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June 19, 2017

Via Hand Delivery

Ms. Barcy McNeal
Administration/Docketing
Ohio Power Siting Board
180 East Broad Street, 11th Floor
Columbus, Ohio 43215-3793

Re: Clean Energy Future–Trumbull, LLC
Case No. 17-819-EL-BLN

Dear Ms. McNeal:

Enclosed for filing in the above-referenced case is a copy of the Letter of Notification for the Trumbull Energy Center Electrical Interconnection ("TEC Electrical Interconnection") Village of Lordstown, Trumbull County, Ohio. In addition, we have provided Staff of the Ohio Power Siting Board ("Board") hard copies of the Application. Pursuant to Ohio Administrative Code Rule 4906-6-05(A), the Applicant makes the following declarations:

Name of Applicant:
Clean Energy Future–Trumbull, LLC,
whose president is
William Siderewicz, P.E.
24 Proctor Street
Manchester, MA 01944

Name/Location of Proposed Facility:
Trumbull Energy Center Electrical Interconnection
Village of Lordstown, Trumbull County, Ohio

Authorized Representative Technical:
Steven P. Remillard
Project Development Manager
Clean Energy Future-Lordstown, LLC
20 Park Street
Boston, MA 02116
Telephone: (508) 579-6317
E:mail: sremillard@enervenresources.com

Authorized Representative

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Notarized Statement: See Attached Affidavit of Steven P. Remillard, on behalf of Clean Energy Future-Trumbull, LLC

Sincerely on behalf of
CLEAN ENERGY FUTURE-TRUMBULL, LLC

Sally W. Bloomfield

Attachment

BEFORE
THE OHIO POWER SITING BOARD

In the Matter of the Letter of Notification of Clean Energy Future-Trumbull, LLC for the Trumbull Energy Center Electrical Interconnection, Village of Lordstown, Trumbull County, Ohio	)))))	Case No. 17-819-GA-BLN

AFFIDAVIT OF STEVEN P. REMILLARD, CLEAN ENERGY FUTURE-TRUMBULL, LLC

STATE OF MASSECHUSETTS :
: ss
COUNTY OF WORCESTER:

I, Steven P. Remillard, being duly sworn and cautioned, state that I am more than 18 years of age and competent to testify to the matters stated in this affidavit and further state the following based upon my personal knowledge:

1. I am the Lead Developer and Project Development Manager of Clean Energy Future-Trumbull, LLC's Trumbull Energy Center and am authorized to execute this Affidavit.

2. I have reviewed the Clean Energy Future-Trumbull, LLC Letter of Notification Application in the above referenced case.

3. To the best of my knowledge, information and belief, the information and materials contained in the above-referenced Application are true and accurate.

4. To the best of my knowledge, information and belief, the above-referenced Application is complete.

Steven P. Remillard

Sworn to before and signed in my presence this 12th day of June 2017.

Notary Public

[SEAL]

LUCY ESCOBAR
Notary Public, Commonwealth of Massachusetts
My Commission Expires June 27, 2019

LETTER OF NOTIFICATION

Trumbull Energy Center Electrical Interconnection

Ohio Power Siting Board Case No. 17-819-EL-BLN

June 19, 2017

Prepared for:

Clean Energy Future – Trumbull, LLC
40 Beach Street, Suite 300
Manchester-by-the-Sea, Massachusetts 01944
Attn: Steve Remillard
508-578-6317; sremillard@enervenresources.com

Prepared by:

TETRA TECH

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Letter of Notification
Trumbull Energy Center Electrical Interconnection

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
the Applicant	Clean Energy Future - Trumbull, LLC
CEF-T	Clean Energy Future - Trumbull, LLC
FirstEnergy	FirstEnergy Corporation
the Interconnection ROW	a newly proposed, approximately 0.25-mile 100-foot wide right-of-way in which generator leads supported by three vertical, monopole dead-end structures will be constructed
kV	kilovolt
LON	Letter of Notification
OAC	Ohio Administrative Code
ODNR	Ohio Department of Natural Resources
OHC	Ohio History Connection
Ohio EPA	Ohio Environmental Protection Agency
OPSB	Ohio Power Siting Board
P1, P2, and P3	pole locations along the proposed TEC Electrical Interconnection
PJM	PJM Interconnection LLC, the regional electric transmission Independent System Operator
SR 45	State Route 45
TEC	Trumbull Energy Center
the TEC Collector Bus	a new collector bus/switchyard to be located on the western portion of the TEC Site, adjacent to the power block
the TEC Site	a 23-acre property on which the Trumbull Energy Center is proposed
the TEC Electrical Interconnection	the proposed activity, a 345-kilovolt electric transmission interconnection between the existing FirstEnergy electrical transmission grid and the Trumbull Energy Center, consisting of the 0.25-mile Interconnection ROW and the 4-acre Utility Switchyard
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
the Utility Switchyard	approximately 4 acres of land located adjacent to the FirstEnergy 345-kV Highland-Hanna circuit in which a new, 3-breaker ringbus will be constructed

4906-6-05 (B) GENERAL INFORMATION

In accordance with Ohio Administrative Code (OAC) Section 4906-6-05, Accelerated Application Requirements, Clean Energy Future - Trumbull, LLC (CEF-T or the Applicant) submits the following information to the Ohio Power Siting Board (OPSB):

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

The Applicant is Clean Energy Future - Trumbull, LLC. The name of the project is the Trumbull Energy Center Electrical Interconnection (the TEC Electrical Interconnection).

4906-6-05(B)(1) Description of the Project

The TEC Electrical Interconnection will interconnect CEF-T's Trumbull Energy Center (TEC), a proposed state-of-the-art, combined cycle, natural gas-fired electric generating facility to an existing FirstEnergy Corporation (FirstEnergy) 345-kilovolt (kV) transmission line. TEC is proposed on a 23-acre property (the TEC Site) located approximately 0.2 mile west of the FirstEnergy 345-kV Highland-Hanna circuit, as shown in Figure 1. TEC is the subject of a separate OPSB filing (Case No. 16-2444-EL-BGN).

TEC will produce power at a voltage of 20 kV, which will be increased to 345 kV through the use of generator step-up transformers. An electrical switchyard will be located on the western portion of the TEC Site (the TEC Collector Bus) to gather the output from the generator step-up transformers. Within the TEC Collector Bus, the nine generator leads (three each from the two combustion turbine generator step-up transformers and the steam turbine generator step-up transformers) will be consolidated such that only three phases, each containing a double conductor, will leave the TEC Site as a part of the TEC Electrical Interconnection. The TEC Electrical Interconnection consists of:

- The three consolidated generator leads that will extend approximately 0.25-mile within a 100-foot wide right-of-way (the Interconnection ROW) supported on three vertical monopole dead-end structures; and
- The new 3-breaker ringbus, proposed on approximately 4 acres of land located adjacent to the FirstEnergy 345-kV Highland-Hanna circuit (the Utility Switchyard), into which the generator leads interconnect.

The generator leads will extend south approximately 200 feet from the TEC Collector Bus to a dead-end structure (P1), then turn east approximately 500 feet to a dead-end structure (P2) located just north of the Mud Creek wetlands and floodplain. The generator leads will span wetland resources associated with Mud Creek, thereby avoiding direct impact; the span will extend southeasterly approximately 300 feet to a dead-end structure (P3) southeast of Mud Creek, before extending east approximately 300 feet and entering the Utility Switchyard. An access road from the TEC Site will provide access to P1 and P2, while an access road extending north from Hallock Young Road will provide access to P3, thereby avoiding the need to cross Mud Creek; a separate access road will extend north from Hallock Young Road to the Utility Switchyard. The TEC Electrical Interconnection will be capable of delivering TEC's nominal net 940-megawatt capacity to the FirstEnergy 345-kV Highland-Hanna circuit.

All components of the TEC Electrical Interconnection are proposed on property under option by CEF-T and are located entirely within the Village of Lordstown, Trumbull County, Ohio. Prior to commencement of construction, CEF-T will exercise its options and purchase the properties on which the TEC Electrical Interconnection is proposed. Upon completion of construction, the Utility Switchyard and associated access road will be transferred to FirstEnergy,

while the Interconnection ROW (and associated access) will remain under the ownership and control of CEF-T.

4906-6-05(B)(1) Reason the Project Meets Letter of Notification Requirements

The TEC Electrical Interconnection meets the requirements of two components of OAC Section 4906-6-01 that require the submittal of an Letter of Notification (LON):

- Appendix A(1)(b) states that power transmission lines greater than 0.2 mile in length but not greater than two miles in length require the submittal of an LON; the Interconnection ROW is 0.25 mile in length.
- Appendix A(3) states that construction of a new electric power transmission substation requires the submittal of a LON, and the Utility Switchyard is considered by the OPSB to be a substation.

The two components (the Interconnection ROW and the Utility Switchyard) are both addressed in this filing as the TEC Electrical Interconnection. The TEC Electrical Interconnection is solely needed to meet the requirements of a specific customer, CEF-T.

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

TEC will generate energy to meet regional demand, and must be connected to the existing transmission grid in order to provide that energy to the market. In October 2015, TEC submitted an interconnection request to PJM Interconnection LLC (PJM),[1] the regional electric transmission Independent System Operator, and was assigned queue position AB1-105. The PJM Feasibility Study, completed for TEC in February 2016, confirmed the feasibility of interconnecting TEC to

[1] PJM is the regional independent transmission organization that coordinates movement of wholesale electricity in all or part of 13 states (including Ohio) and the District of Columbia. Its name results from its origin serving Pennsylvania (P), New Jersey (J), and Maryland (M).

the FirstEnergy 345-kV Highland-Hanna circuit with only minor system upgrades required. The subsequent PJM System Impact Study was completed for TEC in February 2017 and revised in May 2017. The System Impact Study identified the direct upgrades required to connect the existing FirstEnergy 345-kV Highland-Hanna circuit to the proposed TEC Collector Bus in order for TEC to supply energy and capacity to the PJM system, as well as other minor upgrades that may be required on the FirstEnergy transmission system. Additional coordination regarding details of the TEC Electrical Interconnection design is ongoing. The PJM Feasibility Study and the most recent System Impact Study are provided in Attachment A.

