-way to extend the transmission lines to the Alternate Site.

(C) ELECTRIC CAPITAL COST

Estimates of applicable intangible and capital costs for both the Preferred and Alternate Sites of the CH Substation are identified in Table 05-1.

TABLE 05-1
ESTIMATES OF APPLICABLE INTANGIBLE AND CAPITAL COSTS
FOR BOTH THE PREFERRED AND ALTERNATE SITES

FERC Account			
Number	Description	Preferred Site	Alternate Site
350	Land and Land Rights	0	0
352	Structures & Improvement	0	0
353	Station Equipment	\$14,680,000	\$14,680,000
354	Towers & Fixtures	0	0
355	Pole & Fixtures	0	0
356	Overhead Conductors & Devices	0	0
357	Underground Conductors & Devices	0	0
358	Underground-to-overhead Conversion Equipment	0	0
359	Right-of-way Clearing, Roads, Trails or Other Access	0	0
	TOTAL	\$14,680,000	\$14,680,000

(D) GAS CAPITAL COST

The Applicants do not propose to construct, own or operate any natural gas transmission lines or facilities as part of or in conjunction with the proposed Project. As such, the Board's regulations, as provided by Section 4906-15-05(C) of the Ohio Administrative Code, do not apply to this Application and accordingly, no estimates of capital costs for construction or operation of natural gas transmission lines or association facilities are included in the Application.

4906-15-06 SOCIOECONOMIC AND LAND USE IMPACT ANALYSIS

This section of the Application provides data on land use within 1,000 feet of the proposed Preferred and Alternate sites for the Project, including data collected from literature searches and on-site investigations. This section also provides descriptions of the anticipated impacts of constructing the Project, the public interaction program for the Project, information on health, safety and aesthetic aspects of the Project, and data on noise emissions associated with constructing and operating the Project.

(A) SOCIOECONOMIC CHARACTERISTICS

A study of the general socioeconomic characteristics of the Project area was conducted as part of this Application. The study is summarized below and was based on review of available U. S. Census Bureau data and materials available from state and local government agencies.

The Preferred and Alternate sites, as well as areas within 1,000 feet, are located entirely within the City of Cleveland in Cuyahoga County, Ohio. The socioeconomic characteristics are summarized in the following discussion.

The U.S. Census Bureau reported that the population of Cuyahoga County between the years of 2006 and 2008 was 1,295,683, a seven percent decrease since the 2000 Census. According to the Census and 2006-2008 American Community Survey, the average household in Cuyahoga County consisted of 2.36 persons. Cuyahoga County had a median household income of \$44,943 in 2008. The population of the City of Cleveland decreased from 478,403 in 2000 to an estimated 397,901 between 2006 and 2008, a 17 percent decrease. Average household size in the City of Cleveland was reported at 2.33 persons, and the median household income was \$27,956 in 2008.

Based on review of aerial photography, the Cuyahoga County Auditor data, and field reconnaissance, 21 residences were identified within 1,000 feet of the Preferred Site and 75 residences were identified within 1,000 feet, two of which are within 100 feet, of the Alternate Site in Cuyahoga County.

Construction at the Preferred or Alternate sites will not require the removal of any residential structures, and no individuals are expected to be required to relocate. It is not expected that construction, operation, or maintenance of the proposed substation at either candidate site will broadly affect the general socioeconomic characteristics of the Project area.

(B) SITE ALIGNMENTS AND LAND USE

(1) Proposed Routing Alignments and Turning Points

The proposed alignments and details for the transmission line loops from the Inland-Jordan Q-11 and Q-14 138 kV transmission lines to the proposed CH Substation will be provided in a separate Letter of Notification to be submitted to the Board under separate cover.

(2) Substations

A map at 1:24,000-scale, including the surrounding 1,000 feet from the Preferred and Alternate sites, is presented as Figure 04-1.

(a) Preferred Site: The Preferred Site of the CH Substation is primarily located on an approximately 2.8 acre property parcel situated at the southeast corner of the intersection of Cedar Avenue and Stokes Boulevard. The Cleveland Clinic owns this property and currently utilizes it as a parking lot. A Letter of Intent to purchase the property has been agreed on between CEI and the Cleveland Clinic. This includes a Letter of Intent between the Cleveland Clinic and adjacent property owner to the east, Case Western Reserve University, to make a small land swap that is beneficial to the layout of the substation as well as Case Western Reserve University's planned construction activities on their parcel. Proposed access to the substation will be from Cedar Avenue to the north via a permanent access drive similar to but east of the alignment of the current entrance to the existing parking lot.

(b) Alternate Site: The Alternate Site of the CH Substation is located on an approximately 3.4 acre property parcel situated at the northeast corner of the intersection of Cedar Avenue and East 105th Street. The Cleveland Clinic Hospital

owns this property and currently utilizes it as a parking lot. Access to the substation will be from Cedar Avenue to the south via a permanent access drive.

(3) General Land Use

(a) Residential:

Preferred Site: The immediate vicinity surrounding the Preferred Site is an urban area. Residential areas are predominantly to the west and southwest. Twenty-one residences were identified within 1,000 feet of the Preferred Site. No residences were identified within 100 feet of the Preferred Site.

Alternate Site: Seventy-five residences are within 1,000 feet of the Alternate Site, two of which are within 100 feet.

(b) Commercial:

Preferred Site: Commercial facilities within 1,000 feet of the Preferred Site are concentrated along Cedar Avenue to the east, west, and northeast, and Stokes Boulevard to the north. These commercial land uses consist of office buildings, including Ohio Bell and several medical office or bioresearch facilities, and a tavern. BioEnterprise, a commercial operation with partners including the Cleveland Clinic, University Hospitals, Case Western Reserve University, Summa Health System, and BioInnovation Institute, operates an office building adjacent to the east of the Preferred Site. A parking garage for the facility is adjacent with the main office building approximately 175 feet away. The Applicants have been informed that the parking garage is to be removed and replaced with surface parking spaces. No other commercial buildings were identified within 100 feet of the Preferred Site.

Alternate Site: Commercial facilities within 1,000 feet of the Alternate Site are similar to those in proximity to the Preferred Site and are concentrated along Cedar Avenue. The Ohio Bell building, office buildings, bioresearch facilities, and tavern are also within 1,000 feet of the Alternate Site. Ohio Bell and another office building are adjacent to the east.

(c) Industrial:

Preferred Site: No industrial facilities were identified within 1,000 feet of the Preferred Site.

Alternate Site: No industrial facilities were identified within 1,000 feet of the Alternate Site.

(d) Cultural: Data for known cultural resource landmarks shown on Figure 04-1 were obtained Ohio Historic Preservation Office's (OHPO) Online Mapping System.

Preferred Site: No previously recorded archeological sites were recorded by the OHPO within 1,000 feet of the Preferred Site. One National Register of Historic Places (NRHP) structure, one NRHP district, and two Ohio Historic Inventory (OHI) structures were identified within 1,000 feet of the Preferred Site, the closest of which was mapped 850 feet to the southeast.

Alternate Site: No previously recorded archeological sites or NRHP districts were recorded by the OHPO within 1,000 feet of the Alternate Site. One NRHP structure and six OHI structures were identified within 1,000 feet of the Preferred Site, the closest of which was mapped adjacent to the northeast.

(e) Agricultural:

Preferred Site: No agricultural land was identified within 1,000 feet of the Preferred Site.

Alternate Site: No agricultural land was identified within 1,000 feet of the Alternate Site.

(f) Recreational:

Preferred Site: Ambler Park is located across a railroad corridor approximately 200 feet southeast of the Preferred Site. Wade Park is located approximately 300 feet to the northeast. No other recreational facilities were identified within 1,000 feet of the Preferred Site.

Alternate Site: No recreational areas were identified within 1,000 feet of the Alternate Site.

(g) Institutional:

Preferred Site: Five institutional structures were identified within 1,000 feet of the Preferred Site, none of which are within 100 feet. Second Bethlehem Baptist Church and Uqbah Mosque are located across Stokes Boulevard, approximately 150 feet from the Preferred Site. Lily Baptist Church is located along Cedar Avenue, approximately 350 feet to the northwest. Balm in Gilead Missionary Church is located approximately 550 feet to the west. John Hay High School is located approximately 900 feet to the north. The Cuyahoga County Coroner's Office is located across Cedar Avenue approximately 200 feet to the northeast. According to Cuyahoga County Auditor's parcel data, Case Western Reserve University operates their Cedar Avenue Service Center along Cedar Avenue approximately 500 feet west of the Preferred Site. Several parking lots associated with Case Western Reserve University are also located within 1,000 feet of the Preferred Site.

Alternate Site: The Cleveland Clinic's main campus is adjacent to the west and north of the Alternate Site. Calvary Baptist Church is located across the intersection of Cedar Avenue and East 105th Street approximately 200 feet to the southwest. John Hay High School is approximately 450 feet to the northeast. One Hundred Fifth Street Church of God in Christ is approximately 500 feet to the south-southwest. Lily Baptist Church is located along Cedar Avenue approximately 600 feet to the east. Second Bethlehem Baptist Church and Balm in Gilead Missionary Church are located approximately 900 feet to the southeast. According to Cuyahoga County Auditor's parcel data, Case Western Reserve University operates its Cedar Avenue Service Center along Cedar Avenue approximately 500 feet east of the Alternate Site.

(4) Transportation Corridors

Preferred Site: The Preferred Site is located at the southeast corner of Cedar Avenue and Stokes Boulevard. U.S. Highway 20 (Euclid Avenue) and US Highway 322 (Chester Avenue) are within the Project vicinity. Smaller main transportation corridors within the Project vicinity include Carnegie Avenue and Euclid Boulevard. Interstate 77, Interstate 90, and Interstate 490 are located approximately three miles to the west.

Several active railroads were identified in the Project vicinity, including CSX, Norfolk Southern, and Greater Cleveland Regional Transit Authority tracks adjacent to the southeast of the Preferred Site.

Alternate Site: The Alternate Site is located at the northeast corner of Cedar Avenue and East 105th Street, approximately 1,000 feet northwest of the Preferred Site. U.S. Highway 20 (Euclid Avenue) and US Highway 322 (Chester Avenue) are within the Project vicinity. Smaller main transportation corridors within the Project vicinity include Carnegie Avenue and Euclid Boulevard. Interstate 77, Interstate 90, and Interstate 490 are located approximately three miles to the west. Several active railroads were identified in the Project vicinity, including CSX, Norfolk Southern, and Greater Cleveland Regional Transit Authority tracks adjacent to the southeast of the Preferred Site.

(5) Existing Utility Corridors

The Inland-Jordan Q-11 & Q-14 138 kV transmission lines are located in the immediate site vicinity of both the Preferred and Alternate sites. The centerline of the Inland-Jordan Q11 & Q14 138kV transmission lines is located across the CSX, Norfolk Southern, and Greater Cleveland Regional Transit Authority railroad corridor and a Cleveland Public Power 138 kV transmission line corridor approximately 200 feet to the southeast of the Preferred Site and 1,400 feet southeast of the Alternate Site. The Lake Shore-Inland Q-11 & Q-14 138 kV transmission lines are located approximately 1.5 miles to the southwest of the Preferred and Alternate sites. The alignments of existing transmission lines are shown on Figure 04-1.

(6) Noise Sensitive Areas

Noise sensitive areas in the urban Project vicinity include residences, churches, schools, and parks. An assessment of noise impact during construction and operation of the substation is provided in Section 4906-15-06(G).

Preferred Site: Noise sensitive areas within 1,000 feet of the Preferred Site include 21 residences, four churches, one school, and two parks. None of these noise sensitive areas are located within 100 feet.

Alternate Site: Noise sensitive areas within 1,000 feet of the Alternate Site include 75 residences, one hospital, and five churches. Two of the residences are within 100 feet east of the Alternate Site. None of the other noise sensitive areas are located within 100 feet.

(7) Agricultural Land (Agricultural District Land)

There is currently no agricultural land within 1,000 feet of either the Preferred Site or Alternate Site. URS contacted the Cuyahoga County auditor to obtain information on agricultural district land. On February 3, 2011, Cuyahoga County identified no agricultural district land within 1,000 feet of either the Preferred Site or Alternate Site. Follow-up data requests were made on May 20, 2011 and May 11, 2012 and Cuyahoga County sent emails stating that the data received on February 3, 2011 had not changed and therefore was still current. Records of the email correspondence can be found in Appendix 06-1.

(C) LAND USE IMPACTS OF THE PROPOSED PROJECT

(1) Number of Residential Structures

Preferred Site: Based on review of Cuyahoga County Auditor parcel data and aerial photography supplemented by a windshield reconnaissance, 21 homes were identified within 1,000 feet of the Preferred Site. None of these residences are within 100 feet.

Alternate Site: Seventy-five residences were identified within 1,000 feet of the Alternate Site. Two of these homes, located at 2141 (Parcel 119-25-046) and 2143 (Parcel 119-25-047) East 106th Street, are located across East 106th Street adjacent to the east of the Alternate Site.

(2) Impact of Construction

(a) Residential:

Preferred Site: No residences are located on the Preferred Site. No residences will be removed in order to construct the proposed Project on the Preferred Site. It is expected that some incremental increase in noise will be audible during some portions of

construction of the substation. However, the current ambient noise levels associated with the urban nature of the Project vicinity, including adjacent roads and railroads, are expected to mitigate overall noise impacts during construction.

Alternate Site: Similar impacts to residential areas as described at the Preferred Site are expected at the Alternate Site, although impacts would likely be increased due to the increased number of residences within 1,000 feet and the proximity of two adjacent homes.

(b) Commercial:

Preferred Site: The Preferred Site is currently used as a parking lot for the Cleveland Clinic's main campus. Construction of the Project on the Preferred Site will displace these parking spaces. No commercial structures are located on the Preferred Site and no commercial structures will be removed in order to construct the proposed Project on the Preferred Site. It is expected that some incremental increase in noise will be audible during some portions of construction of the substation. However, the current ambient noise levels associated with the urban nature of the Project vicinity, including adjacent roads and railroads, are expected to mitigate overall noise impacts during construction. Some short-term traffic delays may occur in the immediate vicinity as equipment is moved to the site.

Alternate Site: Similar impacts to commercial land uses as described at the Preferred Site are expected at the Alternate Site.

(c) Industrial: Impacts to industrial land use areas associated with construction of the proposed Project are not anticipated.

(d) Cultural: Impacts to cultural land use areas associated with construction of the proposed Project are not anticipated.

(e) Agricultural: Impacts to agricultural land uses associated with construction of the proposed Project are not anticipated.

(f) Recreational:

Preferred Site: Ambler Park is located across a railroad corridor occupied by tracks of the Greater Cleveland Rapid Transit Authority, CSX, and Norfolk Southern. Impacts to

the park associated with the construction of the substation at the Preferred Site are expected to be limited to some incremental increase in noise that will be audible during some portions of construction of the substation. However, the current ambient noise levels associated with the urban nature of the Project vicinity, including adjacent roads and railroads, are expected to mitigate overall noise impacts during construction. Potential impacts associated with the loops to the existing Inland-Jordan Q-11 and Q-14 138 kV transmission line will be included in Letters of Notification to be provided to the OPSB under separate cover.

Alternate Site: No recreational areas were identified within 1,000 feet of the Alternate Site. Impacts to recreational land uses associated with construction of the proposed Project are not anticipated.

(g) Institutional:

Preferred Site: No institutions are located on the Preferred Site. It is expected that some incremental increase in noise will be audible from nearby institutions during some portions of construction of the substation. However, the current ambient noise levels associated with the urban nature of the Project vicinity, including adjacent roads and railroads, are expected to mitigate overall noise impacts during construction.

Alternate Site: Similar impacts to residential areas as described at the Preferred Site are expected at the Alternate Site although slightly increased impacts to institutional land uses are expected at the Alternate Site due to a greater number of institutions within 1,000 feet.

(3) Impact of Operation and Maintenance

(a) Residential: Operation and maintenance of the substation will have little impact on surrounding residences. A slight increase in background noise from the substation equipment is likely during operation. However, the current ambient noise levels associated with the urban nature of the Project vicinity, including adjacent roads and railroads, are expected to mitigate overall noise impacts during construction.

(b) Commercial: No impacts to commercial land uses other than slight noise increases are expected due to operation and maintenance of the substation.

(c) **Industrial:** Impacts to industrial land uses associated with operation and management of the proposed Project are not anticipated.

(d) **Cultural:** Impacts to cultural land use areas associated with operation and maintenance of the proposed Project are not anticipated.

(e) **Agricultural:** Impacts to agricultural tracts from operation and maintenance of the line are not anticipated.

(f) **Recreational:** No impacts to recreational land uses other than slight noise increases at Ambler Park near the Preferred Site are expected due to operation and maintenance of the substation. This potential slight noise increase is expected to be extremely minimal due to the presence of the railroad corridor between the park and the Preferred Site.

(g) **Institutional:** Operation and maintenance of the substation will have little impact on surrounding institutions. A slight increase in background noise from the substation equipment is likely during operation. However, the current ambient noise levels associated with the urban nature of the Project vicinity, including adjacent roads and railroads, are expected to mitigate overall noise impacts during construction.

(4) **Mitigation Procedures**

The potential for Project related erosion and sedimentation will be mitigated with the development of a Storm Water Pollution Protection Plan (SWPPP) for the Project which will include the use of silt fence or other appropriate best management erosion and sedimentation control techniques, as required. After construction and final grading are complete, disturbed surface areas will be re-vegetated, as appropriate.

The substation site will be fenced and secure to prevent public entry. Appropriate warning signs, as required, will be posted.

(a) **Residential:** Noise impacts associated with construction, operation, and maintenance of the substation are expected to be minimal. Noise will be mitigated by constructing predominantly during daytime hours. Due to the urban nature of the Project area, further noise mitigation is not proposed.

- (b) **Commercial:** No additional mitigation for commercial land uses is proposed.
- (c) **Industrial:** No industrial sites are expected to be impacted by the Project. Therefore, no mitigation is proposed for industrial properties.
- (d) **Cultural:** No cultural land use areas will be affected by the proposed Project. Therefore, no mitigation is proposed for cultural land use areas.
- (e) **Agricultural:** No agricultural land will be affected by the proposed Project. Therefore, no mitigation is proposed for agricultural land uses.
- (f) **Recreational:** No additional mitigation for recreational land uses is proposed.
- (g) **Institutional:** No additional mitigation for institutional land uses is proposed.

(D) PUBLIC INTERACTION INFORMATION

(1) Counties, Townships, Cities and Villages within 1,000 feet of the Site Alternatives

The City of Cleveland and Cuyahoga County are the only jurisdictional areas within 1,000 feet of the Preferred and Alternate sites.

(2) Public Officials Contacted

FirstEnergy's area manager has contacted several local officials to discuss the Project. Meetings were held with the staff of the City of Cleveland Mayor's office, the City of Cleveland Planning Commission, Cuyahoga County Administration and Planning Commission staff, Cleveland Public Power, and the Greater Cleveland Regional Transit Authority to inform them of the project and solicit feedback. FirstEnergy's area manager also worked extensively with a local community development corporation, University Circle, Incorporated, to address any concerns that the community may have regarding the proposed facilities. The feedback from University Circle, Incorporated was integrated into the final design of the proposed facilities at the Preferred Site. This resulted in the substation being located as close as practical to the railroad corridor at the south end of the Preferred Site while retaining open space along Cedar Avenue for

future developments. Appendix 06-2 provides a list of the local public officials, including their office addresses and office telephone numbers, who were contacted.

(3) Public Information Programs

To keep the public informed of the CH Substation Project, FirstEnergy created a public information program which included the following main elements:

1. In May 2011, ATSI and CEI issued public notices regarding the Project. The public notices were distributed to the Cleveland Plain Dealer and the Cleveland Call and Post. Copies of the public notice can be found in Appendix 06-3.
2. On May 17, 2011, a public information meeting was held at John Hay High School in Cleveland. Five members of the public attended this meeting. These included public officials or representatives of public officials, residents, and representatives of local community development corporations. Attendees received a handout, reviewed displays, and discussed the Project with ATSI, CEI, OPSB Staff and URS representatives. The handout contained a Project map, a brief statement on Project need and the siting process. Comment cards were also available. Only one comment card was received. Based on the written comment and verbal interaction with meeting attendees, the Project appears to be well received with no objections noted. The limited number of attendees expressed a preference for the Preferred Site. Copies of the handouts available during the meeting are included in Appendix 06-3.

(4) Liability Compensation

ATSI and CEI currently self-insure against primary general liability and property damage exposure, as well as primary liability exposure in connection with its automobile operations. ATSI and CEI purchase excess public liability and property damage insurance covering indemnity to at least \$25,000,000 in excess of \$500,000. This insurance is on a per occurrence basis and is arranged under a broad form that includes automobile and contractual liability. Present coverage is arranged with AEGIS renewable on a year-to-year basis.

(5) Serving the Public Interest

The Project will serve the public interest by providing superior N-2 reliability to the Cleveland Clinic main campus, allowing potential expansion of the facility and mitigating potential outages. A more detailed discussion of the need for this Project and how it will serve the public interest is included in Section 4906-02 of this Application.

(6) Tax Revenues

The Preferred and Alternate sites are located within Cuyahoga County and the City of Cleveland. ATSI and CEI will pay property taxes on utility facilities in each jurisdiction. The approximate annual property taxes for the CH Substation associated with the Preferred and Alternate sites over the first year after the Project is completed are \$1,608,336 and \$1,546,206, respectively.

Based on the 2010 tax rates, the following is an estimated distribution of taxes by city and county:

Preferred Site:

Cuyahoga County	\$477,354
Cleveland (City)	<u>\$1,130,982</u>
TOTAL	\$1,608,336

Alternate Site:

Cuyahoga County	\$458,914
Cleveland (City)	<u>\$1,087,292</u>
TOTAL	\$1,546,206

(7) Impact on Regional Development

The CH Substation Project will have a secondary impact on regional development as it will provide superior N-2 reliability to the Cleveland Clinic's main campus. A more detailed discussion of the need for this Project and how it will impact regional development is included in Section 4906-02 of this Application.

(E) HEALTH AND SAFETY**(1) Compliance with Safety Regulations**

The construction and operation of the Project will comply with the requirements specified in the NERC mandatory Reliability Standards, the National Electrical Safety Code, and the Public Utilities Commission of Ohio regulations, and will meet all applicable safety standards established by the Occupational Health and Safety Administration (OSHA).

(2) Electric and Magnetic Fields

The following calculations provide an approximation of the electric and magnetic and fields (EMF) strengths of the substation, as well as all transmission line connections as they cross the substation fence at the proposed CH Substation. The transmission line loops are to the Inland-Jordan Q-11 and Q-14 138 kV transmission lines. The calculations are based on approximate models of the transmission lines where they cross the substation's fence line at the location shown on Figure 04-2 for the Preferred Site and Figure 04-3 and for the Alternate Site, and would be the same for either site. (Additional modeling of the magnetic and electric fields will be provided in the Letters of Notification for the transmission lines that will be provided to the Board in a separate filing.) The following EMF calculations were performed using the Electric Power Research Institute (EPRI) EMF Workstation 2009 program software.

Factors that affect the level of EMFs include the variance in the right-of-way widths, daily and projected long-term transmission line loading, operating voltage, contingency operations, phase configuration, direction of current flows, conductor sag, ground elevation, unbalance conditions, and other nearby magnetic field sources or conductors of neutral current including water mains, metallic fences, and railroad tracks. Electric field computations assume that shrubs, trees, buildings, and other objects are not in proximity to the facilities, as they produce significant shielding effects. Other transmission or distribution facilities in the vicinity of the line will also affect the calculated fields. For example, a double-circuit loop configuration, with current flows in opposite directions, results in a partial reduction (cancellation) of the magnetic field

levels. The model and calculations include a number of assumptions, including the following:

- Current flows are assumed in the direction expected under normal system operating conditions
- The location of transmission line poles, attached conductors and static wire, and line phasing are based on preliminary engineering layouts
- Substation bus and similar equipment was generally included in the model
- The minimum clearance above the ground was assumed to occur at the Substation fence
- The calculated field levels assume a reference point approximately 3 feet (1 meter) above ground

Three loading conditions were modeled. The first three represent 1) normal maximum loading, 2) emergency line loading, and 3) the winter normal conductor rating. The normal maximum loading represents the routine maximum load at which the transmission lines are operated. Daily current load levels would fluctuate below this level. The emergency maximum loading represents the maximum current flow in the transmission line under unusual circumstances and only for a short period of time. The winter normal conductor rating represents the maximum current flow that the conductor used on the Project can withstand during winter conditions. It is not anticipated that the transmission line would be operated at the winter normal conductor rating level of current flow.

The transmission line loadings used in the calculations are presented in Table 06-1. The model of the 138 kV transmission line was based on transmission line corridor right-of-way width.

(a) Calculated Electric and Magnetic Field Levels: As the line loads are similar for the Preferred and Alternate sites and the footprints of the substations are similar, the modeled field strengths are approximately the same for both the Preferred and Alternate sites and are based on a detailed model of the Preferred site. The calculated EMFs are shown in Table 06-2. Typical cross section profiles of the calculated electric and magnetic fields at normal and maximum loading conditions are shown in Figures 06-1 through 06-4.

Table 06-1: Transmission Line Loadings

Line Name	Normal Loading (Amps)	Emergency Loading (Amps)	Winter Conductor Rating (Amps)
CH-Inland Q-11	116	355	1295
CH-Jordan Q-11	246	830	1295
CH-Inland Q-14	520	875	1295
CH-Jordan Q-14	35	419	1295

Table 06-2: Modeled EMF Calculations

Type of Field Modeled	Maximum	Minimum
Electric Field	0.308 kV/m	0.001 kV/m
Magnetic Field	40.218 mG	0.326 mG

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

Recent Developments

As a part of the National Energy Policy Act of 1992, the Electric and Magnetic Fields Research and Public Information Dissemination (EMF RAPID) program was initiated within the five-year effort under the National EMF Research Program. The culmination of this five-year effort resulted in a final RAPID Working Group report, which was released for public review in August 1998. The Director of the National Institutes of Environmental Health Sciences (NIEHS) then prepared a final report to Congress after receiving public comments. The NIEHS' Director's final report, released to Congress on May 4, 1999, concluded that extremely low frequency electric and magnetic fields (ELF-EMF) exposure cannot be recognized at this time as entirely safe because of weak scientific evidence that exposure may pose a leukemia hazard. The Director further stated that the conclusion of this report is insufficient to warrant aggressive regulatory concern.

Sources for Additional Information

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

- Centers for Disease Control/National Institute for Occupational Safety and Health: <http://www.cdc.gov/niosh/topics/emf/>
- National Institute of Environmental Health Sciences (NIEHS): <http://www.niehs.nih.gov/health/topics/agents/emf/>

(c) Line Design Considerations: The strength of EMFs can potentially be reduced by installing the transmission line conductors in a compact configuration and, for multiple circuit transmission lines, by selecting conductor phasing that reduces the field strengths. ATSI designs its facilities according to the requirements of the National Electric Safety Code ("NESC"). The pole heights and configuration were chosen based on NESC specifications, engineering parameters, and cost. ATSI's typical practice, as proposed in the new construction portions of this Project, is to install 138 kV transmission lines in a compact design that reduces EMF field strengths in comparison to other installations. The proposed connections to the existing Inland-Jordan Q-11 and Q-14 138 kV transmission lines will be discussed further in a separate Letter of Notification to the Board

(d) **EMF Public Policy:** Information on EMFs was made available at the Public Information Meeting held for the Project. This information discusses the basics of electric magnetic field theory, scientific research activities and EMF levels in everyday life. Similar materials will be available for those affected by the construction activities on this Project.

(3) **Aesthetic Impact**

The degree of compatibility of a new substation will vary with the viewer and the setting. The Applicants have proposed to construct the new facility on a property currently used as a parking lot. The Preferred Site is in a built-up urban setting, adjacent to an existing railroad 138 kV transmission line corridor.

(a) **Views of the Substation:** Public views of the Preferred or Alternate Site from residences and other potentially sensitive vantage points will be incrementally altered by construction of the Substation. GIS software was utilized to evaluate the aesthetic impact associated with the Project through a "viewshed" analysis. Ohio Statewide Imagery Program Light Detecting and Ranging (LiDAR) last return data was used to identify areas within one-half mile of the Preferred Site that could see the new substation based on a maximum height of 140 feet to account for the associated transmission structures within the fence line of the substation. Parcel data from the Cuyahoga County Auditor, supplemented by a windshield survey, was used to identify sensitive land uses, including residences, schools, churches, and parks. Based on this evaluation, the new substation could be visible from approximately 250 sensitive land use parcels within one-half mile of the Preferred Site. LiDAR data captures the highest point within the grid-based pixel or resolution of the data. This results in a worst-case scenario for viewshed analysis. In reality, many of the sensitive land uses may only see the proposed substation from rooftops and the true impacts to the visual landscape are reduced by the multitude of existing structures

(b) **Structure Design Features:** Substation features are primarily dictated by the necessary equipment and engineering limitations. Typical cross sections of the substation equipment proposed for the Project are shown in the figures of Section 1606-15-04 of the Application.

(c) **Facility Effect On Site and Surrounding Area:** Altering the views from areas surrounding the proposed substation is unavoidable in the urban setting of the Project. The need for the facility and the lack of a candidate site that could further minimize visual impacts outweighs the incremental aesthetic impacts associated with the Project. While aesthetic impacts are subjective and vary based on the viewer, the built-up nature of the site vicinity limits the overall change. The extent of existing buildings, streets, railroads, utility poles, and other infrastructure will result in rapidly diminishing impacts at viewpoints further from the proposed substation.

(d) **Visual Impact Minimization:** Due to the high-density development in the site vicinity, the ability to minimize visual impact through engineering design or set-back construction is limited. Visual impact minimization at the Preferred Site was achieved through the selection of the site, as other candidate sites have greater visual impacts.

(4) **Estimate of Radio and Television Interference**

No radio or television interference is expected to occur from the operation of the proposed substation or transmission line connections on either the Preferred or Alternate Site. During the operation of transmission lines and to a lesser extent substation equipment, gas-type discharges (corona) have the potential to result in the type of electromagnetic influence that could cause radio or television interference. The CH Substation will have transmission line and equipment operating at 138 kV voltage. Large corona levels are not typically encountered at 138 kV, so the potential for gas-type discharges from the 138 kV transmission line and 138 kV substation equipment to cause radio or television interference is minimal.

The potential for radio frequency noise from transmission lines during heavy rain is greater than the potential for fair weather noise. However, the quality of radio reception under typical heavy rain conditions is affected more by atmospheric conditions than by operation of transmission lines. The likely source of gas-type discharges that would be causing radio and television interference would be a localized effect primarily from defective hardware (from ball and socket hardware in insulators, hardware to hardware, line to hardware, and similar hardware) that may be easily detected. Once detected, the hardware either may be repaired or replaced, thus eliminating the interference source.

(F) CULTURAL IMPACTS OF THE PROPOSED PROJECT**(1) Archaeological Resources and Correspondence with Agency**

Data for known cultural resource landmarks shown on Figure 04-1 were obtained OHPO Online Mapping System.

Preferred Site: No previously recorded archeological sites were recorded by the OHPO within 1,000 feet of the Preferred Site. One NRHP structure, one NRHP district, and two Ohio Historic Inventory (OHI) structures were identified within 1,000 feet of the Preferred Site, the closest of which was mapped 850 feet to the southeast.

Alternate Site: No previously recorded archeological sites or NRHP districts were recorded by the OHPO within 1,000 feet of the Alternate Site. One NRHP structure and six OHI structures were identified within 1,000 feet of the Preferred Site, the closest of which was mapped adjacent to the northeast.

(2) Construction Impacts on Cultural Resources

The Preferred Site has undergone previous archaeological investigations, and no cultural resources were identified. No construction impacts to cultural resources identified on the OHPO Online Mapping System are anticipated. URS has recommended no additional cultural resources surveys for the Project. The Applicants will consult with SHPO on the need and scope of any additional archaeological investigations before proceeding with construction.