4906-6-05(B)(3) Project Location Relative to Existing and Proposed Lines

The location of the TEC Electrical Interconnection in relation to existing FirstEnergy transmission lines is shown in Figure 2.

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

The FirstEnergy 345-kV Highland-Hanna circuit is the closest 345-kV transmission corridor to the TEC Site. PJM's 2017 System Impact Study for TEC confirmed that TEC can interconnect to the existing electrical grid at this location with only minor system upgrades. The ongoing PJM Facility Study will confirm that the 3-breaker ringbus configuration proposed for the TEC Electrical Interconnection meets applicable FirstEnergy requirements.

No formal siting or routing study was completed for the TEC Electrical Interconnection and no significant alternatives were studied; however, siting and routing utilized a range of considerations. As further discussed in Section 4906-6-05(B)(10)(a), the TEC Electrical Interconnection is located on a parcel of land that is contiguous with the industrial area of Lordstown within which TEC will be constructed. By focusing elements of the TEC Electrical

Interconnection on an adjacent parcel that is immediately proximate to both TEC and the existing 345-kV electric transmission corridor, a substantial buffer from other surrounding land uses can be maintained. The TEC Electrical Interconnection is not in a densely populated location within the Village of Lordstown.

The location of the Utility Switchyard adjacent to the existing 345-kV electric transmission line corridor will facilitate FirstEnergy's tap into the existing transmission lines and allow for consolidation of property ultimately to be controlled by FirstEnergy. The Utility Switchyard was positioned as close to Hallock Young Road (the point of access) as possible, while avoiding unnecessary impact to wetlands.

Routing of the Interconnection ROW between the TEC Collector Bus and the Utility Switchyard focused on selecting a technically functional design with the shortest distance (to minimize tree clearing and reduce costs) that would also minimize potential wetland and stream impact. Only three structures are proposed within the 100-foot wide Interconnection ROW, and they have been specifically positioned to avoid the need for structures to be located in wetland or floodplain. The resulting Interconnection ROW is only 0.25 mile in length, and represents the most suitable and least-impact routing alternative.

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

The TEC Electrical Interconnection is associated with TEC, and has been included in associated community discussions and outreach. Work within the community, including meetings with the local public officials and political leadership of the Village of Lordstown, led by Mayor Arno Hill, has been ongoing since 2013.

CEF-T's public interaction has included mailing letters to residents, tenants, and elected officials; issuing a news release to the local media; and creating a website

(http://cleanenergyfuturellc.com/). During construction, CEF-T will regularly provide updates via postings on its website.

Prior to filing the full Application for TEC (Case No. 16-2444-EL-BGN) and this LON for the TEC Electrical Interconnection (Case No. 17-819-EL-BLN), a pre-application meeting was held with the OPSB Staff in Columbus, Ohio on December 16, 2016 to introduce CEF-T and TEC and discuss both filings. On January 23, 2017, CEF-T held a public informational meeting, as required by OAC Rule 4906-3-03(B). Information regarding TEC and the anticipated TEC Electrical Interconnection was shared during this public meeting. The meeting was properly noticed in the local newspaper, in accordance with OAC Rule 4906-3-03(B)(1). Attachment B provides a copy of the materials displayed at the public meeting. In addition, CEF-T and its representatives have held numerous meetings with local public officials and nearby neighbors to discuss TEC, including its interconnections.

A notification letter, as required by OAC Rule 4906-6-05(B)(5), was sent to each property owner. A second letter will be sent within seven days of filing this LON, as required by OAC Rule 4906-6-08(B). Later in the process, a third letter, as required by OAC Rule 4906-6-11(C), will be sent at least seven days before construction begins. Attachment C contains the three model letters.

A Complaint Resolution Procedure has been developed for TEC, provided as Attachment D, which will also be implemented during construction of the TEC Electrical Interconnection. All complaints will be addressed in a timely manner, with information sought to correct the cause, as appropriate. Once the TEC Electrical Interconnection is operational, the Utility Switchyard will be owned and managed by FirstEnergy under its procedures, while the Interconnection ROW will be integrated into the process that will be in place for operation of TEC.

4906-6-05(B)(6) Anticipated Construction Schedule and In-Service Date

Construction of the TEC Electrical Interconnection is expected to begin in the first quarter of 2018 and it is scheduled to be in-service by the fourth quarter of 2019 (prior to TEC's in-service date of June 1, 2020 to allow for backfeed availability).

4906-6-05(B)(7) Maps Depicting Project Location

Figure 1 has been prepared at a scale of 1:24,000 feet to show the proposed location of the TEC Electrical Interconnection. Figure 1 illustrates the location of the TEC Collector Bus, the Interconnection ROW, and the Utility Switchyard, as well as proximate streets, roads, and highways. As can be seen, the TEC Electrical Interconnection is located entirely within the Village of Lordstown, Trumbull County, Ohio, approximately 0.15 mile east of State Route 45 (SR 45) and 0.1 mile north of Hallock Young Road. The TEC Electrical Interconnection extends from the proposed TEC Collector Bus, located on the western portion of the proposed TEC Site, across property optioned by CEF-T, to the existing FirstEnergy 345-kV Highland-Hanna circuit.

4906-6-05(B)(8) Proposed Easements, Options, and Land Use Agreements

The TEC Electrical Interconnection will be constructed within land controlled by CEF-T. The 100-foot wide Interconnection ROW and its associated access road will continue in CEF-T ownership and control, while land, infrastructure, and the access road associated with the Utility Switchyard will be transferred to FirstEnergy upon completion of construction. The name and address of the current landowner for the property is:

Mrs. Florence F. Siglin

728 State Route 534 NW

Newton Falls, OH 44444

4906-6-05(B)(9) Technical Features of the Project

4906-6-05(B)(9)(a) Description of Technical Features

The TEC Electrical Interconnection will be designed for and operated at 345 kV, and will consist of three steel, monopole, dead-end structures (P1, P2, and P3), constructed within the Interconnection ROW, and a new 3-breaker ringbus, constructed within the Utility Switchyard. Figure 2 shows the anticipated layout of the TEC Electrical Interconnection; typical drawings of the dead-end structure and the 3-breaker ringbus are provided in Figures 3 and 4, respectively. The vertical monopole dead-end structures will use bundled 954 Rail aluminum conductor steel reinforced conductors, with 7#8 Alumoweld shieldwires for lightening protection. Two access roads extending north off Hallock Young Road will be constructed, one to provide access to the Interconnection ROW and one for the Utility Switchyard.

4906-6-05(B)(9)(a) Number and Type of Structures

As shown on Figure 2, three new steel dead-end structures (P1, P2, and P3) are proposed for the Interconnection ROW, and a new 3-breaker ringbus will be constructed within the Utility Switchyard. Typical drawings of these structures are provided in Figures 3 and 4, respectively.

4906-6-05(B)(9)(a) Right-of-Way and Land Requirements

As discussed above, CEF-T will control all property on which the TEC Electrical Interconnection is proposed. A parcel of land that includes the Utility Switchyard and its

associated access road will be transferred to FirstEnergy upon completion of construction. No other land rights will be required.

4906-6-05(B)(9)(b) Calculated Electric and Magnetic Field Levels, Line Loadings & Rating

Not required, as no component of the TEC Electrical Interconnection is located within 100 feet of an occupied residence or institution.

4906-6-05(B)(9)(c) Estimated Capital Costs

Estimated capital costs for the TEC Electrical Interconnection have been developed using a standard accounting format. Table 1 provides a breakdown of anticipated costs.

TABLE 1.
ESTIMATED CAPITAL COSTS AND INTANGIBLE COSTS

Description	Cost ($1,000)
New Utility Switchyard	$6,100
Connection of Highland-Hanna Transmission Line to New Utility Switchyard	1,300
Remote End Communications and Relay Work	890
Generator Lead (0.25-mile transmission line, 3 poles) to the TEC Collector Bus	1,000
Total	**$9,290**

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

4906-6-05(B)(10)(a) Land Use

The 0.25-mile Interconnection ROW is located entirely within the Village of Lordstown in Trumbull County, approximately 0.15 mile east of SR 45 and 0.1 mile north of Hallock Young Road. The Village of Lordstown has a population of 3,417[2] and has an area of 23.14 square miles. Therefore, population density in the area is assumed to be 147.7 people per square mile.

As shown in Figure 5, land uses in the immediate area around the TEC Electrical Interconnection consist of industrial development, utility infrastructure, and forested area. A residential neighborhood is located approximately 0.3 mile east of the TEC Electrical Interconnection, with scattered residences located to the north and south. Commercial development exists along the nearby roadways, particularly along SR 45 to the west and Salt Springs Road to the north, with agricultural fields scattered throughout the area. Utility easements, including overhead electric transmission lines, also traverse the area. A mixture of agricultural, forested area, residential, and commercial/industrial land use extends in all directions around the Interconnection ROW.

The western portion of the Interconnection ROW is proposed on land currently in use as construction laydown for the adjacent Lordstown Energy Center, with the remainder of the TEC Electrical Interconnection located within undeveloped, forested area. Only scattered residential structures exist to the north, west, and south; to the east, a more densely

[2] 2010 United Status Census

populated neighborhood is located to the east of the existing 345-kV transmission line corridor.

There will be no public access to the TEC Electrical Interconnection, as it will be located on private property. A security fence will be installed around the Utility Switchyard, with a locked gate to control access.

4906-6-05(B)(10)(b) Location and Description of Existing Agricultural Districts

The TEC Electrical Interconnection is not proposed within the limits of an Agricultural District, as defined by Chapter 929 of the Ohio Revised Code, nor is the land currently in agricultural use.

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

No significant impact to the continued meaningfulness of registered landmarks of historic, religious, archaeological, scenic, natural or other cultural significant resource is anticipated as a result of the TEC Electrical Interconnection.

A Phase I archaeological investigation was conducted for an area that includes the TEC Electrical Interconnection. These investigations involved surface collection, subsurface testing, and visual inspection. The work resulted in the identification of one cultural find, which did not possess significant archaeological value. No further archaeological work was recommended.

No cultural resource landmarks or historic structures are located within the area of the TEC Electrical Interconnection. The Utility Switchyard is not anticipated to be significantly visible within its wooded setting, with all components less than 100 feet tall. The Interconnection ROW will include three 125.5-foot tall monopole structures, but will

also be surrounded by wooded vegetation. In addition to the dense vegetation, the TEC Electrical Interconnection is proposed proximate to similar uses, in a setting where viewers are accustomed to seeing transmission structures, including poles and wires, and will not reflect a significant change in the visual landscape, should any portion of the structures be visible.

Since a Historic Structures analysis was completed for the adjacent Lordstown Energy Center and its 5-mile radius, CEF-T has utilized this information. The 5-mile area assessed in the Historic Structures analysis completed for the Lordstown Energy Center encompasses approximately 99 percent of the 5-mile area around the proposed TEC Electrical Interconnection. Based on the Historic Structures analysis for the Lordstown Energy Center, no direct or indirect impacts on document cultural resources are anticipated from construction or operation of the TEC Electrical Interconnection.

On April 28, 2017, the Ohio History Connection (OHC), which serves as the State of Ohio's Historic Preservation Office, concluded that no further coordination is required in association with the property proposed for the TEC and the TEC Electrical Interconnection (Attachment E).

4906-6-05(B)(10)(d) Local, State, and Federal Agencies with Requirements Applicable to the Project

The TEC Electrical Interconnection will be designed, constructed, and operated to meet or exceed the requirements of the National Electric Safety Code, FirstEnergy design standards, and all applicable Occupational Safety and Health Administration standards. A permit to construct curb cuts for the access roads off Hallock Young Road will be obtained prior to construction of the access roads, to the extent required. Anticipated environmental

permits required for construction of the TEC Electrical Interconnection, in addition to this filing with the OPSB, include incorporation of its limited wetland impacts into permits obtained from either the United States Army Corps of Engineers (USACE) or the Ohio Environmental Protection Agency (Ohio EPA) for wetland alteration and an Ohio EPA stormwater General Permit for construction. As soon as the permits are received, CEF-T will provide them.

Other federal, state, and local agencies with requirements anticipated for the TEC Electrical Interconnection are outlined in Table 2, along with references to applicable documentation provided as attachments to this LON.

TABLE 2.
LOCAL, STATE, AND FEDERAL AGENCIES WITH REQUIREMENTS TO BE MET BY THE PROJECT

Name of Agency	Documents Submitted	Attachment
USACE	Wetlands and Other Waters Delineation Report, December 12, 2016	F
	Approved Permit for Wetland Impact*	To be obtained
U.S. Fish & Wildlife Service (USFWS)	USFWS Response, dated January 4, 2017	G-1
Ohio Department of Natural Resources (ODNR)	ODNR Response, dated January 3, 2017	G-2
	ODNR Response, dated March 9, 2017	G-3
OHC	Archaeological Review and Historic Structures Analysis Submittal dated February 13, 2017	
	OHC Response, dated April 28, 2017	E
Ohio EPA	General Permit (Stormwater)	To be obtained
Ohio Department of Transportation	Heavy Haul Construction Equipment and Manufactured Component Permits	To be obtained
Village of Lordstown	Road Opening Permit Application	To be obtained
*Wetland impact will be covered under the USACE permit obtained for TEC		

There are no other known local, state or federal requirements that must be met prior to commencement of construction on the proposed TEC Electrical Interconnection. CEF-T requests that the Staff Report contain a similar condition to Condition No. 1 in the Staff Report issued on January 23, 2017 in Vectren Energy Delivery of Ohio Cemex-Morris Bean Pipeline Replacement Project (Case No. 16-2175-GA-BLN). That condition stated that Applicant shall obtain and comply with permits or authorizations "prior to the commencement of construction activities in areas that require permits or authorizations."

4906-6-05(B)(10)(e) Federal and State Designated Species

Correspondence from the USFWS dated January 4, 2017 (Attachment G) indicated there were no federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the TEC Site, but recommended completion of summer bat surveys based on the large number of trees apparent within the study area (Attachment G). CEF-T will coordinate with the USFWS regarding the planned area of 5.2 acres of tree clearing associated with the TEC Electrical Interconnection, as well as additional clearing associated with TEC, to determine whether summer bat surveys are warranted or if seasonal clearing restrictions will suffice.

A response letter from the ODNR dated January 3, 2017 (Attachment G) provided shapefiles that indicated no records in their database of unique ecological attributes or rare or endangered species within 1 mile of TEC or its ancillary features, with the exception of a great blue heron rookery, last observed in 2005, in a location on the opposite side of SR 45, adjacent to the General Motors Lordstown Assembly Plant; this is not anticipated to be a significant issue for the TEC Electrical Interconnection.

Additional correspondence from ODNR was received on March 9, 2017. In addition to the species previously noted, the letter references several listed native freshwater mussels, the northern brook lamprey, and the eastern hellbender. Given that no activity associated with the TEC Electrical Interconnection will involve work within Mud Creek, no impact to mussel species is anticipated. Although the TEC Site has also been identified within the range of the eastern massasauga, the spotted turtle, and the black bear, ODNR notes that impacts are unlikely based on the location and type of habitat present.

Three listed bird species were identified by ODNR, the northern harrier, the upland sandpiper, and the least bittern, with a range that overlaps that of the proposed activities. All three are ground-nesting birds, with the northern harrier nesting in large marshes and grasslands (May 15 to August 1); the sandpiper nesting in grasslands (April 15 to July 31); and the least bittern nesting in dense emergent wetlands with thick stands of vegetation interspersed with open water (May 1 to July 31). Because the TEC Electrical Interconnection is proposed on land currently in use as construction laydown or forested area, with wetland areas avoided, no impacts are expected to occur.

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

The ODNR was contacted regarding areas of ecological concern in the vicinity of the TEC Electrical Interconnection. A response letter from ODNR dated January 3, 2017 did not identify any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas nature preserves, parks, forests, national wildlife refuges or other protected natural areas within a 1-mile radius of TEC or ancillary equipment. A copy of their response is provided in Attachment G.

As part of activities associated with TEC, wetland delineations were completed in February and August 2016. Results of these delineations for the TEC Electrical Interconnection are shown in Figure 6 and described in more detail in Attachment F. The network of wetlands delineated around Mud Creek appear to be associated with its Federal Emergency Management Agency mapped 100-year flood zones, as shown in Figure 6. The TEC Electrical Interconnection was carefully sited to minimize impacts to ecological resources to the fullest extent possible.

The Utility Switchyard will require 102 square feet of wetland fill that was unavoidable in its siting. Similarly minor impacts are associated with the two access roads, with a total of 72 square feet proposed. Therefore, the total of wetland fill associated with the TEC Electrical Interconnection is 174 square feet, or approximately 0.004 acre. Three acres of tree clearing is associated with the Utility Switchyard, with an additional 0.75-acre required for the access roads.

No wetland fill is associated with the Interconnection ROW, and no structures will be placed in floodplain; however, a portion of the Interconnection ROW will extend across Mud Creek and approximately 1.5 acres of tree clearing will be required within the 100-foot wide corridor. Of this cleared area, approximately 0.5 acre is located within Mud Creek and its associated wetlands and floodplain. This will result in a change in character of the wetland, from palustrine-forested to palustrine-scrub shrub wetland, within this limited corridor.

As shown in Figure 5, land use within 1 mile of the TEC Electrical Interconnection is a mixture of industrial, commercial, agricultural, and residential development. The closest recreational use is the Lordstown Village Park, a 60-acre park with picnic pavilions,

various sporting fields, and a 1-mile nature trail, located approximately 1.8 miles north of the proposed TEC Electrical Interconnection. The nearest school is the Lordstown High School, located approximately 1.5 miles north-northwest from the Interconnection ROW, with the Lordstown Elementary School located adjacent to the High School, slightly further north.

4906-6-05(B)(10)(g) Additional Information

There are no unusual conditions that will result in significant environmental, social, health or safety impacts from the proposed TEC Electrical Interconnection.

4906-6-07 SERVICE AND PUBLIC DISTRIBUTION OF ACCELERATED CERTIFICATE APPLICATIONS

4906-6-07(A) Service of Application

4906-6-07(A)(1) Service of Application Upon Officials

Simultaneously with the filing of this accelerated application with the OPSB, CEF-T has caused an electronic copy of this LON and a transmittal letter (Attachment H) to be delivered to the public officials identified in Table 3.

TABLE 3.
PUBLIC OFFICIALS WHO RECEIVED THIS LON

Frank S. Fuda, Mauro Cantalamessa, and Daniel E. Polivka Trumbull County Commissioners County Administration Building, 160 High Street NW, 5th Floor Warren, OH 44481-1061	Peter Kepner, Chair Trumbull Soil & Water Conservation District 520 W. Main Street, Suite #3 Cortland, Ohio 44410
Lewis Kostoff, Chairman Trumbull County Planning Commission 185 E. Market Street NE, Suite A Warren, Ohio 44481-1118	Mayor Arno Hall Village of Lordstown Administration Center 1455 Salt Springs Road Lordstown, OH 44481-9623
Randy L. Smith Trumbull County Engineer 650 North River Road N.W. Warren, OH 44483-2255	Kellie Bordner, Planning & Zoning Administrator/ Economic Development Director Village of Lordstown Administration Center 1455 Salt Springs Rd Lordstown, OH 44481-9623

4906-6-07(A)(2) Service of Application Upon Main Public Libraries of Each Political Subdivision

A copy of this LON is being sent to the Lordstown Branch Library located at 1471 Salt Springs Road, Warren, Ohio 44481.