(3) Operation and Maintenance Impacts on Cultural Resources

Substation and transmission line loops maintenance operations will be generally limited to infrequent inspections. Therefore no significant impacts on cultural resources are anticipated during operation and maintenance.

(4) Mitigation Procedures

The Applicants will coordinate with SHPO before proceeding with construction. As no impacts are anticipated, no mitigation procedures for cultural resources appear to be warranted.

(G) NOISE**(1) Construction**

(a) *Dynamiting or blasting activities:* None anticipated.

(b) *Operation of earth moving or excavating equipment:* During the construction phase of the substation installation, a temporary increase in noise will result from the equipment used to excavate and install equipment and, where necessary, clear the area of any woody brush. Standard construction techniques will be used, and procedures will be in compliance with applicable OSHA standards. As a result, the noise impact on nearby sensitive areas is anticipated to be minimal. The total duration of below-grade construction of the proposed Project is estimated at approximately six months.

(c) *Driving of piles:* None anticipated.

(d) *Erection of structures:* Structures will be erected by vehicle-mounted cranes.

(e) *Truck traffic:* Beyond construction equipment access and pole and hardware equipment delivery, no other additional truck traffic is anticipated for the Project.

(f) *Installation of equipment:* The equipment will be installed using standard practices and equipment.

(2) Operation and Maintenance

Operation of the new substation equipment will produce audible noise in the immediate vicinity of the facility, but given the ambient noise associated with the urban setting, it is not expected to be significantly audible from surrounding residences and other sensitive areas. It is anticipated that noise-sensitive areas will not be significantly affected by the maintenance or operation of the substation for either the Preferred or Alternate site.

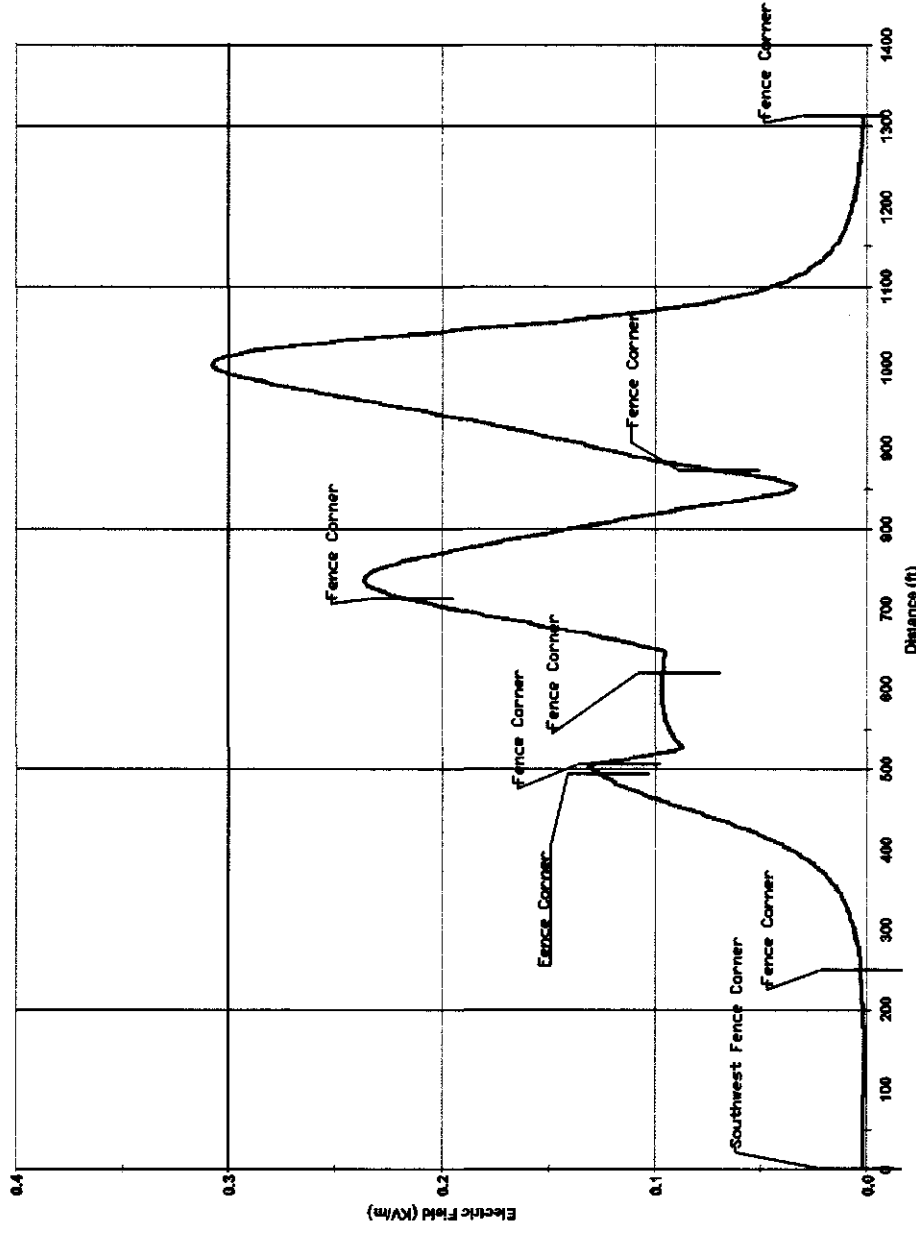
(3) Mitigation Procedures

Mitigation procedures will include properly maintained construction equipment with mufflers, construction generally during daylight hours, and noise related procedures done according to OSHA requirements. No additional noise mitigation is expected as noise impacts will be limited to construction equipment and will be temporary in nature.

(H) OTHER SIGNIFICANT ISSUES

There are no other significant socioeconomic or land use impact issues anticipated beyond those addressed elsewhere in this application.

Substation Fence, Electric Field - Normal Load(EF)



Resultant
Min = 0.001 kV/m Max = 0.306 kV/m

ATSI

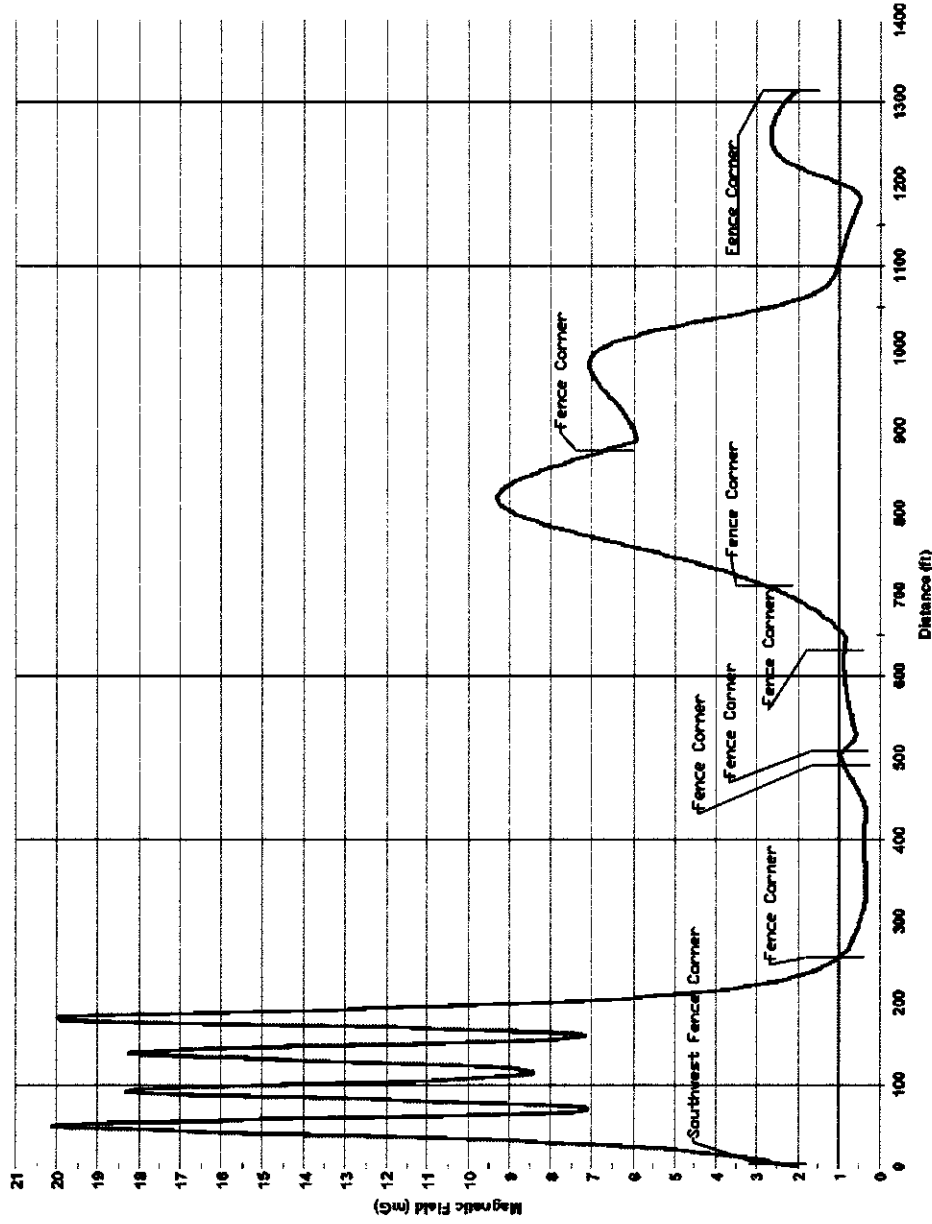
American Transmission Systems, Inc.
a subsidiary of Enteknor, Corp.

CLINIC HOSPITAL
SUBSTATION

ELECTRIC FIELD

FIGURE 06-1

Substation Fence, Magnetic Field - Normal Load



Resultant
Min = 0.326 mG Max = 20.147 mG

ATSI

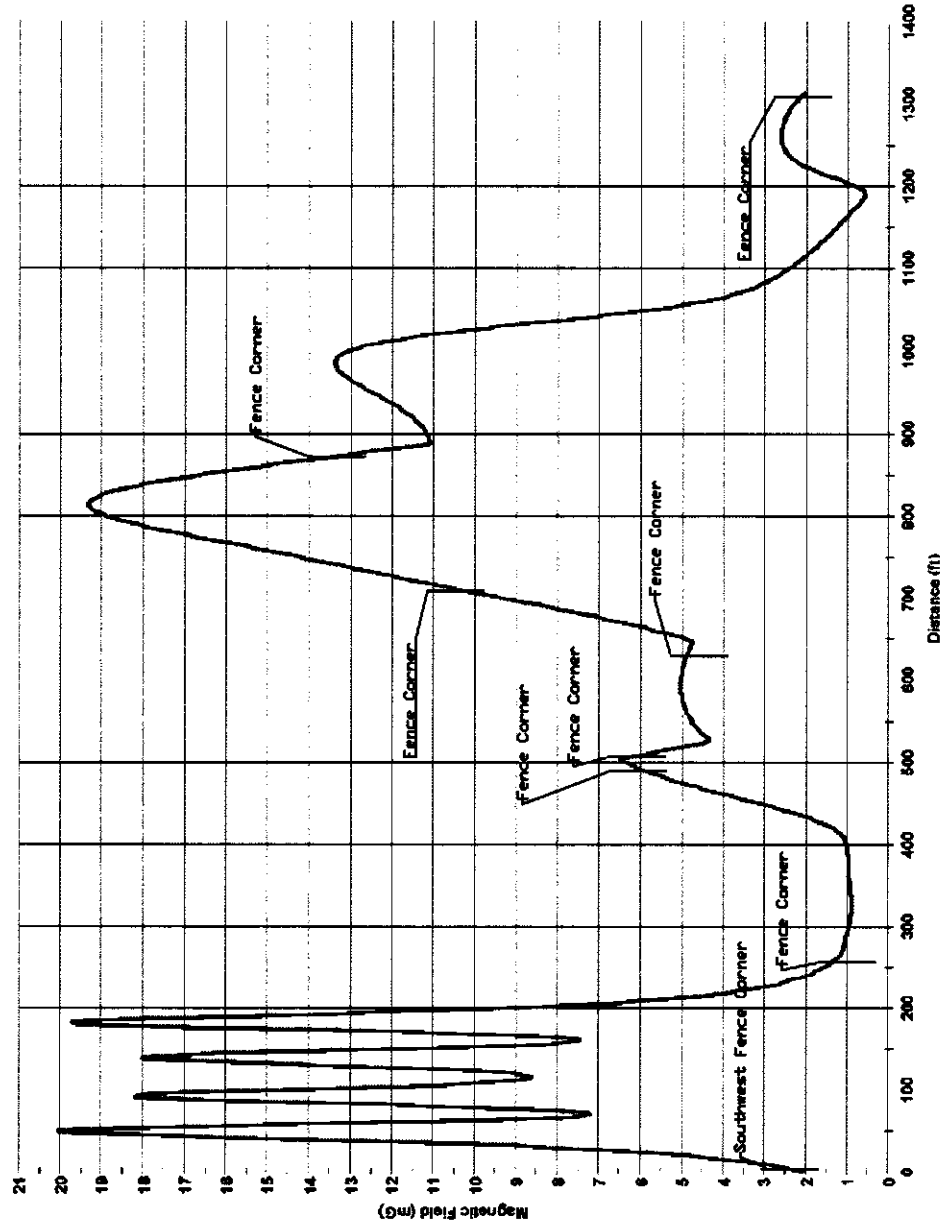
American Transmission Systems, Inc.
a subsidiary of Fairbanks Corp.

CLINIC HOSPITAL
SUBSTATION

MAGNETIC FIELD
NORMAL RATING

FIGURE 06-2

Substation Fence, Magnetic Field - Emergency Load



Resultant
Min = 0.577 mG Max = 20.066 mG

ATSI

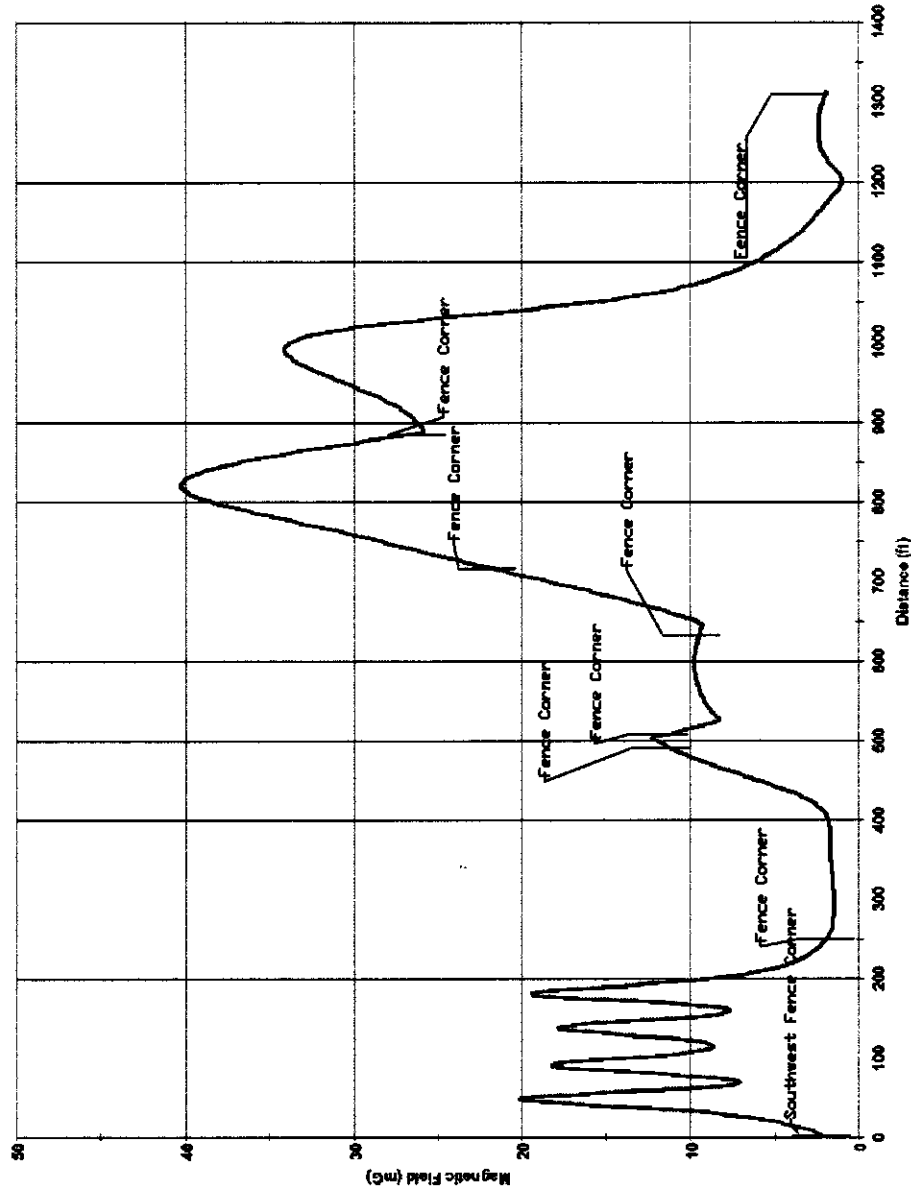
American Transmission Systems, Inc.
a subsidiary of Entergy Corp.

CLINIC HOSPITAL
SUBSTATION

MAGNETIC FIELD
EMERGENCY RATING

FIGURE 06-3

Substation Fence, Magnetic Field - Winter Rating



Resultant
Min = 0.976 mG Max = 40.218 mG

ATSI

American Transmission Systems, Inc.
A member of Emerson Corp.

CLINIC HOSPITAL
SUBSTATION

MAGNETIC FIELD
WINTER RATING

FIGURE 06-4

Appendix 06-1

Geckle, Aaron

From: John Burkhart <jburkhart@cuyahogacounty.us>
Sent: Friday, May 11, 2012 4:10 PM
To: Geckle, Aaron
Cc: Harbaugh, Dan
Subject: Re: Cleveland Agricultural District Parcels

Correct, there are no agricultural district land parcels in in the City of Cleveland.

John Burkhart
Senior Appraiser
Appraisal Department
Phone: 216.443.5798
Fax: 216.443.5080
Cuyahoga County
Office of the Fiscal Officer
1219 Ontario Street - Room 307
Cleveland, OH 44113)
email address jburkhart@cuyahogacounty.us

>>> "Geckle, Aaron" <aaron.geckle@urs.com> 5/11/2012 10:28 AM >>>

Mr. Burkhart,

I've contacted you in the past regarding agricultural district land parcels in Cuyahoga County for the purposes of meeting a requirement of the Ohio Power Siting Board in evaluating utility projects. Is it still the case that there are no such parcels in the City of Cleveland?

Aaron Geckle

URS

We're Moving – Just Around the Corner

36 East Seventh Street

Effective May 29, 2012

Suite 2300

Cincinnati, OH 45202

Our New Address:

Direct: 513.419.3423

525 Vine Street, Suite 1800

Main: 513.651.3440

Cincinnati, OH 45202

Mobile: 513.722.5705

aaron.geckle@urs.com

(Our Phone & Emails will remain the same)

This e-mail and any attachments contain URS Corporation confidential information that may be proprietary or privileged. If you receive this message in error or are not the intended recipient, you should not retain, distribute, disclose or use any of this information and you should destroy the e-mail and any attachments or copies.



"John Burkhart "
<jburkhart@cuyahogacounty.us>
05/20/2011 03:10 PM

To <Aaron_Geckle@URSCorp.com>

cc "Dan Harbaugh" <dharbaugh@cuyahogacounty.us>, "Ji Hopkins" <jhopkins@cuyahogacounty.us>, "Neil Winans" <nwinans@cuyahogacounty.us>

bcc

Subject Re: Agricultural District Land in the Vicinity of the Cleveland Clinic Main Campus

Hello Aaron: Still no agricultural district land in the City of Cleveland, or any CAUV (Current Agricultural Use Valuation), or any Urban Garden zoning within the vicinity of the Cleveland Clinic's main campus.

Doubt that this makes any difference, since an agricultural district is a state of Ohio procedure/entity that must be applied for and approved by both the county and the city, but:

City of Cleveland Zoning

Agriculture in Residential Districts Ch. 337.02, 337.23, 337.25 Effective Date: November 3, 2010

[Link to Text](#)

Permits agriculture as a principal use on all vacant residentially zoned lots. Permits sale of produce from farm stands in Residential Districts as a conditional use with Board of Zoning Appeals approval, in consideration of established factors. Permits 4-foot high vinyl-coated chain link fences in front yards of urban agriculture uses, whereas chain link fences are otherwise prohibited in front yards in Residential Districts. City of Cleveland Ordinance 814-10.

John Burkhart

John Burkhart

Staff Appraiser

Appraisal Department

Phone: 216.443.7100

Fax: 216.443.5080

Cuyahoga County

Office of the Fiscal Officer

1219 Ontario Street

Cleveland, OH 44113

(mailto:jburkhart@cuyahogacounty.us)

>>> 05/20/11 11:04 AM >>>

Mr. Burkhart,

I checked in with you in February regarding agricultural district land in the City of Cleveland near the Cleveland Clinic's main campus. This pertains to an electric utility project under the jurisdiction of the Ohio Power Siting Board. Their rules state that an applicant must obtain current agricultural district land data within 60 days of submitting an application for a facility. As we're about to submit our substation application in the coming weeks, please verify that no agricultural district land has been added in the project vicinity since February 3. If you need a map or other information, please let me know.

Aaron Geckle

Environmental Planner/Project GIS Specialist

URS

Engineers, Architects, Planners

36 E. 7th Street, Suite 2300
Cincinnati, OH 45202
513-419-3423

This e-mail and any attachments contain URS Corporation confidential information that may be proprietary or privileged. If you receive this message in error,

"John Burkhart" <jburkhart@cuyahogacounty.us>

To <Aaron_Geckle@URSCorp.com>

cc

02/03/2011 01:53 PM

Subject: Re: Agricultural District Land in the Vicinity of the Cleveland Clinic Main
t Campus

Mr. Geckle:

There are no Agricultural Districts in the City of Cleveland. Also, there are no parcels on CAUV (Current Agricultural Use Valuation) in the general vicinity of the map you attached.

John Burkhart

John Burkhart
Staff Appraiser
Appraisal Department
Phone: 216.443.7100
Fax: 216.443.5080
Cuyahoga County
Office of the Fiscal Officer
1219 Ontario Street - Room 307
Cleveland, OH 44113)
email address jburkhart@cuyahogacounty.us

>>> <Aaron_Geckle@URSCorp.com> 2/3/2011 12:32 PM >>>

Mr. Burkhart,

I am currently working on an electric utility project that will fall under the jurisdiction of the Ohio Power Siting Board. There is a requirement to report any agricultural district land that could be affected by the project. Due to the urban nature of the project vicinity, I do not believe any agricultural district land will be present. I have attached a map of the general project vicinity. Please review the map and confirm the lack of agricultural district land. If my assumption is incorrect and agricultural district land is present in this area, please provide a list of parcel numbers enrolled in the program. Thanks for the help.



Aaron Geckle
Environmental Planner/Project GIS Specialist
URS
Engineers, Architects, Planners
36 E. 7th Street, Suite 2300
Cincinnati, OH 45202
513-419-3423

This e-mail and any attachments contain URS Corporation confidential information that may be proprietary or privileged. If you receive this message in error,

Appendix 06-2

APPENDIX 06-2

Public officials contacted by URS and FirstEnergy:

U.S. Senator Sherrod Brown
713 Hart Senate
Office Bldg.
Washington, DC 20510
(202) 224-2315

U.S. Senator Rob Portman
338 Russell Senate
Office Bldg.
Washington, DC 20510
(202) 224-3353

U.S. Congresswoman Marcia Fudge
1019 Longworth House Office Bldg
Washington, DC 20515
(202) 225-7032

Dr. Mary Knapp
US Fish and Wildlife Service
Division of Ecological Services
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993

Dr. Brian Mitch
Environmental Review Coordinator
Ohio Department of Natural Resources
Environmental Services Section
2045 Morse Rd., Building C-4
Columbus, Ohio 43229
(614) 265-6378

Ms. Debbie Woischke
Ecological Analyst
Ohio Department of Natural Resources
Division of Wildlife
Ohio Biodiversity Database Program
2045 Morse Rd., Building G-3
Columbus, Ohio 43229
(614) 265-6818

Dr. David M. Snyder
Archaeology Reviews Manager
Ohio Historic Preservation Office
567 East Hudson Street
Columbus, Ohio 43211

The Honorable Frank Jackson
Mayor, City of Cleveland
601 Lakeside Avenue
Cleveland, Ohio 44114
(216)-664-3990

Mr. Martin J. Sweeney
Council President, City of Cleveland
601 Lakeside Avenue
Room 220
Cleveland, Ohio 44114
(216)-664-2942

Ms. Mamie J. Mitchell
Council Member, Ward 6
City of Cleveland
601 Lakeside Avenue
Room 220
Cleveland, Ohio 44114
216-664-4234

Mr. John Burkhart
Staff Appraiser
Cuyahoga County
Office of the Fiscal Officer
1219 Ontario Street – Room 307
Cleveland, Ohio 44113

Mr. Robert Brown
City of Cleveland Planning Commission
Director
Cuyahoga County Planning Commission
Board Member
601 Lakeside Avenue, Room 501
Cleveland, OH 44114
(216) 664-2210

Appendix 06-3

State of Ohio ss.

Cuyahoga County

I, Joan Wheeler, being duly sworn, do upon my oath, depose and say that I am a ACCOUNTS RECEIVABLE REPRESENTATIVE of The Plain Dealer Publishing company, publisher of The Plain Dealer, a newspaper printed in said county, and general circulation in Ashtabula, Geauga, Lake, Lorain, Medina, Portage, Summit and Trumbull counties, in addition to said county; the requirements of Section 7/12 of the Revised Code of Ohio as amended September 14, 1957, relating to publication and distribution are fulfilled by said newspaper; and the advertisement attached was published in said newspaper on the following day, or days in a type size larger than agate. Insertion dates as follows:

May 4, 2011

Sworn to and subscribed before me this day of May 2011

Joan Wheeler

Brenda Jordan

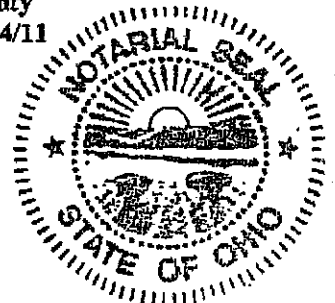
Notary Public

Brenda G. Jordan

Notary Public, State of Ohio

Recorded in Cuyahoga County

My Commission Expires 09/04/11





ASSOCIATED PRESS

es, walks with
3 reported
kewood, Wash.,
t state.

Kucinich defeated
man Peter J. Corri-
percent of the vote.
ace, 87 percent of
emized campaign
came from outside
ording to data com-
Center for Respon-
donors in California
81,000, compared
collected in Ohio.
\$7,700 from Wash-

minimum, disap-
id Frost, of Lake-
as elected to repre-
ngress. While he's
it his job and where
to move to still have
e a lot of people out
eater Cleveland."

Brady, a West Side
mocrat on the Cuya-
Council, said he
Kucinich to be an
ite. As for why Kuci-
debunk the notion
at run in Washing-
id, "I've known him
years, and he has
doing things that
would consider to
r at least extremely
e past."

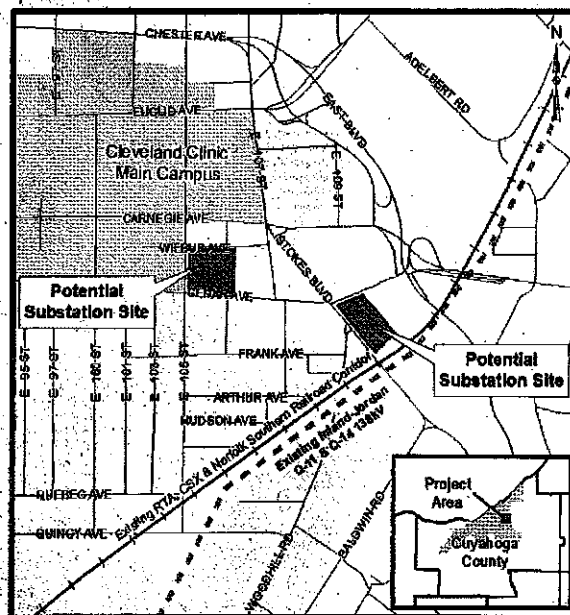
motive, Brady
to do everything he
e to be squeezed out

Saturday!

PUBLIC NOTICE

The Cleveland Electric Illuminating Company (CEI) and American Transmission Systems, Incorporated (ATSI), subsidiaries of FirstEnergy Corp., will hold a public information meeting to discuss the proposed Clinic Hospital Substation (CH Substation). The purpose of the meeting is to explain and seek input on the CH Substation from the community. The meeting will be held on Tuesday, May 17, 2011, from 6:30 p.m. to 9:00 p.m., in the John Hay High School gymnasium, located at 2075 Stokes Blvd. in Cleveland, Ohio.

CEI is a FirstEnergy Corp. operating company that provides local electric service. ATSI owns FirstEnergy Corp.'s Ohio transmission lines. CEI is planning improvements to its electric distribution system that supplies the Cleveland Clinic's main campus. These improvements will provide enhanced reliability with sufficient capacity for future growth and development. The proposed CH Substation will be connected to ATSI's transmission lines and supply planned distribution improvements for the Cleveland Clinic. The CH Substation will transform or change the voltage from 138 kV to 36 kV and will be connected to ATSI's transmission lines via two new loops to ATSI's existing nearby 138 kV transmission lines. The substation will supply a new 36 kV distribution network to be installed by CEI that will supply four new Cleveland Clinic substations. CEI and ATSI have carefully studied the general area of the project to identify potentially sensitive areas and land uses, and have evaluated multiple locations for the CH Substation in an effort to identify the most appropriate site. As a result of the study, the two sites shown on the map provided below have been identified for further evaluation.



Installation of CH Substation falls under the jurisdiction of the Ohio Power Siting Board (OPSB). Before construction can begin on the substation, CEI and ATSI must file an application with the OPSB, which must issue a Certificate of Environmental Compatibility and Public Need for the substation. The application will identify a Preferred Site for the substation, and an Alternate Site. CEI and ATSI plan to make the necessary submittals to the OPSB for the project in mid 2011. If OPSB approval is granted, construction on the substation is expected to begin in 2013.

As noted, the purpose of the meeting is to explain and seek input on the proposed CH Substation from the community. Public comments from the meeting will be considered as part of the evaluation process for the substation. If you cannot attend the meeting but wish to comment on the project, please leave a message for the project team at 1-800-589-2837, or send your written comments or questions to FirstEnergy Corp., Attention: CH Substation Project Team, A-GO-3, 76 South Main Street, Akron, Ohio, 44308.

Want A Nice Place To Hang Out?

Read *Inside & Out*. Our Home and Garden Section Every Thursday

CALL & POST

OHIO'S BLACK NEWSPAPER

CLEVELAND/CINCINNATI, OHIO
11800 SHAKER BLVD.
CLEVELAND, OH 44120-1919
PHONE: (216) 791-7600
FAX: (216) 451-0404
callandpost@huckeyweb.com

FED ID NUMBER
65-0842411

COLUMBUS, OHIO
109 HAMILTON AVE.
COLUMBUS, OH 43203-1836
PHONE: (614) 224-8123
FAX: (614) 224-8517
cbusnew@aol.com

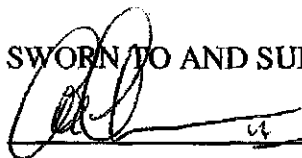
THE STATE OF OHIO)
)
CUYAHOGA COUNTY) SS.

I, CARL MATTHEWS, being duly sworn, upon my oath,
depose and say that I am the agent of THE CLEVELAND CALL
AND POST NEWSPAPERS, and that the annexed advertisement
attached, hereto, was published in THE CLEVELAND CALL &
POST NEWSPAPER, a weekly newspaper of general circulation,
printed in the city of Cleveland, county of Cuyahoga, Ohio,

On 05-04-2011
Date

Printers Fee: \$ 964.80
Total: \$ 964.80

SWORN TO AND SUBSCRIBED IN MY PRESENCE ON



NOTARY PUBLIC.