4906-6-07(A)(3) Project Website

Instructions regarding how to obtain a copy of the generating facility OPSB application and this LON are provided on TEC's web page, located at http://cleanenergyfuturellc.com/.

Interested persons may also contact the CEF-T project manager listed below to obtain either an electronic copy or a paper copy of this LON:

Steve Remillard

Clean Energy Future - Trumbull, LLC

40 Beach Street, Suite 300

Manchester-by-the-Sea, Massachusetts 01944

(508) 578-6317

sremillard@enervenresources.com

4906-6-07(B) Proof of Compliance

Within seven days of filing this LON, CEF-T will cause proof of compliance with OAC 4906-6-07, as outlined in the previous sections, to be filed with the OPSB.

4906-6-08 PUBLIC NOTICE FOR LETTER OF NOTIFICATION APPLICATIONS

4906-6-08(A) Newspaper Notice

Because this filing falls under the definition of an LON, within seven days of the filing of this LON, CEF-T will cause public notice of this LON to be published in the Tribune Chronicle and the Youngstown Vindicator, newspapers of general circulation in Trumbull County, Ohio.

The proposed newspaper publication, provided as Attachment I fulfills the requirements 4906-6-8(A)(1) through (6).

4906-6-08(B) Notice to Property Owners and Tenants

Within seven days of the filing of this LON, CEF-T will also send a letter describing the TEC Electrical Interconnection to each property owner and/or affected tenant (Attachment C). The CEF-T letter will include:

- A description of the proposed facility
- A map showing the location and general layout of the proposed facility;
- A list of officials served with copies of the application;
- A list of readily accessible locations where copies of this LON is available for public inspection.
- A statement, including the assigned docket number, that this LON to construct, operate, and maintain proposed facilities is pending before the OPSB; and
- An explanation of how to participate and comment in the OPSB's proceeding.

These property owner/tenant letters will be sent to property owners and affected tenants who:

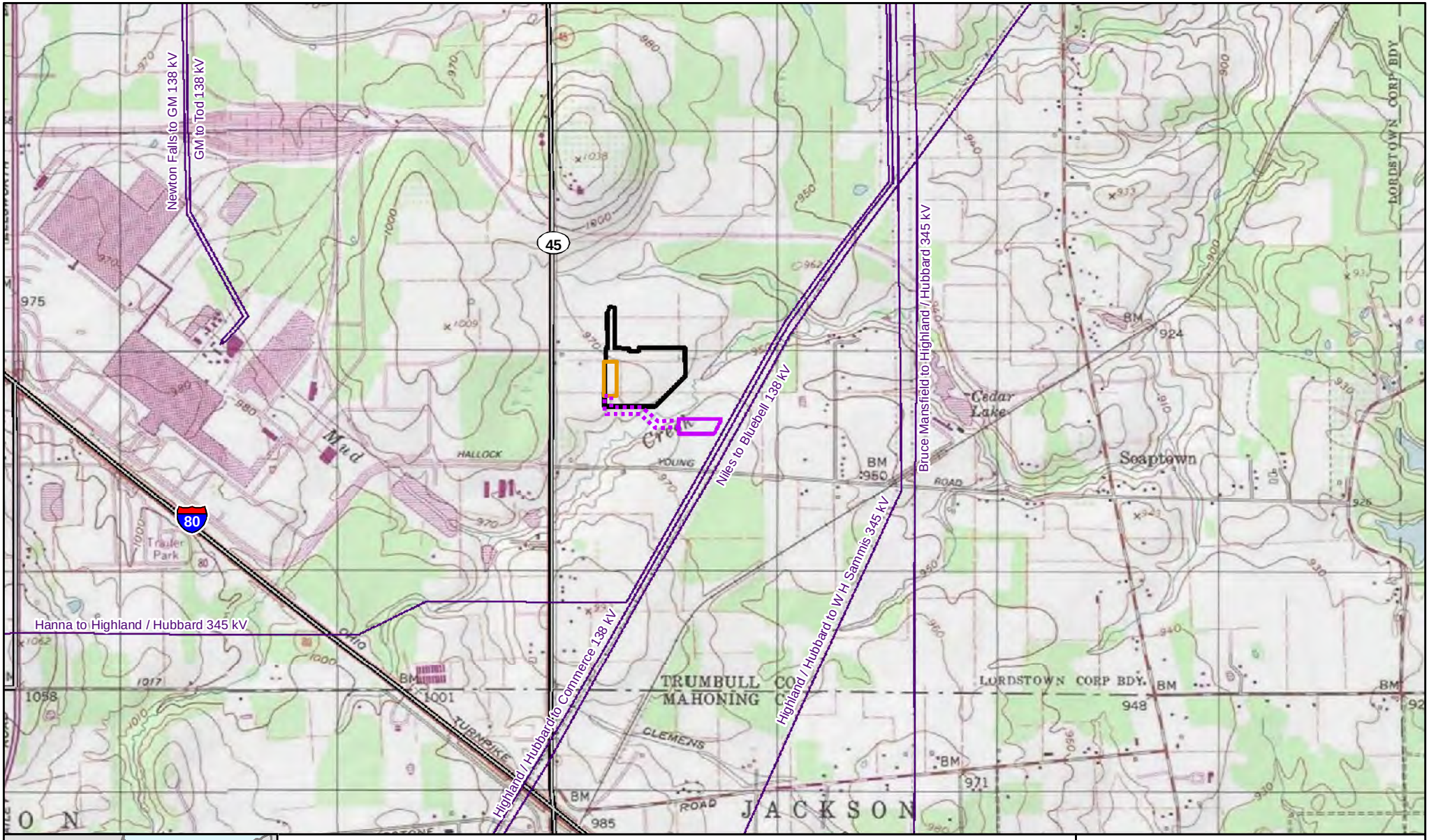
- Reside or own property within the planned site or along the preferred route.
- Reside or own property contiguous to the preferred route

- May be approached by CEF-T for an additional easement necessary for the construction, operation, or maintenance of the facility.

If the property owner is not living at the affected property, the letter will be sent to the affected property owner.

When the letters have been sent, CEF-T will cause a proof of compliance with the property owner/tenant letter requirements to be provided to the OPSB Staff.

Figures



Legend

- TEC Site
- TEC Collector Bus
- Utility Switchyard
- Interconnection ROW
- Interstate/Highway
- Existing Transmission Lines

N

0 0.25 0.5 Miles

Figure 1
TEC Electrical Interconnection Location

TEC Electrical Interconnection
Village of Lordstown, Ohio

Legend

- TEC Collector Bus
- Utility Switchyard
- Interconnection ROW
- Poles
- Access Roads
- Existing Transmission Lines

N

0 200 400 Feet

Figure 2
TEC Electrical Interconnection Layout

TEC Electrical Interconnection
Village of Lordstown, Ohio

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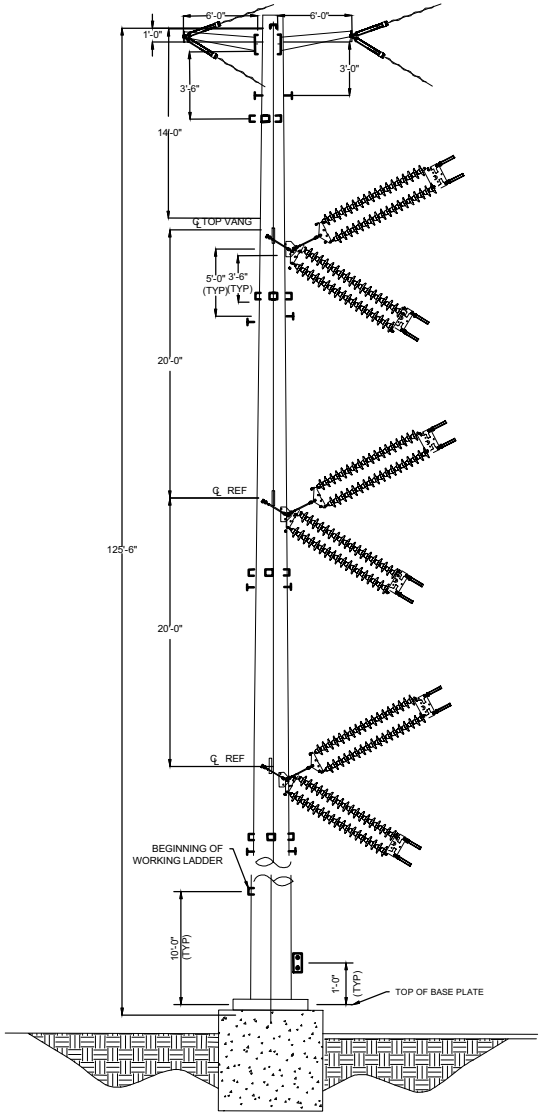
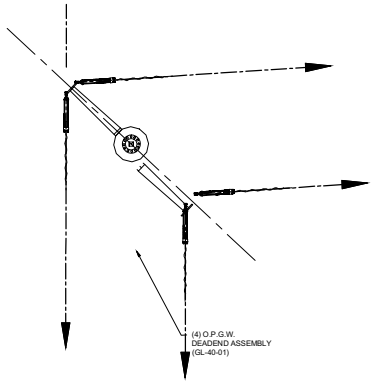
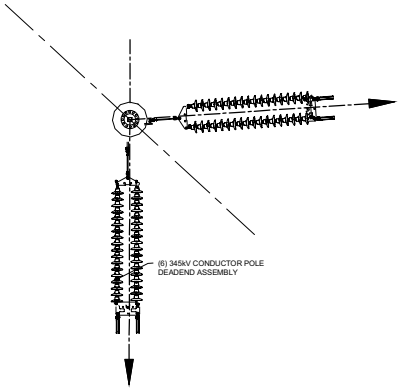


ELEVATION OF POLE
(NOT TO SCALE)



O.P.G.W.
PLAN VIEW
(NOT TO SCALE)



CONDUCTOR
PLAN VIEW
(NOT TO SCALE)

NOTES

1. STRUCTURE IS DESIGNED FOR MOUNTING ON A CONCRETE FOUNDATION. A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI IS USED FOR CALCULATION. 4500 PSI MINIMUM CONCRETE STRENGTH AT 28 DAYS IS REQUIRED. ANCHOR BOLTS SHALL BE PROVIDED IN A PRECLUSTER ASSEMBLY.

2. POLE SHALL COME COMPLETE WITH A LADDER SYSTEM. LADDER SYSTEM SHALL BE OF A TYPE SIMILAR TO THE McGREGOR WORKING LADDER. THE LADDER SHALL START AT APPROX. 10' FROM THE POLE BASE AND END AT 2' BELOW THE POLE TOP. THE LADDER SHALL HAVE PROVISION FOR SECURELY LOCKING INTO THE LADDER LUGS.

3. BAIL STEPS SHALL BE SUPPLIED AND BAIL STEP LUGS SHALL BE PROVIDED @ 3'-6" BELOW THE GROUND WIRE AND CONDUCTOR ATTACHMENTS. THE QUANTITY AND LOCATION OF THE BAIL STEPS AND LUGS SHALL BE DETERMINED BY THE POLE SUPPLIER. STEP DISTANCE FROM ANY LADDER OR BAIL STEP TO BAIL STEP SHALL NOT EXCEED 18". BAIL STEP WIDTH MAY VARY TO AID IN LOCATING BAIL STEP LUGS WITHOUT INTERFERENCE.

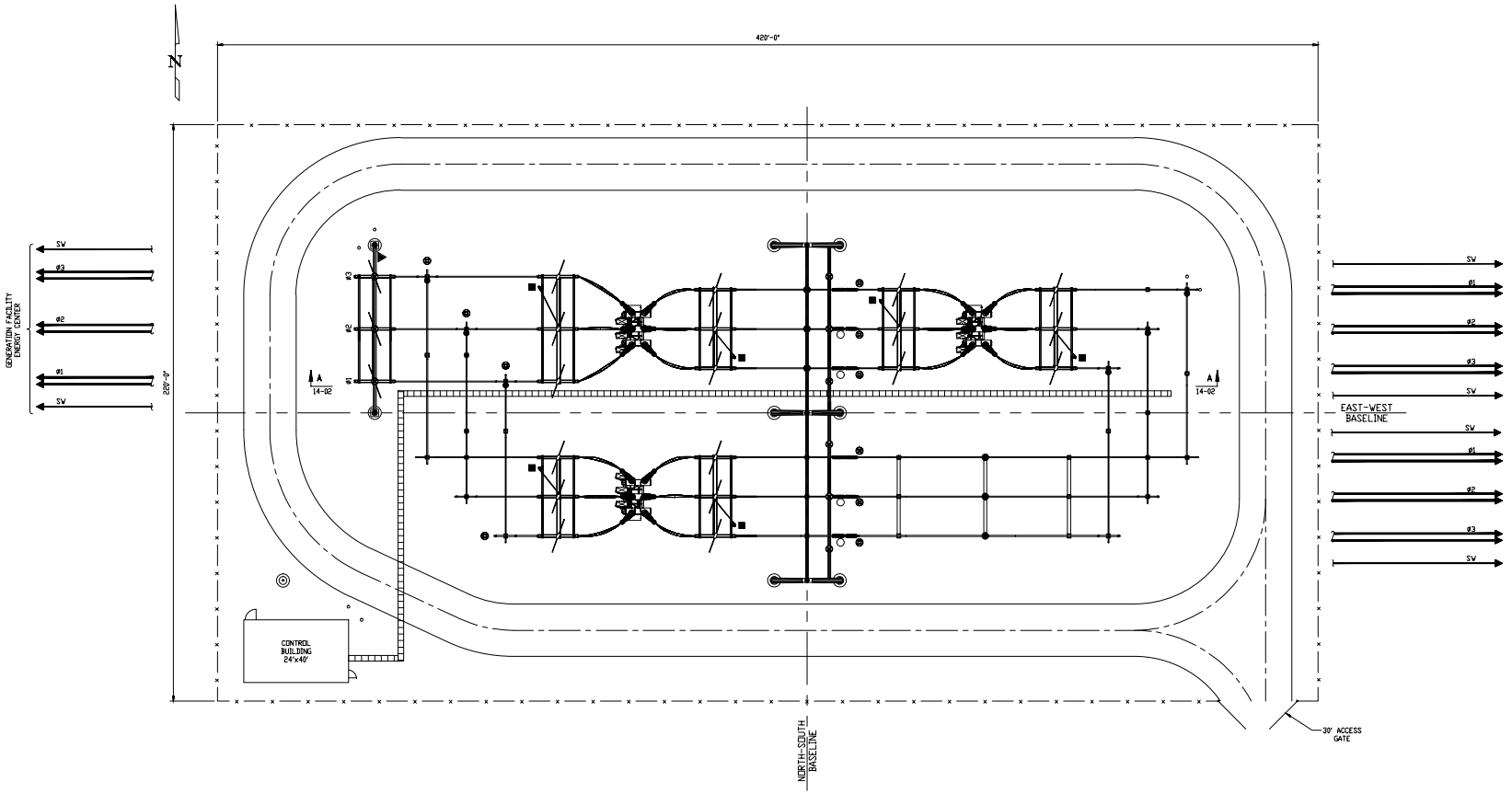
REV.	REVISION DESCRIPTION	DRAWN	CHECKED	APPROVED & DATE	
A	ISSUED FOR REVIEW	MAO	JPM	DLC	12-08-16

REALTIME Utility Engineers INCORPORATED
A QUANTA SERVICES COMPANY
2908 Marketplace Drive
Fitchburg, Wi. 53719
608-906-7800 Direct
608-906-7949 Fax
www.realtimeutilityengineers.com

ENGINEER:	–	
DESIGNER:	–	
DRAWN:	–	DATE
CHECKED:	–	–
APPROVED:	–	–

Figure 3
Typical Dead-End Structure

Trumbull Energy Center
Village of Lordstown, Ohio



20' 10' 0 20' 40'

1"=20'

ELECTRICAL DESIGN CLEARANCES				
MAX. SYSTEMS VOLTAGE	MINIMUM	DESIGN	MINIMUM	DESIGN
	ø-G	ø-G	ø-ø	ø-ø
362KV (1300 BIL)	104"	106"	119"	174"