ALLEN C. GIAM

Notary Public, State of Ohio

My Commission Expires Sept. 22, 2015

Commission expires on

9/22/15
Date



"The People's Paper"

4250 RICHMOND ROAD
HIGHLAND HILLS, OHIO 44122

ARE YOU REGISTERED FOR YOUR BENEFITS?

- 5. DEPARTMENT OF VETERANS AFFAIRS
 - a. BENEFITS REGISTRATION
 - MEDICAL CENTER—VA HEALTHCARE BENEFITS
 - GENERAL ELIGIBILITY
 - CIE/OIF HEALTHCARE COORDINATION
 - WOMEN'S HEALTH
 - PAMPHLET COUNTY VETERANS SERVICE COMMISSION
 - UNPAID VETERANS BENEFITS CHAPTER
 - MEMBERSHIP/BENEFITS
 - HOME LOAN
 - UNPAID VETERANS BONUS PROGRAM (DOZILLA NEEDED)
 - b. BENEFITS INFORMATION
 - WOMEN VETERANS
 - GI-BILL, FINANCIAL AID
 - COLLEGE PROGRAMS, ADMISSION INFORMATION
 - 9% TO TEACHERS
 - HOMELAND OUTREACH SERVICES
 - CHECK THE STATUS OF AN EXISTING VA CASE
 - COME TO DISCUSS A NEW CASE
 - OHIO VETERANS HOMES
 - EMERGENCY FINANCIAL RELIEF

THE PARKING IN LOT 5 F. & BZ LOCATED ON ROBERT BISHOP DRIVE OFF OF HARVARD ROAD

tem...but our brave men and women have made tremendous sacrifices for our country, and have marked themselves for the history of the world. Therefore it is our duty to ensure that we continue to support them in any way possible to preserve our freedom. Therefore it is our duty to ensure that we continue to support them in any way possible to preserve our freedom.

-Congressman Antonio J. Fudge

44-38861-1A
 44-38861-1B
 44-38861-1C
 44-38861-1D
 44-38861-1E

www.Fudge.House.Gay

Exciting new products to protect
you, your family & your lifestyle.

- Health insurance
- Dental coverage
- Vision insurance
- Life insurance
- Hospital indemnity insurance
- Juvenile life insurance
- Cancer insurance
- Critical illness coverage

Call your local Humana representative:

Marge Bryant
216-299-4740

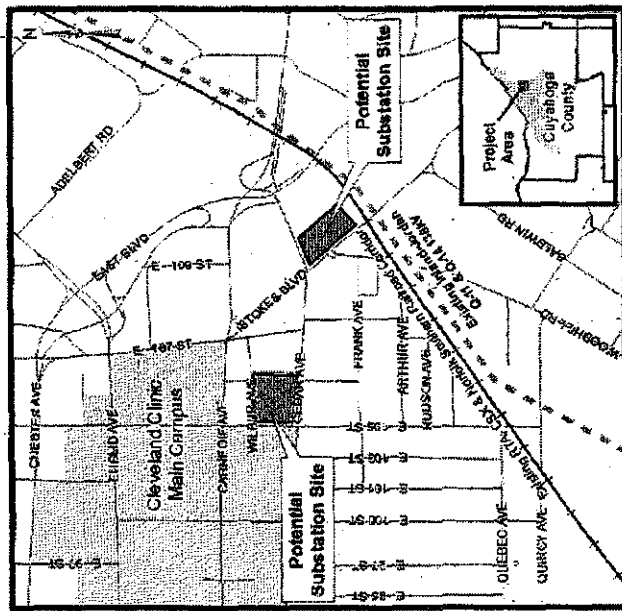
9 a.m. to 5 p.m.,
Monday – Friday

HUMANA

DOES ANYONE WANT TO BE A

The Cleveland Electric Illuminating Company (CEI) and American Transmission Systems, Incorporated (ATS), subsidiaries of FirstEnergy Corp., will hold a public information meeting to discuss the proposed Clinch Hospital Substation CH Substation). The purpose of the meeting is to explain and seek input from the CH Substation from the community. The meeting will be held on Tuesday, May 17, 2011, from 6:30 p.m. to 9:00 p.m., in the John Hay High School gymnasium, located at 2075 Stokes Blvd. in Cleveland, Ohio.

CEI is a FirstEnergy Corp. operating company that provides local electric service. AT&S owns FirstEnergy Corp.'s Ohio transmission lines. CEI is planning improvements to its electric distribution system that supplies the Cleveland Clinic's main campus. These improvements will provide enhanced reliability with sufficient capacity for future growth and development. The proposed CH Substation will be connected to AT&S's transmission lines and supply planned distribution improvements for the Cleveland Clinic. The CH Substation will transform or change the voltage from 138 kV to 36 kV and will be connected to AT&S's transmission lines via two new loops to 36 kV nearby 138 kV transmission lines. The substation will supply a new 36 kV distribution network to be installed by CEI that will supply four new Cleveland Clinic substations. CEI and AT&S have carefully studied the general area of the project to identify potentially sensitive areas and land uses, and have evaluated multiple locations for the CH Substation in an effort to identify the most appropriate site. As a result of the study, the two sites shown on the map provided below have been identified for further evaluation.



Installation of CH Substation falls under the jurisdiction of the Ohio Power Siting Board (OPSB). Before construction can begin on the substation, CEI and ATSI must file an application with the OPSB, which must issue a Certificate of Environmental Compatibility and Public Need for the substation. The application will identify a Preferred Site for the substation, and an Alternate Site. CEI and ATSI plan to make the necessary submittals to the OPSB for the project in mid 2011. If OPSB approval is granted, construction on the substation is expected to begin in 2013.

As noted, the purpose of the meeting is to explain and seek input on the proposed CH Substation from the community. Public comments from the meeting will be considered as part of the evaluation process for the substation. If you cannot attend the meeting but wish to comment on the project, please leave a message for the project team at 1-800-580-9607 or email chsubstation@ch2mhill.com.

Clinic Hospital (CH) Substation Project

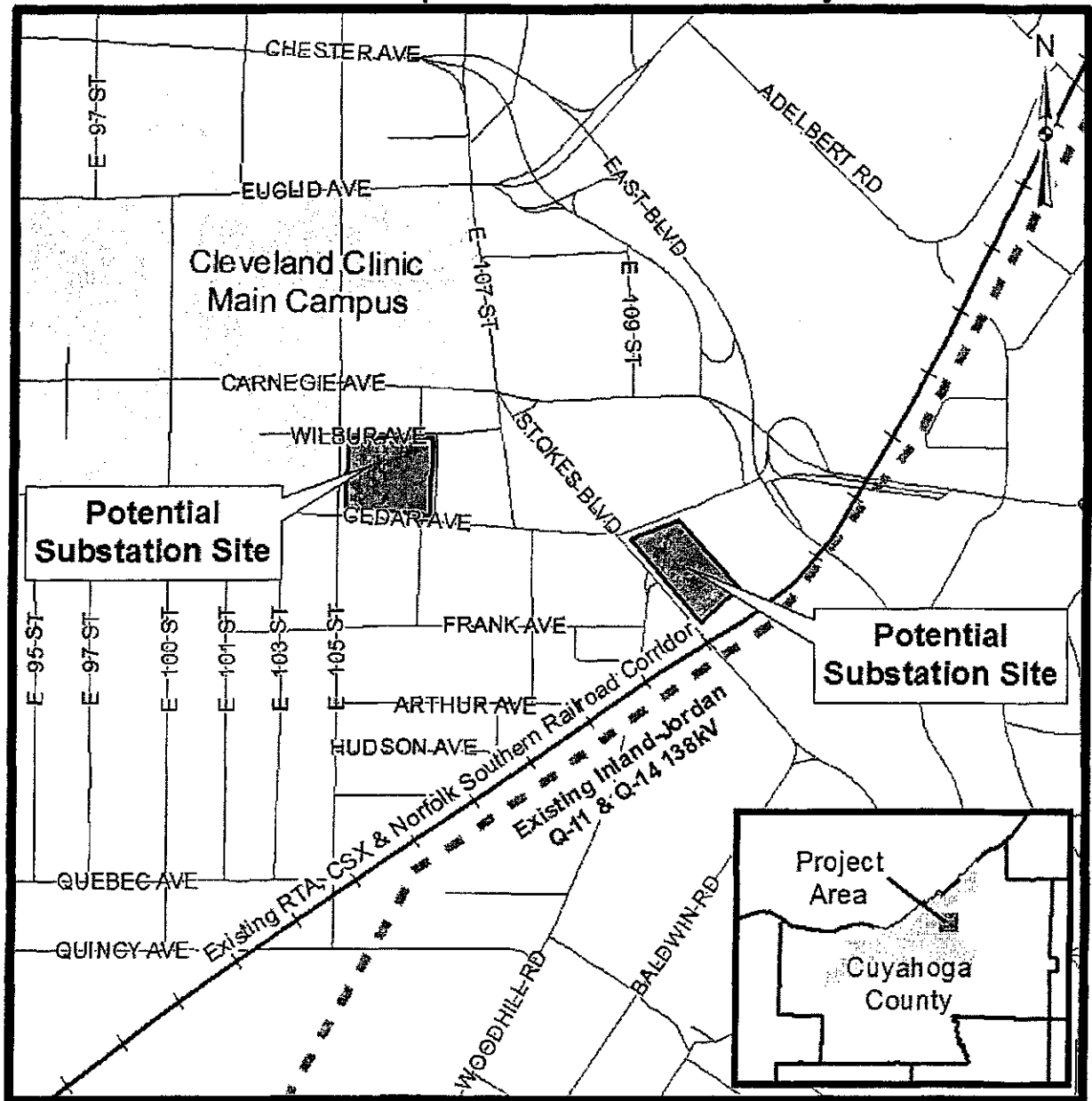
- In the Clinic Hospital Substation Project, The Cleveland Electric Illuminating Company (“CEI”) and American Transmission Systems, Inc., (“ATSI”), FirstEnergy Corp. subsidiaries, are proposing to install a new 138 kV to 36 kV substation. The substation’s name will be abbreviated as the CH Substation.
- CEI and ATSI conducted a comprehensive study of the electric system in the area surrounding the Cleveland Clinic’s downtown campus.
- It was determined that a new substation – named the “CH Substation” – supplied by connections to ATSI’s existing 138 kilovolt (kV) transmission lines, was needed to supply a new 36 kV distribution system that will be built in the areas near the Cleveland Clinic campus.
- In Ohio, the Ohio Power Siting Board (OPSB), an adjunct to the Public Utilities Commission of Ohio, is responsible for approving the location of major utility facilities such as the CH Substation. ATSI must file an application for a Certificate of Environmental Compatibility and Public Need for the proposed project with the OPSB and obtain OPSB’s approval to build this project.
- In addition to the substation property and ATSI’s existing transmission line right-of-way, the new transmission line loops are anticipated to cross one privately owned property parcel and a transportation corridor.
- The Cleveland Clinic’s main campus is currently supplied from various circuits and substations. The CH Substation and 36 kV underground network will provide paths for energy delivery. These include four 138 kV connections to ATSI’s existing transmission grid, four 138 to 36 kV transformers and associated substation equipment and multiple connections to the new 36 kV distribution network.
- The electric supply to the CH Substation will be from ATSI’s nearby existing 138 kV transmission lines. Both of these transmission lines will extend as overhead lines to the CH Substation and will be supported by steel pole structures.
- ATSI worked with URS, a nationally-known engineering firm specializing in transmission issues, on a Site Selection Study for the purpose of identifying the best suited site for the proposed CH Substation. The study involved the collection and evaluation of environmental, cultural, land use and engineering data with regard to potential transmission line routes.

- Based on the study work to date, the most favorable site for the CH Substation is located at the southeast corner of the intersection of Cedar Ave. and Stokes Blvd. The most favorable alternate site is located at the northeast corner of Cedar Ave. and E. 105 Street. Both sites are currently used as parking lots. The general location of the Project and the proposed substation sites is shown on the attached map.
- The Public Information Meeting being held on May 17th will explain the proposed project and seek community input on both the project and the potential substation sites. Public comments from these meetings will be considered as part of ATSI's evaluation process.
- ATSI plans to complete the evaluation process, identify the proposed preferred and alternate sites for the substation, prepare the application and make the necessary submittals to the OPSB for the proposed project in July or August 2011.
- Once ATSI and CEI initially submit the application, the OPSB then has 60 days to determine if the application satisfies all of the regulatory requirements for going forward with the regulatory process. If it does, ATSI and CEI will file a "certified" application with the OPSB for the project. Copies of the certified application will be provided to local officials and placed in local libraries for residents to review.
- The OPSB staff then will review the application and issue a preliminary staff report. OPSB regulations allocate 75 days for this process, although the process can take longer.
- The subsequent steps are to convene formal public and adjudicatory hearings. These hearings will be noticed in advance in local newspapers. The public hearing, typically held locally, will provide all interested parties the opportunity to speak on the record regarding the project. The adjudicatory hearing, held before an administrative law judge, provides an opportunity for intervenors to call and examine witnesses and is typically held at OPSB's offices in Columbus Ohio.
- The final step of the siting process is when the OPSB makes its official decision as to whether the project should go forward and, if so, the location for the project.
 - ATSI and CEI currently expect this decision to be announced in late 2011 or early 2012.
- The OPSB's Case Number for this project is 11-2754-EL-BSB. Written correspondence to the OPSB should include the Case Number and can be sent to the OPSB at :

The Ohio Power Siting Board
180 East Broad Street
Columbus, Ohio 43215

- The OPSB's website address is: www.opsb.ohio.gov/
- If the OPSB approves the project, ATSI plans to begin construction on the project in 2013.

Clinic Hospital Substation Project



OHIO POWER SITING BOARD APPLICATION CONTENTS

.....

Project Summary and Facility Overview

....

Review Of Need: *Reason for project, alternatives*

....

Site and Route Alternatives: *Routing study and fully developed preferred and alternate routes*

....

Technical: *Voltage, construction methods, etc.*

....

Financial: *Land, construction, facility costs, etc.*

....

Socio-Economic: *Impact on land use, residences, etc.*

....

Ecological: *Impact on woodlands, wetlands, streams, etc.*

OHIO POWER SITING BOARD APPLICATION PROCESS

.....
Public Information Meeting

....
File Draft Application

....
Initial Board Review (within 60 days)

....
File Certified Application

....
Staff Technical Review (45-75 days)

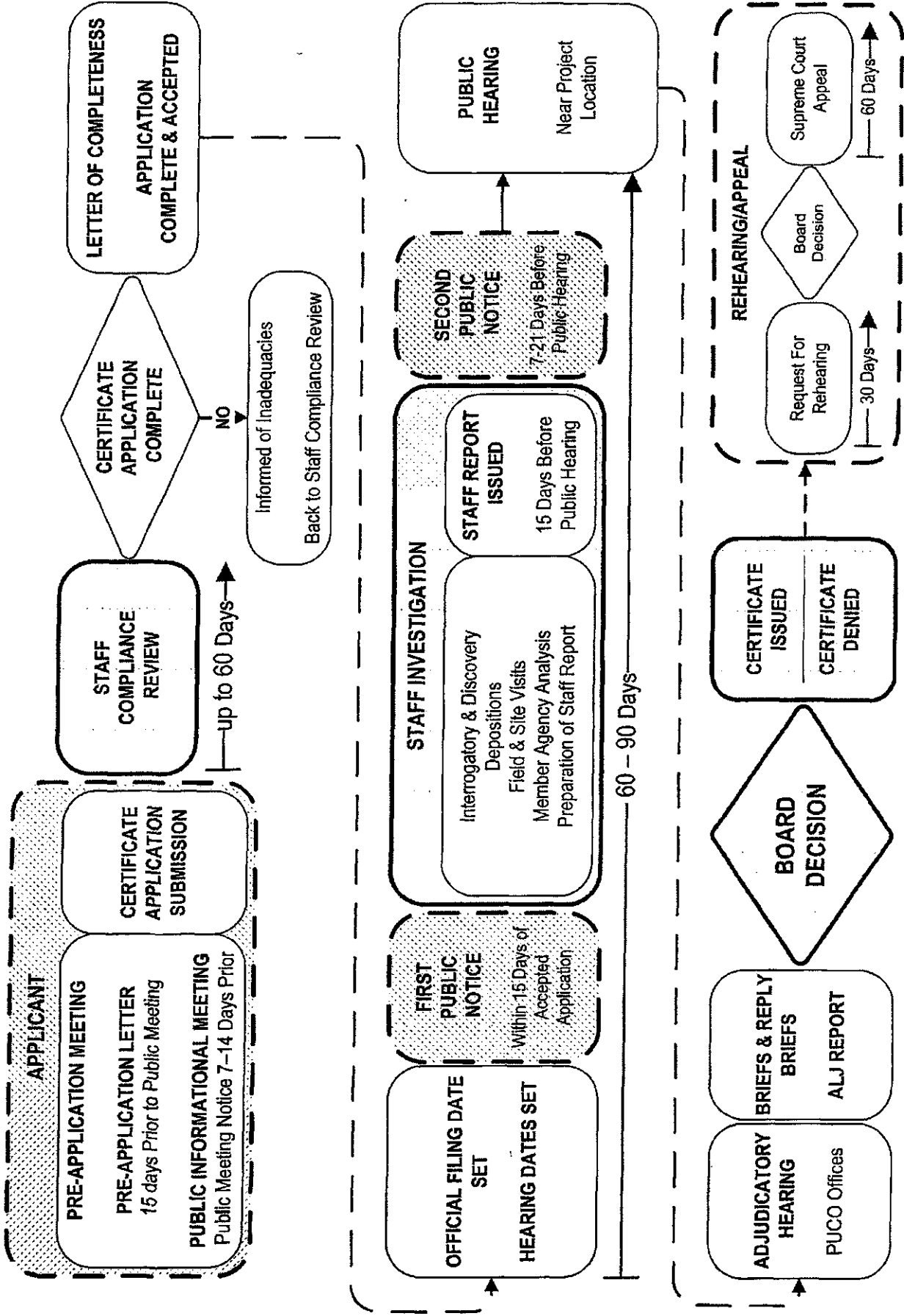
....
Staff Report Issued

....
Public & Adjudicatory Hearing

....
Administrative Law Judge Report

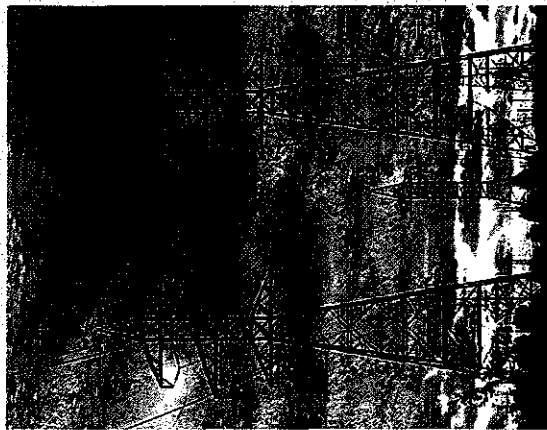
....
Board Decision

OHIO POWER SITING STATUTE PROCESS FLOWCHART*



*WORKING DRAFT
Subject to Administrative
Review Every 5 Years

BOARD MONITORS CONSTRUCTION AND FIRST TWO YEARS OF OPERATION OF FACILITY
Conditions of Certificate Apply for the Life of the Facility



What Are Electric And Magnetic Fields?

Electric and magnetic fields are invisible lines of force that surround anything that generates (batteries, generators), transmits (power lines, wiring), or uses electricity (appliances). Electric fields are the result of voltage, which pushes electrons through a wire. Magnetic fields are produced by the flow of current through wires and electrical devices. Together, these fields from electric power sources are commonly referred to as **EMF**.

The highest levels of electric and magnetic fields, or EMF, can be measured directly near the source, and levels decrease rapidly with distance. Since electric fields are easily blocked or weakened by walls or other objects, more research has been conducted on magnetic fields.

represents a real relationship between the exposure and the disease. Experimental studies of animals and isolated cells and tissues are less likely to be inconsistent because these studies have greater control over exposures and potential confounding factors. For these reasons, it is important to consider the entire body of research, rather than focusing on the results of a single epidemiology study.

Why Has Research Continued?

As time goes on, researchers develop better ways to conduct studies and think of new questions to ask. They continue to conduct studies to be sure that these new methods and additional questions produce consistent results. For example, research continues to understand what factors might account for the statistical associations observed between childhood leukemia and magnetic fields in some studies.

What Do Scientific Health Agencies Recommend?

Since the research has not established that EMF is a cause of any long-term health effect, scientific health agencies have not recommended exposure limits at the field levels we encounter in our environment, nor have they recommended taking any official action. The WHO, for example, recommends that, if companies or individuals want to take precautionary measures regarding EMF, the measures should be low in cost and convenient to implement.

If you are looking for more information on this topic, please visit:

National Cancer Institute
<http://www.cancer.gov/cancertopics/factsheet/Risk/magnetic-fields>

World Health Organization
<http://www.who.int/peh-emf/en/>

Exponent

Prepared by Exponent for First Energy, August 2007

Electric and Magnetic Fields and Your Health

Electric and magnetic fields are properties of the space that surrounds anything that generates, transmits or uses electricity.

Where Can Be Found?

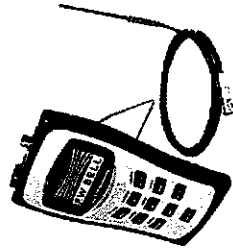
We use electricity to light our homes, cook our food, and power the many appliances we use for work and leisure. Since the use of electricity is so common, EMF can be found nearly everywhere.

In our homes, for example, magnetic fields are generated from appliances,¹ the wiring that powers those appliances,² the distribution lines that deliver electricity to the home,³ and any currents flowing on water pipes.⁴ Magnetic fields from nearby transmission lines⁵ also have the potential to contribute to the magnetic field inside a home. However, since magnetic fields decrease rapidly as you get farther away from the source of the field, the contribution of transmission lines to a home's magnetic field level may be less than from other closer sources.

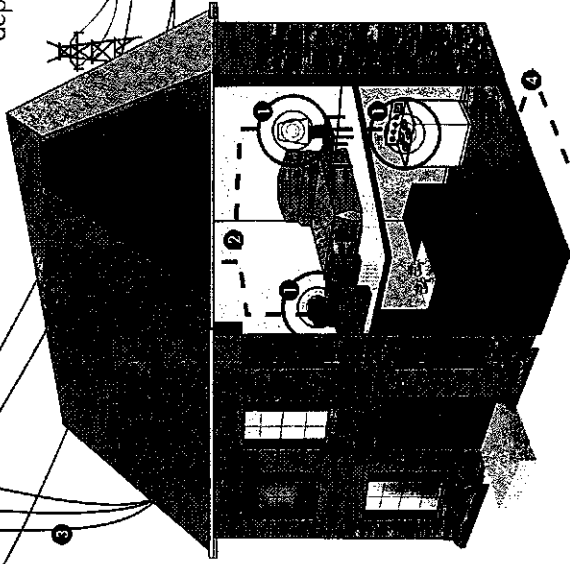
Equipment within substations also produces magnetic fields, but because of the way this equipment is configured, the fields drop off quickly with distance. For example, at the fence surrounding substations, the magnetic field from the substation equipment is typically within the range of levels found inside our homes. Thus, the dominant source of magnetic fields near substations is the power lines that serve that substation.

How Are Magnetic Fields Measured, And What Levels Are Typically Measured Inside Homes In The United States?

Magnetic fields are measured using a device called a gaussmeter and are reported in units called milligauss (mG).



Most homes in the United States have an average magnetic field level measured away from appliances of approximately 1 mG. Appliances tend to produce the highest readings of magnetic fields in homes, ranging from tens to hundreds of mG, depending on current flow.



Sources of magnetic fields in homes

How Long Have Scientists Been Studying EMF?

EMF, in one form or another, has been studied for centuries. Beginning in the 1970s, scientists began to question whether these fields have the potential to cause health effects, such as cancer. This hypothesis has been tested with hundreds of studies, including:

- epidemiology studies to understand whether people with diseases were exposed to higher EMF levels;
- animal studies to test if animals exposed to very high levels of EMF have higher rates of disease; and
- studies on cells and tissues to see if EMF causes biological changes that could lead to disease.

The method scientists use to evaluate this large body of research involves examining all studies (epidemiology, animal, and cellular), giving more weight to studies of higher quality. In evaluating this large body of research, scientists look for patterns in the research that suggest a causal relationship, such as a similar result across many studies, and provide conclusions based on this process.

What Have Scientists Concluded?

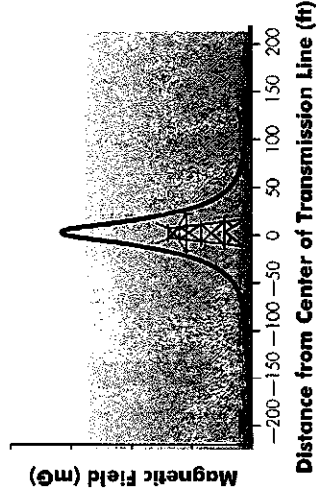
Numerous scientific organizations have assembled groups of scientists with expertise in a variety of disciplines to review all of this research. These organizations include the International Agency for Research on Cancer (IARC), the International Commission of NonIonizing Radiation (ICNIRP), the National Institute of Environmental Health Sciences (NIEHS), the Health Protection Agency/National Radiological Protection Board (HPA/NRPB) of Great Britain, and the World Health Organization (WHO). Overall, the conclusions of these panels have been consistent:

- The research does not support the conclusion that magnetic fields cause any long-term, adverse health effects.
- Some epidemiology studies have reported an association between high, average magnetic field levels and childhood leukemia. However, due to the limitations of these studies and the lack of evidence from laboratory studies, no agency has concluded that magnetic fields cause childhood leukemia.
- The animal studies, overall, do not report an increase in cancer among animals exposed to high levels of magnetic fields after lifetime exposures.
- The laboratory studies provide no explanation as to how magnetic fields could cause disease.

These panels also concluded that, at very high field levels, EMF has the potential to cause nerve and muscle stimulation. However, the field levels found in our environment are far too low to cause these shock-like effects.

Why Do Scientific Studies Often Appear To Reach Different Conclusions On EMF Health Effects?

Epidemiology studies often report conflicting results because they are observational in nature, meaning they observe people in their ordinary environments without any control over their exposures. The results of epidemiology studies (reported as statistical associations) must be carefully evaluated to determine whether the association



Magnetic fields decrease with distance from transmission lines

4906-15-07 ECOLOGICAL IMPACT ANALYSIS

This section of the Application provides a summary of the studies that have been made of the ecological impact of the proposed Project. Information is provided for the Preferred and Alternate sites and is based on published data within 1,000 feet of sites and field evaluation studies within 100 feet of the sites. The information is generally provided separately for the Preferred Site and the Alternate Site.

(A) SUMMARY OF ECOLOGICAL IMPACT STUDIES

As part of the preparation of this Application, an ecological survey was conducted for the proposed Preferred and Alternate sites, including a field reconnaissance to document the occurrence of the endemic vegetation and wildlife, along the routes and to quantify the occurrence and quality of wetland and streams. The field surveys were conducted on April 26, 2011.

Published ecological information within 1,000 feet of the substation was supplemented through the review of aerial photography, USGS maps, National Wetlands Inventory (NWI) maps, and soil survey maps for the entire Preferred and Alternate sites. Additional information regarding endemic vegetation and wildlife was obtained from the Ohio Department of Natural Resources, Division of Natural Areas and Preserves (ODNR-DNAP) Biodiversity Database. Information obtained from ODNR-DNAP showed that a very limited number of species of special concern were found within the vicinity of the Project. No species of special concern or habitat for these species were reported by ODNR-DNAP or observed during the site reconnaissance on the Preferred or Alternate Site.

(B) ECOLOGICAL FEATURES**(1) Route Alignments**

The proposed alignments and details for the transmission line interconnections from the Inland-Jordan Q-11 and Q-14 138 kV transmission lines to the proposed CH Substation will be provided in a separate Letter of Notification to be submitted to Board.

(2) Substations and Compressor Stations

The proposed locations for the Preferred and Alternate sites can be seen on Figure 04-1.

(a) Preferred Site: The Preferred Site of the CH Substation is located on an approximately 2.8 acre property parcel situated at the southeast corner of the intersection of Cedar Avenue and Stokes Boulevard. The Cleveland Clinic, owns the majority of this property, and currently utilizes it as a parking lot. Access to the substation will be from Cedar Avenue to the north via a permanent access drive similar to, but east of the alignment of the current entrance to the existing parking lot.

(b) Alternate Site: The Alternate Site of the CH Substation is located on an approximately 3.4 acre property parcel situated at the northeast corner of the intersection of Cedar Avenue and East 105th Street. The Cleveland Clinic, also owns this property, and currently utilizes it as a parking lot. Access to the substation will be from Cedar Avenue to the south via permanent access drives similar to the alignment of the current entrance to the existing parking lot.

(3) All Areas Currently Not Developed For Agricultural, Residential, Commercial, Industrial, Institutional, or Cultural Purposes, Including:

(a) Streams and Drainage Channels: The Project vicinity is an urban area. Drainage is predominantly controlled by man-made features such as sewer and storm water systems as well as detention ponds. Surface water features within the Project vicinity are depicted in Figure 04-1. A URS biologist conducted a field reconnaissance of areas within 100 feet of the Preferred and Alternate sites on April 26, 2011. No streams or drainage channels were observed on either site. Doan Brook is mapped approximately 1,000 feet to the southeast of the Preferred Site in Ambler Park.

(b) Lakes, Ponds, and Reservoirs: No lakes, ponds, or reservoirs were on the Preferred or Alternate sites. A water treatment facility and associated reservoir is located across a railroad corridor and Stokes Boulevard approximately 500 feet to the south and southwest, as shown on Figure 04-1.

(c) ***Marshes, Swamps, and Other Wetlands:*** Wetlands are defined 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 (hydrophytic) typically adapted for life in saturated (hydric) soil conditions.

To identify whether wetlands exist on the Preferred and Alternate sites, wetland criteria, as established by the United States Army Corps of Engineers ("COE") Manual for Identifying and Delineation of Jurisdictional Wetlands (1987), were evaluated by conducting a desktop study and field wetland delineation for the Project. United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps, ODNR Ohio Wetland Inventory maps, and the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) soil survey and hydric soil list for Cuyahoga County, Ohio were reviewed for areas within 1,000 feet of the Preferred and Alternate sites. NWI areas are shown on Figure 04-1. The only mapped NWI area within 1,000 feet of the Preferred or Alternate Site appears to be a reservoir on the water treatment facility property approximately 900 feet to the southwest of the Preferred Site. No other wetlands, marshes, swamps, or hydric soils were mapped within 1,000 feet of the Preferred or Alternate sites. Based on the field reconnaissance, no marshes, swamps, or other wetlands were identified at the Preferred or Alternate sites.

(d) ***Woody and Herbaceous Vegetation Land:*** Woody and herbaceous lands within 1,000 feet of the Preferred and Alternate sites are limited due to the urban nature of the Project area. Vegetation on the sites, both of which are currently used as parking lots, is predominantly limited to landscaping. Some scrub vegetation was observed along the earthen berm of the railroad corridor near the southern boundary of the Preferred Site. Larger trees and other vegetation are present to the south of the railroad corridor in Ambler Park, approximately 300 feet south of the Preferred Site. The Project's impact to woody and herbaceous vegetation is expected to be *de minimis*.

(e) ***Locations of Threatened and Endangered Species:*** A total of 39 threatened or endangered species of concern are listed within Cuyahoga County by either the ODNR or USFWS. See Table 07-1 for a list of these species.