Figure 4
Three-Breaker Ringbus

Trumbull Energy Center
Trumbull County, Ohio

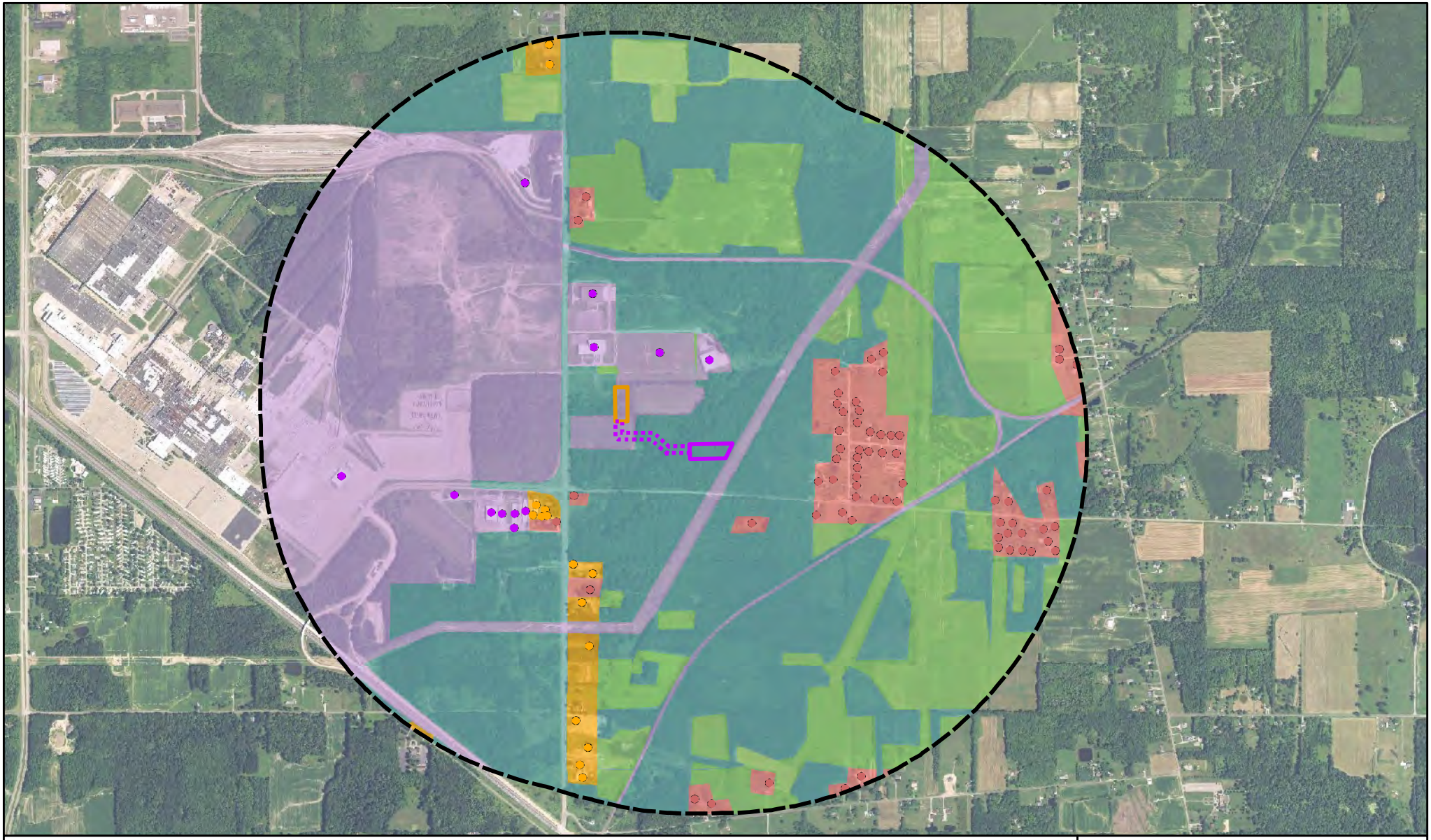


Figure 5
Existing Land Use

TEC Electrical Interconnection
Village of Lordstown, Ohio

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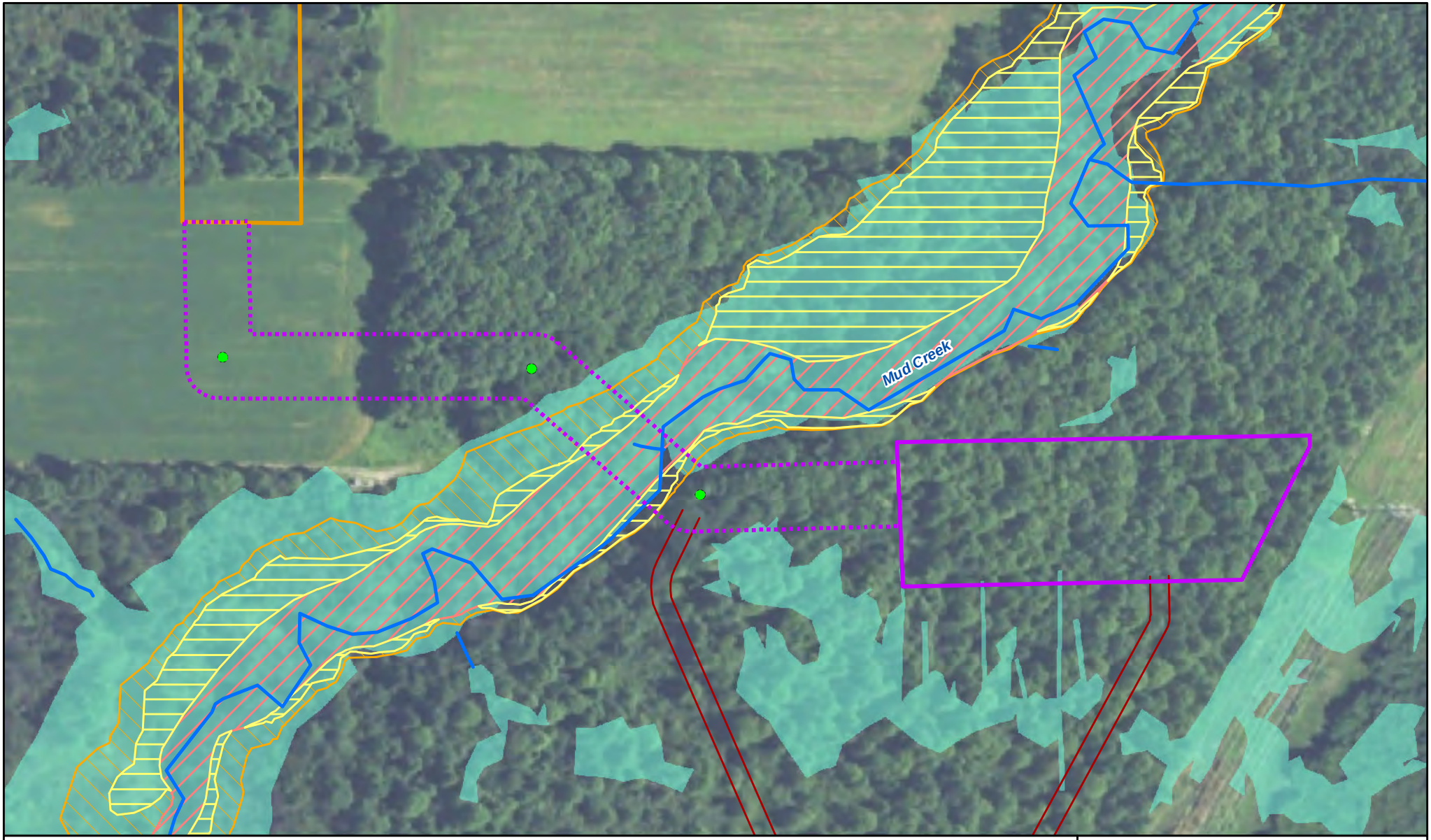

Legend

- TEC Switchyard
- Utility Switchyard
- Interconnection ROW
- Poles
- Access Roads
- Delineated Streams
- Delineated Wetlands

FEMA Flood Zones

- 1% Annual Chance Flood Area
- Floodway
- 0.2% Annual Chance Flood Area

N

0 100 200 Feet

Figure 6
Ecological Resources

TEC Electrical Interconnection
Village of Lordstown, Ohio

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Attachment A – PJM Interconnection Studies

- PJM Feasibility Study
- PJM System Impact Study

Generation Interconnection Feasibility Study Report

For

PJM Generation Interconnection Request Queue Position AB1-105

Highland-Hanna 345kV

February 2016

Preface

The intent of the feasibility study is to determine a plan, with ballpark cost and construction time estimates, to connect the subject generation to the PJM network at a location specified by the Interconnection Customer. The Interconnection Customer may request the interconnection of generation as a capacity resource or as an energy-only resource. As a requirement for interconnection, the Interconnection Customer may be responsible for the cost of constructing: (1) Direct Connections, which are new facilities and/or facilities upgrades needed to connect the generator to the PJM network, and (2) Network Upgrades, which are facility additions, or upgrades to existing facilities, that are needed to maintain the reliability of the PJM system.

In some instances a generator interconnection may not be responsible for 100% of the identified network upgrade cost because other transmission network uses, e.g. another generation interconnection, may also contribute to the need for the same network reinforcement. The possibility of sharing the reinforcement costs with other projects may be identified in the feasibility study, but the actual allocation will be deferred until the impact study is performed.

The Feasibility Study estimates do not include the feasibility, cost, or time required to obtain property rights and permits for construction of the required facilities. The project developer is responsible for the right of way, real estate, and construction permit issues. For properties currently owned by Transmission Owners, the costs may be included in the study.

General

The Interconnection Customer (IC), has proposed a natural gas generating facility located Trumbull County, Ohio. The installed facilities will have a total capability of 940 MW with 850 MW of this output being recognized by PJM as capacity. The proposed in-service date for this project is October 2020. **This study does not imply a American Transmission Systems, Incorporated (ATSI) commitment to this in-service date.**

Point of Interconnection

AB1-105 will interconnect with the ATSI transmission system at one of two options. Option 1 is the connect along the Highland-Hanna 345kV line. Option 2 is the connect along the Highland-Hanna 345kV and Glen Willow-Mansfield 345kV lines.

Cost Summary

The AB1-105 project will be responsible for the following costs (Option 1 only):

Description	Cost	Tax (if applicable)	Total Cost
Attachment Facilities	$ 0	$ 0	$ 0
Direct Connection Network Upgrades	$ 10,078,400	$ 2,590,800 0	$ 12,669,200
Non Direct Connection Network Upgrades	$ 890,500	$ 228,500 0	$ 1,119,000
Total Costs	**$ 10,968,900**	**$ 2,819,300**	**$ 13,788,200**

In addition, the AB1-105 project may be responsible for a contribution to the following costs:

Description	Cost	Tax (if applicable)	Total Cost
New System Upgrades	$ 285,800	$ 73,600	$ 359,400
Total Costs	**$ 285,800**	**$ 73,600**	**$ 359,400**

Cost allocations for these upgrades will be provided in the System Impact Study Report.

Attachment Facilities

No Attachment Facilities are required to support this interconnection request.

Direct Connection Cost Estimate

The total preliminary cost estimate for the Direct Connection work is given in the table below. These costs do not include CIAC Tax Gross-up.

Description	Activity Cost	Tax (if applicable)	Total Cost
AB1-105 Interconnect SS. 345kV 3-breaker ring bus, Hannah-Highland line.	$ 8,723,600	$ 2,244,500	$ 10,968,100
Highland 345kV Line Drop into New Ring Bus. Loop the Hanna-Highland 345kV circuit into the new 345kV ring bus to create a new circuit from Highland Sub to the new ring bus.	$ 683,900	$ 174,800	$ 858,700
Hanna 345kV Line Drop into New Ring Bus. Loop the Hanna-Highland 345kV circuit into the new 345kV ring to create a new circuit from Hanna Sub to the new ring bus.	$ 670,900	$ 171,500	$ 842,400
Total Direct Connection Facility Costs	**$ 10,078,400**	**$ 2,590,800**	**$ 12,669,200**

Non-Direct Connection Cost Estimate

The total preliminary cost estimate for the Non-Direct Connection work is given in the table below. These costs do not include CIAC Tax Gross-up.

Description	Activity Cost	Tax (if applicable)	Total Cost

Description	Activity Cost	Tax (if applicable)	Total Cost
Highland SS. Install new line relaying for future AB1-105 Interconnect line exit.	$ 160,900	$ 41,100	$ 202,000
Hanna SS. Install new communications equipment on existing Hanna future AB1-105 Interconnect and install new line relaying panel.	$ 224,100	$ 57,400	$ 281,500
Highland - AB1-105 Interconnection SS. Install Fiber Optic Cable from the AB1-105 Interconnection to the Highland substations and back.	$ 505,500	$ 130,000	$ 635,500
Total Non-Direct Connection Facility Costs	**$ 890,500**	**$ 228,500**	**$ 1,119,000**

Interconnection Customer Requirements

1. An Interconnection Customer entering the New Services Queue on or after October 1, 2012 with a proposed new Customer Facility that has a Maximum Facility Output equal to or greater than 100 MW shall install and maintain, at its expense, phasor measurement units (PMUs). See Section 8.5.3 of Appendix 2 to the Interconnection Service Agreement as well as section 4.3 of PJM Manual 14D for additional information.

2. The Interconnection Customer may be required to install and/or pay for metering as necessary to properly track real time output of the facility as well as installing metering which shall be used for billing purposes. See Section 8 of Appendix 2 to the Interconnection Service Agreement as well as Section 4 of PJM Manual 14D for additional information.

3. The purchase and installation of fully rated 345 kV circuit breakers to permit tripping of each entire unit.

4. The purchase and installation of the minimum required FE generation interconnection relaying and control facilities. This includes over/under voltage protection, over/under frequency protection, and zero sequence voltage protection relays.

5. The purchase and installation of supervisory control and data acquisition (SCADA) equipment to provide information in a compatible format to the FE Transmission System Control Center.

6. The establishment of dedicated communication circuits for SCADA to the FE Transmission System Control Center.

7. A compliance with the FE and PJM generator power factor and voltage control requirements.

8. The execution of a back-up service agreement to serve the customer load supplied from the Hanna-Highland 345 kV (AB1-105) generation project metering point when the units are out-of-service. This assumes the intent of the Interconnection Customer is to net the generation with the load.

First Energy Protection Requirements

AB1-105 345kV Interconnecting Substation

345kV Transmission Line Protection

- Hanna line exit
  - Primary relay: SEL-421-5 directional comparison blocking line relaying operating over power line carrier (PLC) communications
    - Ametek/Pulsar UPLC on/off carrier set for use with directional comparison blocking line relaying.
    - CCVTs with carrier accessories in one phase and at least two secondary windings, line tuner, and wavetrap for use with PLC relaying and direct transfer trip
  - Backup relay: SEL-421-5 non-pilot direct tripping backup relay
  - Transfer trip: Dual Ametek/Pulsar UPLC FSK TX/RX carrier sets for use with direct transfer trip
  - Line tuner, wavetrap, CCVT with carrier accessories, and hybrids for use with PLC relaying and direct transfer trip

- Highland line exit
  - Primary relay: SEL-411L relay with line current differential protection over fiber
  - Backup relay: SEL-411L relay with line current differential protection over fiber

- AB1-105 generating facility
  - Primary relay: SEL-411L relay with line current differential protection over fiber
  - Backup relay: SEL-411L relay with line current differential protection over fiber

345kV AB1-105 Interconnecting Station Communications

- AB1-105 Interconnecting Station to Highland
  Install two separately routed 1300 nm single mode fiber-optic cable with dedicated fibers for use with SEL-411L primary and SEL-411L backup relaying (approximately 3 miles).
    - Minimum of 12 fibers, separate primary and backup fiber cables

- AB1-105 Interconnecting Station to AB1-105 generating facility
  Install two separately routed 1300 nm single mode fiber-optic cable with dedicated fibers for use with SEL-411L primary and SEL-411L backup relaying.
    - Minimum of 12 fibers, separate primary and backup fiber cables

345kV Breaker Failure to Trip Protection

- 345kV Breaker Failure to Trip Relaying

- SEL-501 breaker failure to trip relaying (1 on each of three 345kV breakers). The breaker failure to trip relaying on each Hanna line exit breaker shall initiate direct transfer trip to Hanna over power line carrier (UPLC). The breaker failure to trip relaying on each Highland line exit breaker shall initiate direct transfer trip to Highland via the SEL-411L primary and backup line relays (fiber). The breaker failure to trip relaying on each LS Power Plant line exit breaker shall initiate direct transfer trip to LS Power Plant via the SEL-411L primary and backup line relays (fiber).

AB1-105 Generating Station 345kV

345kV Transmission Line Protection @ AB1-105 generating station

- AB1-105 Interconnecting Station line exit
  - Primary relay: SEL-411L relay with line current differential protection over fiber
  - Backup relay: SEL-411L relay with line current differential protection over fiber
  - Synch check for manual/SCADA close on the interconnecting line to be done at AB1-105 Generating Station

345kV Breaker Failure to Trip Protection

- 345kV Breaker Failure to Trip Relaying
  - SEL-352-2 breaker failure to trip relaying on each of four 345kV breakers. The breaker failure to trip relaying on the AB1-105 Interconnecting Station line exit breaker shall initiate direct transfer trip via the SEL-411L primary and backup line relays (fiber).

345kV Bus & GSU Transformer Protection @ AB1-105 generating station (minimum protection to meet FE requirements)

- Dual, independent transformer differential protection schemes (Transformer and Overall)
- Transformer neutral time overcurrent relay

The Connecting Party shall provide utility-grade relays for protection of the FE Transmission System. FE shall approve all relays specified for the protection of the FE Transmission System, including time delay and auxiliary relays. Relay operation for any of the listed functions that are required shall initiate immediate separation of the parallel generation from the FE Transmission System:

Relay	**Function**
Frequency	To detect underfrequency and overfrequency operation.
Overvoltage	To detect overvoltage operation.
Undervoltage	To detect undervoltage operation.
Ground Fault Detector	To detect a circuit ground on the FE Transmission System.
Phase Fault Detector	To detect phase to phase faults on the FE Transmission System.
Transfer Trip	To provide tripping logic to the generation owner for isolation of the

Receiver	generation upon opening of the FE supply circuits.
Directional Power	To detect, under all system conditions, a loss of FE primary source. The relay shall be sensitive enough to detect transformer magnetizing current supplied by the generation.

FE System Modifications

Highland Substation

345kV Transmission Line Protection

- AB1-105 Interconnecting Station line exit Primary Relaying
  - Primary relay: SEL-411L relay with line current differential protection over fiber
  - Backup relay: SEL-411L relay with line current differential protection over fiber

Hanna Substation

345kV Transmission Line Protection

- Dual Ametek/Pulsar UPLC FSK TX/RX carrier sets for use with direct transfer trip
- Line tuner, wavetrap, CCVT with carrier accessories, and hybrids for use with PLC relaying and direct transfer trip

Evergreen 138kV Substation

345kV Circuit Breaker Adequacy

- (1) 138kV circuit breakers have been identified by PJM as overdutied with the addition of AB1-105. This would necessitate replacing the existing breaker with a 63kAIC breaker.

Settings Changes

Settings changes are possible at, but not limited to, the following stations:

- Beaver Valley
- Bluebell
- Bruce Mansfield
- Chamberlin
- Darrow
- East Akron
- Evergreen
- GM Lordstown
- Ivanhoe
- Juniper
- Mahoningside
- Newton Falls
- Niles
- Niles Central
- Packard

- Salt Springs
- Sammis
- Shalersville
- Shenango
- West Ravenna

Revenue Metering and SCADA Requirements

PJM Requirements

The Interconnection Customer will be required to install equipment necessary to provide Revenue Metering (KWH, KVARH) and real time data (KW, KVAR) for IC's generating Resource. See PJM Manuals M-01 and M-14D, and PJM Tariff Sections 24.1 and 24.2.

First Energy Requirements

The Interconnection Customer will be required to comply with all FE Revenue Metering Requirements for Generation Interconnection Customers. The Revenue Metering Requirements may be found within the "FirstEnergy Requirements for Transmission Connected Facilities" document located at the following links:

http://www.firstenergycorp.com/feconnect
http://www.pjm.com/planning/design-engineering/to-tech-standards.aspx

Network Impacts

Option 1

The Queue Project AB1-105 was evaluated as a 940.0 MW (Capacity 850.0 MW) injection tapping the Highland-Hanna 345kV line in the ATSI area. Project AB1-105 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AB1-105 was studied with a commercial probability of 53% using a 2019 Summer Peak case. Potential network impacts were as follows:

Generator Deliverability

(Single or N-1 contingencies for the Capacity portion only of the interconnection)

None.

Multiple Facility Contingency

(Double Circuit Tower Line, Fault with a Stuck Breaker, and Bus Fault contingencies for the full energy output)

None.

Contribution to Previously Identified Overloads

(This project contributes to the following contingency overloads, i.e. "Network Impacts", identified for earlier generation or transmission interconnection projects in the PJM Queue)

None.

Short Circuit

(Summary of impacted circuit breakers)

New circuit breakers found to be over-duty:

#	Area	Bus No.	Bus	Breaker	Rating Type	Rating (A)	Duty Percent Without AB1-105	Duty Percent With AB1-105	Duty Percent Difference
1	ATSI	9104	EVERGREEN138 138.kV	802-B-93	S	36408.2	99.48%	101.73%	2.25%

Note: Please see Attachment 3 for the Single Line Diagram.

First Energy Short Circuit Analysis

The preliminary 345kV fault values for the AB1-105 interconnecting substation (3 breaker ring bus) with all new generation in service are:

Three phase = 29.7kA
Single line to ground = 26.1kA
Z1= (0.048 + j 0.562)%
Z0= (0.128 + j 0.789)%

The 345kV fault values for the AB1-105 interconnection location with all new generation out of service are:

Three phase = 24.6kA
Single line to ground = 17.6kA
Z1= (0.067 + j 0.676)%
Z0= (0.422 + j 1.439)%

Impedances are given on 100 MVA and 345kV bases. The faults provided are bolted, symmetrical values for normal system conditions. Future increases in fault currents are possible and it is the customer's responsibility to upgrade their equipment and/or protective equipment coordination when necessary.

Potential Congestion due to Local Energy Deliverability

PJM also studied the delivery of the energy portion of this interconnection request. Any problems identified below are likely to result in operational restrictions to the project under study. The developer can proceed with network upgrades to eliminate the operational restriction at their discretion by submitting a Merchant Transmission Interconnection request.

Note: Only the most severely overloaded conditions are listed below. There is no guarantee of full delivery of energy for this project by fixing only the conditions listed in this section. With a Transmission Interconnection Request, a subsequent analysis will be performed which shall study all overload conditions associated with the overloaded element(s) identified.