TABLE 07-1
LISTED SPECIES WITHIN CUYAHOGA COUNTY, OHIO

Common Name	Scientific Name	Animal or Plant	State Status¹²	Federal Status³
American Beach Grass	<i>Ammophila breviligulata</i>	Plant	Threatened	None
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Animal	Threatened	None
Bearded Wheat Grass	<i>Elymus trachycaulus</i>	Plant	Threatened	None
Bewick's Wren	<i>Thryomanes bewickii</i>	Animal	Endangered	None
Bigmouth Shiner	<i>Notropis dorsalis</i>	Animal	Threatened	None
Black Bear	<i>Ursus americanaus</i>	Animal	Endangered	None
Bobcat	<i>Lynx rufus</i>	Animal	Endangered	None
Caddisfly	<i>Chimarra socia</i>	Animal	Endangered	None
Canada Darner	<i>Aeshna Canadensis</i>	Animal	Endangered	None
Canada Hawkweed	<i>Hieracium umbellatum</i>	Plant	Threatened	None
Channel Darter	<i>Percina copelandi</i>	Animal	Threatened	None
Cow-wheat	<i>Melampyrum lineare</i>	Plant	Threatened	None
Dark-eyed Junco	<i>Junco hyemalis</i>	Animal	Threatened	None
Dotted Horsemint	<i>Monarda punctata</i>	Plant	Endangered	None
Dusty Goldenrod	<i>Solidago puberula</i>	Plant	Endangered	None
Eastern Massasauga	<i>Sistrurus catenatus</i>	Animal	Endangered	Candidate
Flat-leaved Rush	<i>Juncus platyphyllus</i>	Plant	Endangered	None
Golden-winged Warbler	<i>Vermivora chrysoptera</i>	Animal	Endangered	None
Grass-pink	<i>Calopogon tuberosus</i>	Plant	Threatened	None
Ground Juniper	<i>Juniperus communis</i>	Plant	Endangered	None
Hobblebush	<i>Viburnum alnifolium</i>	Plant	Threatened	None

¹ ODNR, 2010 "Ohio Biodiversity Database, Rare Species List for Cuyahoga Co., As of 10/15/2010."
<http://www.dnr.state.oh.us/LinkClick.aspx?fileticket=zw3Nh12oQl0%3d&tabid=20404>

² ODNR, 2011 Email correspondence from Dr. Brian Mitch, Environmental Review Manager, 06/24/2011.

³ USFWS, February 3, 2011. "Species Report, Environmental Conservation Online System."

http://ecos.fws.gov/tess_public/countySearch!speciesByCountyReport.action?fips=39035

TABLE 07-1 (Continued)

LISTED SPECIES WITHIN CUYAHOGA COUNTY, OHIO

Common Name	Scientific Name	Animal or Plant	State Status ¹²	Federal Status ³
Indiana Bat	Myotis sodalis	Animal	Endangered	Endangered
King Rail	Rallus elegans	Animal	Endangered	None
Kirtland's Warbler	Dendroica kirtlandii	Animal	Endangered	Endangered
Large-leaved Mountain-rice	Oryzopsis asperifolia	Plant	Threatened	None
Leafy Goldenrod	Solidago squarrosa	Plant	Threatened	None
Louisiana Sedge	Carex louisianica	Plant	Endangered	None
Lurking Leskea	Plagiothecium latebricola	Plant	Threatened	None
Northern Blue-eyed- grass	Sisyrinchium montanum	Plant	Threatened	None
Peregrine Falcon	Falco peregrinus	Animal	Threatened	Recovery
Piping Plover	Charadrius melodus	Animal	Endangered	Endangered
Schweinitz' Umbrella- sedge	Cyperus schweinitzii	Plant	Threatened	None
Showy Lady's-slipper	Cypripedium reginae	Plant	Threatened	None
Simple Willow-herb	Epilobium strictum	Plant	Threatened	None
Spotted Turtle	Clemmys guttata	Animal	Threatened	None
Tufted Fescue Sedge	Carex brevior	Plant	Threatened	None
Upland Sandpiper	Bartramia longicauda	Animal	Threatened	None
Yellow-bellied Sapsucker	Sphyrapicus varius	Animal	Endangered	None
Yellow-crowned Night-heron	Nyctanassa violacea	Animal	Threatened	None

Correspondence with the USFWS and ODNR indicated that the Project area is within the range of species that are on federal and/or state lists of threatened or endangered

species. The USFWS literature review indicated that four federally protected species are found in Cuyahoga County, Ohio. The ODNR replied on October 21, 2010 to an e-mailed request form for records for an extended Project area on the ODNR Biodiversity Database with a GIS shapefile indicating the recorded location of one state-listed threatened species, the peregrine falcon, in the Project area. This record of the peregrine falcon is located approximately 2,200 feet northwest of the Preferred Site and 800 feet northwest from the Alternate Site. The record appears to be at one of the larger buildings on the Cleveland Clinic's Main Campus. The location of this Biodiversity Database record is provided on Figure 04-1.

A second consultation letter was sent to ODNR on May 9, 2011. This letter included more detailed information about the Project, including the locations of the two candidates being considered for the Preferred and Alternate sites, than the original Biodiversity Database request. ODNR responded on June 24, 2011 via email regarding the Project. ODNR provided a list of species of concern and indicated no impacts were likely from the proposed substation. Copies of the ODNR correspondence letters and responses are included in Appendix 07-1.

A similar correspondence letter regarding the Project was provided to USFWS on May 9, 2011. USFWS replied on May 12, 2011 with comments on the Project with regard to federally-listed threatened and endangered species that may occur within the Project vicinity, as well as federal wilderness areas, wildlife refuges, and designated critical habitat. USFWS noted that due to the Project type, size, and location, no impact to federally listed endangered, threatened, or candidate species or their habitats is anticipated. No federal wilderness areas, wildlife refuges, or designated critical habitat was reported within the Project area. Copies of the USFWS correspondence letters are included in Appendix 07-1.

(4) Soil Associations in the Corridor

The Urban Land-Elnora-Oshtemo and Mitiwanga-Urban Land-Mahoning soil associations are mapped at the Preferred Site. The Urban Land-Elnora-Oshtemo soil association is mapped at the Alternate Site (U.S. Department of Agriculture [USDA], 1990). Figure 04-1 shows the soil associations in the study area. No soil conditions were found that would potentially limit construction of the proposed Project. No areas

with slopes greater than 12 percent or highly erodible soils were identified within 1,000 feet of either site.

(C) IMPACTS OF ALTERNATIVE SITES ON WATER BODIES

(1) Construction Impact

No stream, pond, or other water crossings are anticipated during construction of the proposed CH Substation at the Preferred or Alternate Site. No heavy equipment will be operated within surface water. Care will be taken to avoid soil erosion and sedimentation that could occur as a result of construction activities.

(2) Operation and Maintenance Impact

Once the substation is in operation, no significant impact to streams or drainage channels is anticipated. No major lakes, ponds, or reservoirs should be affected by the operation or maintenance of the substation at the Preferred or Alternate Site.

(3) Mitigation Procedures

A SWPPP and Best Management Practices (BMPs) will be implemented during construction to control erosion. Areas where soil has been disturbed will be seeded and mulched to prevent soil erosion and sedimentation.

(D) WETLANDS IMPACT

(1) Construction Impact

No wetlands were identified within the footprint of the proposed substation or within 1,000 feet of the Preferred or Alternate Site. No impacts to wetlands are anticipated.

(2) Operation and Maintenance Impact

Wetland areas should not be significantly affected by the operation or maintenance of the substation at either the Preferred or Alternate Site.

(3) Mitigation Procedures

No wetland impacts are expected. Therefore, no mitigation procedures are proposed.

(E) VEGETATION IMPACT**(1) Construction Impact**

Since both the Preferred and Alternate sites are currently paved parking lots, the potential impacts to woody and herbaceous vegetation will be limited to clearing of limited landscaped areas. The overall impacts to vegetation are not considered to be significant.

(2) Operation and Maintenance Impact

During operation of the substation at either the Preferred or Alternate Site, the impacts on vegetated land should be minor. The undeveloped land not disturbed by construction should retain its current vegetation composition and continue successional development at a normal rate within any applicable nuisance laws of the City of Cleveland.

(3) Mitigation Procedures

Experience shows that seeding in non-wetland and non-agricultural areas is advantageous to control erosion on areas disturbed by construction activities. These measures should preserve the aesthetic qualities adjacent to the site and prevent erosion.

(F) COMMERCIAL, RECREATIONAL, AND THREATENED/ENDANGERED SPECIES IMPACTS

The Project is located in an urban setting with dense residential, commercial, institutional and other development. Undisturbed areas are extremely limited. The Preferred and Alternate sites are currently used as paved parking lots. Habitat for major wildlife species was not observed on either site. Lists of commercial and recreational species were obtained from the ODNR-DOW annual hunting and trapping

regulations.⁴ Lists of protected species were based on their reported range within Cuyahoga County and the ODNR Biodiversity Database. Details on the expected impacts of construction, operation and maintenance, and mitigation procedures can be found following the commercial, recreational, and threatened and endangered species descriptions.

(1) Construction

Commercially important species are those species hunted or trapped for fur or other byproducts. Recreational terrestrial species are those species hunted as game. Cleveland Municipal Code Cleveland Municipal Code Part 6, Title I, Chapter 627.20 (a) states, "No person shall discharge any firearm except in self-defense or except a law enforcement agent in the discharge of official duty." Cleveland Municipal Code Part 6, Title I, Chapter 627.21 (a) states "No person shall use or permit the use within the City of any steel jump animal trap or similar device with spring activated jaws of the types commonly used for the trapping of fur bearing animals, which is capable of inflicting cruelty upon dogs or cats or which constitutes a hazard to small children. In addition, Ohio Hunting and Trapping Regulations state that "It is unlawful to shoot from, on, across, or along a public road or highway." These statutes effectively prohibit hunting and trapping of commercial and recreational species within the City of Cleveland. In addition, appropriate habitat for commercial and recreational species was not observed at the Preferred or Alternate Site during the field reconnaissance.

The USFWS and ODNR were contacted regarding the potential for occurrence of threatened and endangered species in the Project vicinity. Thirty-four species of concern are listed within Cuyahoga County and are presented in Table 07-1. The ODNR Biodiversity Database did not identify any species of concern within 1,000 feet of the Preferred or Alternate Site. None of these species were observed and habitat for the listed species was not identified within the urban setting at the time of the field reconnaissance.

⁴ ODNR-DOW Ohio Hunting and Trapping Regulations 2010-2011

Construction at both the Preferred and Alternate sites would result in conversion of a parking lot to the proposed substation. The lack of suitable habitat for animal species at the current sites suggests the impact of construction will be minimal.

(2) Operation and Maintenance Impact

During operation and maintenance of the substation at either the Preferred or Alternate Site, any impacts on wildlife should be minor.

(3) Mitigation Procedures

The Preferred and Alternate sites have been examined in the field and reviewed on aerial photographs by experienced biologists. No significant problem areas that require the use of special mitigation measures for wildlife have been identified. If, however, such conditions are recognized at a later date, the condition should be mitigated appropriately on an individual basis.

(G) SLOPES AND ERODIBLE SOILS

(1) Construction Impact

Based on the Cuyahoga County soil survey and field reconnaissance, no slopes that exceed 12 percent or highly erodible soils were identified at the Preferred or Alternate Site. A SWPPP will be implemented during construction to control erosion.

(2) Operation and Maintenance Impact

Once the substation is in place, no impacts or erosion hazards are expected.

(3) Mitigation Procedures

No special mitigation procedures are anticipated beyond standard erosion prevention measures which take place during any construction activity. Best management practices consisting mainly of silt fences and straw bales will be used when construction takes place adjacent to storm water or sewer inlets.

(H) Other Issues

No other issues are anticipated.

Appendix 07-1



Ohio Department of Natural Resources

TED STRICKLAND, GOVERNOR

SEAN D. LOGAN, DIRECTOR

Division of Wildlife

John M. Daugherty, Acting Chief
2045 Morse Rd., Bldg. G-3
Columbus, OH 43229-6693
Phone: (614) 265-6300

October 21, 2010

Benjamin Otto
URS Corp.
36 E. 7th St., Suite 2800
Cincinnati, OH 45202

Dear Mr. Otto:

Per your request, I have e-mailed you a set of ArcView shape files with our Biodiversity Database records for the Clinic Substation Siting project ('data'), including a one mile radius, in Cleveland, Cuyahoga County, and on the East Cleveland, Shaker Heights, Cleveland North and Cleveland South Quads. The files are projected in NAD83 Ohio State Plane South. The units are feet. This data will not be published or distributed beyond the scope of the project description on the data request form without prior written permission of the Biodiversity Database Program.

Records included may be for rare and endangered plants and animals, geologic features, high quality plant communities and animal assemblages. Fields included are scientific and common names, state and federal statuses, as well as managed area and date of the most recent observation. State and federal statuses are defined as: E = endangered, T = threatened, P = potentially threatened, SC = species of concern, SI = special interest, FE = federal endangered, FT = federal threatened and A=recently added to inventory, status not yet determined.

Also included is a layer for managed areas ('ma') which includes state wildlife areas, nature preserves, parks and forests, national wildlife refuges, county metro parks, as well as sites owned by non-profit groups (such as The Nature Conservancy), museums (such as the Cleveland Museum of Natural History), and others. Please be aware that the managed areas layer may not be complete. We are continually updating this layer as additional information becomes available to us.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Please note that although we inventory all types of plant communities, we only maintain records on the highest quality areas.

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

Sincerely,

Debbie Woischke, Ecological Analyst
Ohio Biodiversity Database Program



Woischke, Debbie

From: Woischke, Debbie
Sent: Thursday, October 21, 2010 9:47 AM
To: 'benjamin_otto@urscorp.com'
Subject: Substation data

Dear Mr. Otto:

Per your request, I have e-mailed you a set of ArcView shape files with our Biodiversity Database records for the Clinic Substation Siting project ('data'), including a one mile radius, in Cleveland, Cuyahoga County, and on the East Cleveland, Shaker Heights, Cleveland North and Cleveland South Quads. The files are projected in NAD83 Ohio State Plane South. The units are feet. This data will not be published or distributed beyond the scope of the project description on the data request form without prior written permission of the Biodiversity Database Program.

Records included may be for rare and endangered plants and animals, geologic features, high quality plant communities and animal assemblages. Fields included are scientific and common names, state and federal statuses, as well as managed area and date of the most recent observation. State and federal statuses are defined as: E = endangered, T = threatened, P = potentially threatened, SC = species of concern, SI = special interest, FE = federal endangered, FT = federal threatened and A=recently added to inventory, status not yet determined.

Also included is a layer for managed areas ('ma') which includes state wildlife areas, nature preserves, parks and forests, national wildlife refuges, county metro parks, as well as sites owned by non-profit groups (such as The Nature Conservancy), museums (such as the Cleveland Museum of Natural History), and others. Please be aware that the managed areas layer may not be complete. We are continually updating this layer as additional information becomes available to us.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Please note that although we inventory all types of plant communities, we only maintain records on the highest quality areas.

A hard copy of this letter on letterhead will be mailed today. Please contact me at 614-265-6818 if I can be of further assistance.



ma.shx (3 KB)



data.dbf (5 KB)



data.sbn (3 KB)



data.sbx (3 KB)



data.shp (4 KB)



data.shx (3 KB)



ma.dbf (4 KB)



ma.sbn (3 KB)




ma.sbx (3 KB)



ma.shp (6 KB)

Debbie Woischke, Ecological Analyst
Ohio Department of Natural Resources
Division of Wildlife
Ohio Biodiversity Database Program
2045 Morse Rd., Bldg. G-3
Columbus, OH 43229
(phone) 614-265-6818
(fax) 614-267-3096
debbie.woischke@dnr.state.oh.us

Keep Ohio Wild, learn how you can help @ [**Wildlife Legacy Stamp**](#)




May 9, 2011

Dr. Brian Mitch
Environmental Review Coordinator
Environmental Services Section
Ohio Department of Natural Resources
2045 Morse Rd., Building C-4
Columbus, Ohio 43229-6693


Subject: Clinic Hospital Substation Project, City of Cleveland, Cuyahoga County, OH

Dear Dr. Mitch:



URS Corporation (URS) is providing this letter update regarding the Clinic Hospital Substation Project (Project) on behalf of FirstEnergy Service Company (FE), American Transmission Systems, Incorporated (ATSI), and The Cleveland Electric Illuminating Company (CEI), FirstEnergy Corp. subsidiaries. FE is proposing to build the Clinic Hospital Substation on one of two properties within the City of Cleveland in Cuyahoga County. Both properties are currently owned by the Cleveland Clinic and operated as paved parking lots.

In order to construct the Project, FE must first submit an application to the Ohio Power Siting Board (OPSB) for a Certificate of Environmental Compatibility and Public Need for the substation site. The application must include a preferred site and an alternate site. The proposed alignment and details for transmission line interconnections from the Inland-Jordan Q-11 and Q-14 138 kV circuits powering the station will be provided in separate Letters of Notification to be submitted to OPSB.



URS first contacted Ohio Department of Natural Resources (ODNR) during the early planning stages of the Project as part of an Ohio Biodiversity Database request in October 2010 for an extended study area. A response from ODNR with the associated data layers for the Ohio Biodiversity Database for the study area was received on October 21, 2010. Two data records and two managed areas were included in the shapefiles provided for the overall study area. No additional comments regarding species, habitat, or special status areas were provided. This response from ODNR is attached. Since initial consultation with ODNR, FE has identified the two preliminary candidate sites on Cleveland Clinic property as discussed above and shown on Figure 1. A final decision has not been made regarding which site will be selected for the Project, but preliminary evaluation suggests that the property to the southeast closer to the necessary 138 kV transmission line interconnections has several advantages.

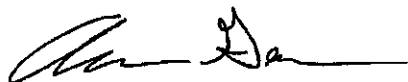
Review of Biodiversity Database records indicates that three of the areas provided, two local parks and a cave or cavern, are greater than 0.5 mile from the two candidate sites. The nature and distance of these listings suggests no potential for impact. Based on the shape and location of a record of a peregrine falcon, this State threatened species appears to nest on one of the larger Cleveland Clinic buildings. This record is approximately 800 feet from the northwestern candidate site and 2,200 feet from the southeastern candidate. Due to the urban nature of the vicinity, the potential for impacts to this species appears low.

A URS ecologist conducted a field reconnaissance of the two candidate sites and preliminary 138 kV interconnection routes in April 2011. No wetlands, streams, wildlife habitat, or other sensitive ecological features were observed on the paved parking lots. No in-water work or tree clearing is planned at either site. Therefore, no mitigation or development restrictions as they pertain to special status species appear warranted at either site.

Based on the updated information, FE and URS are soliciting ODNR comments on the project, particularly the need for additional consultation now that the Project has been further defined. Please feel free to provide any additional comments ODNR may have regarding this Project. Please do not hesitate to contact the undersigned if there are any questions.

Sincerely,

URS CORPORATION



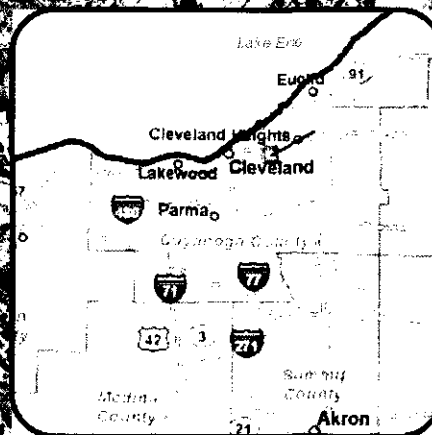
Aaron Geckle
Project Manager
aaron_geckle@urscorp.com



James R. J. Nicholas, Ph.D.
Principal Scientist
james_nicholas@urscorp.com

Attachments: 1) Project Map
2) Initial ODNR Email

Overview Map



J:\GIS\Projects\First_Energy\ClevelandClinicSubstation\Coordination.mxd



LEGEND:

- Potential Substation Site
- Existing Transmission Line
- ODNR Record of Threatened and Endangered Species

0 500 1,000

Scale in Feet

BASE MAP SOURCE:

Ohio Statewide Imagery Program, 2006
Cuyahoga County

illuminating
Company

ATSI

Clinic Hospital Substation

FIGURE 1 PROJECT MAP

CREATED BY: AG

DATE: 05/05/2011

CHECKED BY: JN

1 INCH = 1,000 FEET

JOB NO. 14949786

URS



Ohio Department of Natural Resources

TED STRICKLAND, GOVERNOR

SEAN D. LOGAN, DIRECTOR

Division of Wildlife

John M. Daugherty, Acting Chief
2045 Morse Rd., Bldg. G-3
Columbus, OH 43229-6693
Phone: (614) 265-6300

October 21, 2010

Benjamin Otto
URS Corp.
36 E. 7th St., Suite 2800
Cincinnati, OH 45202

Dear Mr. Otto:

Per your request, I have e-mailed you a set of ArcView shape files with our Biodiversity Database records for the Clinic Substation Siting project ('data'), including a one mile radius, in Cleveland, Cuyahoga County, and on the East Cleveland, Shaker Heights, Cleveland North and Cleveland South Quads. The files are projected in NAD83 Ohio State Plane South. The units are feet. This data will not be published or distributed beyond the scope of the project description on the data request form without prior written permission of the Biodiversity Database Program.

Records included may be for rare and endangered plants and animals, geologic features, high quality plant communities and animal assemblages. Fields included are scientific and common names, state and federal statuses, as well as managed area and date of the most recent observation. State and federal statuses are defined as: E = endangered, T = threatened, P = potentially threatened, SC = species of concern, SI = special interest, FE = federal endangered, FT = federal threatened and A=recently added to inventory, status not yet determined.

Also included is a layer for managed areas ('ma') which includes state wildlife areas, nature preserves, parks and forests, national wildlife refuges, county metro parks, as well as sites owned by non-profit groups (such as The Nature Conservancy), museums (such as the Cleveland Museum of Natural History), and others. Please be aware that the managed areas layer may not be complete. We are continually updating this layer as additional information becomes available to us.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Please note that although we inventory all types of plant communities, we only maintain records on the highest quality areas.

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

Sincerely,

Debbie Woischke, Ecological Analyst
Ohio Biodiversity Database Program



Woischke, Debbie

From: Woischke, Debbie
Sent: Thursday, October 21, 2010 9:47 AM
To: 'benjamin_otto@urscorp.com'
Subject: Substation data

Dear Mr. Otto:

Per your request, I have e-mailed you a set of ArcView shape files with our Biodiversity Database records for the Clinic Substation Siting project ('data'), including a one mile radius, in Cleveland, Cuyahoga County, and on the East Cleveland, Shaker Heights, Cleveland North and Cleveland South Quads. The files are projected in NAD83 Ohio State Plane South. The units are feet. This data will not be published or distributed beyond the scope of the project description on the data request form without prior written permission of the Biodiversity Database Program.

Records included may be for rare and endangered plants and animals, geologic features, high quality plant communities and animal assemblages. Fields included are scientific and common names, state and federal statuses, as well as managed area and date of the most recent observation. State and federal statuses are defined as: E = endangered, T = threatened, P = potentially threatened, SC = species of concern, SI = special interest, FE = federal endangered, FT = federal threatened and A=recently added to inventory, status not yet determined.

Also included is a layer for managed areas ('ma') which includes state wildlife areas, nature preserves, parks and forests, national wildlife refuges, county metro parks, as well as sites owned by non-profit groups (such as The Nature Conservancy), museums (such as the Cleveland Museum of Natural History), and others. Please be aware that the managed areas layer may not be complete. We are continually updating this layer as additional information becomes available to us.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Please note that although we inventory all types of plant communities, we only maintain records on the highest quality areas.

A hard copy of this letter on letterhead will be mailed today. Please contact me at 614-265-6818 if I can be of further assistance.



ma.shx (3 KB)



data.dbf (5 KB)



data.sbn (3 KB)



data.sbx (3 KB)



data.shp (4 KB)



data.shx (3 KB)



ma.dbf (4 KB)



ma.sbn (3 KB)



ma.sbx (3 KB)



ma.shp (6 KB)

Debbie Woischke, Ecological Analyst
Ohio Department of Natural Resources
Division of Wildlife
Ohio Biodiversity Database Program
2045 Morse Rd., Bldg. G-3
Columbus, OH 43229
(phone) 614-265-6818
(fax) 614-267-3096
debbie.woischke@dnr.state.oh.us

Keep Ohio Wild, learn how you can help @ **Wildlife Legacy Stamp**

J:\GIS\Projects\FFirst Energy\ClevelandClinicSubstation\Coordination.mxd



LEGEND:

- Potential Substation Site
- Existing Transmission Line
- ODNR Record of Threatened and Endangered Species

0 500 1,000

Scale in Feet

BASE MAP SOURCE:
Ohio Statewide Imagery Program, 2006
Cuyahoga County

**illumining
Company**
A Redding Company

ATSI
Engineering & Construction Services

Clinic Hospital Substation

**FIGURE 1
PROJECT MAP**

CREATED BY: AG

DATE: 05/05/2011

CHECKED BY: JN

1 INCH = 1,000 FEET

JOB NO. 14949786

URS



"Mitch, Brian" <Brian.Mitch@dnr.state.oh.us>

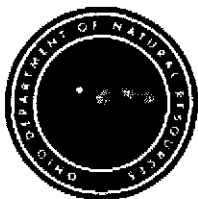
06/24/2011 03:07 PM

To <Aaron_Geckle@URSCorp.com>

cc <james_nicholas@URSCorp.com>

bcc

Subject 11-0213; Clinic Hospital Sub-Station Project



ODNR COMMENTS TO Aaron Geckle, URS Corporation, 36 East 7th Street, Suite 2300, Cincinnati, Ohio 45206

Project: First Energy is proposing to build the Clinic Hospital Substation in the City of Cleveland, Cuyahoga County, Ohio. An ODNR data request was completed on October 21st, 2010. URS is requesting any additional ODNR comments or consultation requirements now that the scope of the project has been updated.

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

Fish and Wildlife: The ODNR, Division of Wildlife (DOW) has the following comments.

The project is within the range of the Indiana bat (*Myotis sodalis*), a state and federally endangered species. Since no tree removal is proposed, the project is not likely to impact this species.

The project is within the range of the piping plover (*Charadrius melodus*), a state and federally endangered bird species, and the Kirtland's warbler (*Dendroica kirtlandii*), a state and federally endangered species. These species

do not nest in the state but only utilize stopover habitat as they migrate through the region. Therefore, the project is not likely to have an impact on these species.

The project is within the range of the bald eagle (*Haliaeetus leucocephalus*), a state threatened species. However, the Ohio Biodiversity Database currently has no records of this species near the project area.

The project is within the range of the Canada darner (*Aeshna canadensis*), a state endangered dragonfly. Since no wetland impacts are proposed, the project is not likely to impact this species.

The project is within the range of the black bear (*Ursus americanus*), a state endangered species, and the bobcat (*Lynx rufus*), a state endangered species. Due to the mobility of these species, the project is not likely to have an impact on these species.

The project is within the range of the yellow-bellied sapsucker (*Sphyrapicus varius*), a state endangered bird, and the golden-winged warbler (*Vermivora chrysoptera*), a state endangered bird. Due to the land use of the project area and the habitat requirements of these species, the project is not likely to impact these species.

The project is within the range of the king rail (*Rallus elegans*), a state endangered bird. A statewide survey has not been completed for this species. Since no wetland impacts are proposed, the project is not likely to impact this species.

ODNR appreciates the opportunity to provide these comments. Please contact Brian Mitch at (614) 265-6378 if you have questions about these comments or need additional information.

Brian Mitch, Environmental Review Manager
Ohio Department of Natural Resources
Environmental Services Section
2045 Morse Road, Building E-3
Columbus, Ohio 43229-6693
Office: (614) 265-6378
Fax: (614) 262-2197
brian.mitch@dnr.state.oh.us

May 9, 2011

Dr. Mary Knapp
U.S. Fish and Wildlife Service
4625 Morse Road Suite 104
Columbus, OH 43230

Subject: Clinic Hospital Substation Project, City of Cleveland, Cuyahoga County, OH

Dear Dr. Knapp:

URS Corporation (URS) is providing this letter regarding the Clinic Hospital Substation Project (Project) on behalf of FirstEnergy Service Company (FE), American Transmission Systems, Incorporated (ATSI), and The Cleveland Electric Illuminating Company (CEI), FirstEnergy Corporation subsidiaries. FE is proposing to build the Clinic Hospital Substation on one of two properties within the City of Cleveland in Cuyahoga County. Both properties are currently owned by the Cleveland Clinic and operated as paved parking lots.

In order to construct the Project, FE must first submit an application to the Ohio Power Siting Board (OPSB) for a Certificate of Environmental Compatibility and Public Need for the substation site. The application must include a preferred site and an alternate site. The proposed alignment and details for transmission line interconnections from the Inland-Jordan Q-11 and Q-14 138 kV circuits powering the station will be provided in separate Letters of Notification to be submitted to OPSB. Two preliminary alternative station locations and associated transmission interconnections have been identified and will be presented to the OPSB. These sites are provided on Figure 1. A final decision has not been made regarding which site will be selected for the Project, but preliminary evaluation suggests that the property to the southeast closer to the necessary 138 kV transmission line interconnections has several advantages.

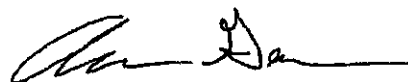
Three Federally protected species are listed by USFWS within Cuyahoga County (<http://www.fws.gov/midwest/endangered/lists/ohio-cty.html>). The Kirtland's warbler (*Dendroica kirtlandii*) and Piping plover (*Charadrius melodus*) are birds listed as Endangered. These birds reportedly migrate or frequent the Lake Erie coastline and beaches. The Indiana bat (*Myotis sodalis*) is a Federally listed Endangered species. A URS ecologist conducted a field reconnaissance of the two candidate sites and preliminary 138 kV interconnection routes in April 2011. No wetlands, streams, wildlife habitat for the listed species, or other sensitive ecological features were observed on the paved parking lots. No in-

water work or tree clearing is planned at either site. Therefore, no potential to impact these species is anticipated and no additional surveys or mitigation is planned at this time.

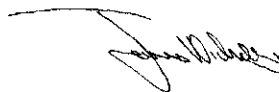
FE and URS are soliciting USFWS comments on the project. Please do not hesitate to contact the undersigned if there are any questions.

Sincerely,

URS CORPORATION



Aaron Geckle
Project Manager
aaron_geckle@urscorp.com



James R. J. Nicholas, Ph.D.
Principal Scientist
james_nicholas@urscorp.com

Attachment: Project Map

Cc: Jessica Thacker, FE

J:\GIS\Projects\First Energy\Cleveland Clinic\Substation\Coordination.mxd



LEGEND:

-  Potential Substation Site
-  Existing Transmission Line

0 500 1,000

Scale in Feet

BASE MAP SOURCE:
Ohio Statewide Imagery Program, 2006
Cuyahoga County

illumining
Company
A FirstEnergy Company

ATSI
Engineering, Technology, Systems, Inc.
An American Electric Power Company

Clinic Hospital Substation

**FIGURE 1
PROJECT MAP**

CREATED BY: AG

DATE: 05/05/2011

CHECKED BY: JN

1 INCH = 1,000 FEET

JOB NO. 14949786

URS



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

May 12, 2011

Aaron Geckle
URS Corporation
36 East 7th Street, Suite 2300
Cincinnati, OH 45202-4434

TAILS #: 31420-2011-TA-0670

Re: Clinic Hospital Substation Project in City of Cleveland, Cuyahoga County, OH

Dear Mr. Geckle:

We have received your recent correspondence dated May 9, 2011 requesting information about the subject proposal. There are no Federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area. Based on the information you have provided, at this time we have no objection to the proposed project.

ENDANGERED SPECIES COMMENTS: Due to the project type, size, and location, we do not anticipate any impact on federally listed endangered, threatened, or candidate species, or their habitats. Should the project design change, or during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the Service should be initiated to assess any potential impacts.

If you have additional questions or require further assistance with your project proposal, please contact me at the following number (614) 416-8993 x12. I would be happy to discuss the project in further detail with you and provide additional assistance if necessary. In addition, you can find more information on natural resources in Ohio by visiting our homepage at: <http://www.fws.gov/midwest/ohio>.

Sincerely,

Mary Knapp, Ph.D.
Field Supervisor