None.

New System Reinforcements

(Upgrades required to mitigate reliability criteria violations, i.e. Network Impacts, initially caused by the addition of this project generation)

Violation #	Overloaded Facility	Upgrade Description	Network Upgrade Number	Tax	Upgrade Cost
#1	138kV CB	Replace CB #93 at Evergreen 138kV Substation (see Attachment 3)		$73,600	$ 285,800
			Total New Network Upgrades		**$ 359,400**

Contribution to Previously Identified System Reinforcements

(Overloads initially caused by prior Queue positions with additional contribution to overloading by this project. This project may have a % allocation cost responsibility which will be calculated and reported for the Impact Study)

None.

Option 2

The Queue Project AB1-105 was evaluated as a 940.0 MW (Capacity 850.0 MW) injection double tapping the Highland-Hanna 345kV and Mansfield-Glen Willow 345kV lines in the ATSI area. Project AB1-105 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AB1-105 was studied with a commercial probability of 53% using a 2019 Summer Peak case. Potential network impacts were as follows:

Contingency Descriptions

The following contingencies resulted in overloads:

Contingency Name	Description
02MANSFD_02NFIELD_B	CONTINGENCY '02MANSFD_02NFIELD_B' OPEN BRANCH FROM BUS 930610 TO BUS 239358 CKT 1 /AB1-105 OP2 TAP END
C5-TWL-NR065_A	CONTINGENCY 'C5-TWL-NR065_A' /* HANNA-CHAMBERLIN & MANSFIELD-NORTHFIELD 345KV DISCONNECT BRANCH FROM BUS 238615 TO BUS 238781 CKT 1 /* 02CHAMBR 345.00 02HANNA 345.00 DISCONNECT BRANCH FROM BUS 239358 TO BUS 930610 CKT 1 /* 02NFIELD 345.00 AB1-105 OP2 TAP 345.00 END
C5-TWL-NR066_A	CONTINGENCY 'C5-TWL-NR066_A' /* STAR-JUNIPER & MANSFIELD-NORTHFIELD 345KV DISCONNECT BRANCH FROM BUS 238850 TO BUS 239122 CKT 1 /* 02JUNIPE 345.00 02STAR 345.00 DISCONNECT BRANCH FROM BUS 239358 TO BUS 930610 CKT 1 /* 02NFIELD 345.00 AB1-105 OP2 345.00 END

Generator Deliverability

(Single or N-1 contingencies for the Capacity portion only of the interconnection)

#	Contingency Type	Contingency Name	Affected Area	Facility Description	Bus From	Bus To	Circuit	Power Flow	Loading % Initial	Loading % Final	Rating Type	Rating MVA	MW Contribution	Ref
1	N-1	02MANSFD_02NFIELD_B	FE - FE	AB1-105 TAP-02HANNA 345 kV line	930600	238781	1F	DC	75.55	99.92	ER	1554	388.65	

Note: Please see Attachment 4 for projects providing impacts to flowgate violations. The values in the Reference column correspond to the proper table in the Attachment.

Multiple Facility Contingency

(Double Circuit Tower Line, Fault with a Stuck Breaker, and Bus Fault contingencies for the full energy output)

#	Contingency Type	Contingency Name	Affected Area	Facility Description	Bus From	Bus To	Circuit	Power Flow	Loading % Initial	Loading % Final	Rating Type	Rating MVA	MW Contribution	Ref
2	DCTL	C5-TWL-NR065_A	FE - FE	02HANNA-02JUNIPE 345 kV line	238781	238850	1F	DC	94.86	101.68	ER	1793	157.6	1
3	DCTL	C5-TWL-NR066_A	FE - FE	AB1-105 TAP-02HANNA 345 kV line	930600	238781	1F	DC	77.77	101.99	ER	1554	425.83	2

Note: Please see Attachment 4 for projects providing impacts to flowgate violations. The values in the Reference column correspond to the proper table in the Attachment.

Contribution to Previously Identified Overloads

(This project contributes to the following contingency overloads, i.e. "Network Impacts", identified for earlier generation or transmission interconnection projects in the PJM Queue)

None.

Short Circuit

(Summary of impacted circuit breakers)

New circuit breakers found to be over-duty:

#	Area	Bus No.	Bus	Breaker	Rating Type	Rating (A)	Duty Percent Without AB1-105	Duty Percent With AB1-105	Duty Percent Difference
4	ATSI	9104	EVERGREEN138 138.kV	802-B-93	S	36408.2	99.48%	103.57%	4.09%
5	ATSI	9104	EVERGREEN138 138.kV	2801-B-16	S	37386.7	96.88%	100.86%	3.98%
6	ATSI	9104	EVERGREEN138 138.kV	2801-B-6	S	37386.7	96.67%	100.63%	3.97%
7	ATSI	9104	EVERGREEN138 138.kV	2801-B-21	S	37386.7	96.55%	100.53%	3.98%
8	ATSI	9104	EVERGREEN138 138.kV	2801-B-20	S	37386.7	96.45%	100.43%	3.98%
9	ATSI	9104	EVERGREEN138 138.kV	2801-B-65	S	37386.7	96.30%	100.28%	3.98%
10	ATSI	9324	NILES S. 138 138.kV	170-B-11	S	36408.2	97.04%	100.24%	3.20%
11	ATSI	9324	NILES S. 138 138.kV	170-B-20	S	36408.2	97.04%	100.24%	3.20%
12	ATSI	9324	NILES S. 138 138.kV	170-B-9	S	36408.2	97.04%	100.24%	3.20%
13	ATSI	9324	NILES S. 138 138.kV	170-B-97	S	36408.2	97.04%	100.24%	3.20%
14	DCLO	13040	BV J5+6 345.kV	Unit2#5Bus	S	72000	98.74%	100.33%	1.58%
15	DCLO	13040	BV J5+6 345.kV	Unit2#6Bus	S	72000	98.74%	100.33%	1.58%
16	DCLO	13040	BV J5+6 345.kV	Mansfield316	S	72000	98.90%	100.20%	1.30%

Potential Congestion due to Local Energy Deliverability

PJM also studied the delivery of the energy portion of this interconnection request. Any problems identified below are likely to result in operational restrictions to the project under study. The developer can proceed with network upgrades to eliminate the operational restriction at their discretion by submitting a Merchant Transmission Interconnection request.

Note: Only the most severely overloaded conditions are listed below. There is no guarantee of full delivery of energy for this project by fixing only the conditions listed in this section. With a Transmission Interconnection Request, a subsequent analysis will be performed which shall study all overload conditions associated with the overloaded element(s) identified.

None.

Attachment 1. Project Location

Attachment 2. Single Line Diagram

Attachment 3. Single Line Diagram

Short Circuit Over-duty Breakers

Attachment 4. Option 2 Flowgate Details

The following appendices contain additional information about each flowgate presented in the body of the report. For each appendix, a description of the flowgate and its contingency was included for convenience. However, the intent of the appendix section is to provide more information on which projects/generators have contributions to the flowgate in question. Although this information is not used "as is" for cost allocation purposes, it can be used to gage other generators impact.

It should be noted the generator contributions presented in the appendices sections are full contributions, whereas in the body of the report, those contributions take into consideration the commercial probability of each project.

Appendix 1

(FE - FE) The 02HANNA-02JUNIPE 345 kV line (from bus 238781 to bus 238850 ckt 1F) loads from 94.86% to 101.68% (DC power flow) of its emergency rating (1793 MVA) for the tower line contingency outage of 'C5-TWL-NR065_A'. This project contributes approximately 157.6 MW to the thermal violation.

Bus Number	Bus Name	Full Contribution
240968	02BG2 GEN	-0.55
240969	02BG4 G1	-0.14
240970	02BG4 G2&3	-0.28
240971	02BG4 G4&5	-0.28
240973	02BG6 AMPO	-2.47
239297	02CPPW41	-9.54
238966	02MNFDG2	7.75
238967	02MNFDG3	7.75
239214	02NILE-A	0.24
253925	15AES1	9.96
253926	15AES2	2.49
239276	COLLW 11	-7.99
299984	U3-029 E	1.18
299989	U3-030 E	0.54
241902	Y1-069 GE	-65.3
LTF	Y3-059	27.43
915951	Y3-092	178.66
915691	Y3-103 C	9.66
915692	Y3-103 E	10.75
917131	Z2-028 OP1	87.63
918321	AA1-044 C	96.09

Bus Number	Bus Name	Full Contribution
918322	AA1-044 E	14.36
LTF	AA1-074	16.46
919011	AA1-123 OP	86.67
LTF	AA2-101	5.49
LTF	AA2-102	5.49
920601	AA2-166	1.8
930072	AB1-015 E	2.02
930081	AB1-017 C	7.01
930082	AB1-017 E	8.32
930421	AB1-083	1.91
930601	AB1-105 C1	43.9
930602	AB1-105 C2	43.9
930603	AB1-105 C3	54.71
930604	AB1-105 E1	4.65
930605	AB1-105 E2	4.65
930606	AB1-105 E3	5.79
930702	AB1-114 E	1.3
930982	AB1-147 E	1.83
931152	AB1-166 E	1.37
931281	AB1-178	1.74

Appendix 2

(FE - FE) The AB1-105 TAP-02HANNA 345 kV line (from bus 930600 to bus 238781 ckt 1F) loads from 77.77% to 101.99% (DC power flow) of its emergency rating (1554 MVA) for the tower line contingency outage of 'C5-TWL-NR066_A'. This project contributes approximately 425.83 MW to the thermal violation.

Bus Number	Bus Name	Full Contribution
239297	02CPPW41	-5.04
239214	02NILE-A	0.46
253925	15AES1	7.38
253926	15AES2	1.85
239276	COLLW 11	-4.21
299984	U3-029 E	0.87
299989	U3-030 E	0.4
915951	Y3-092	87.73
915691	Y3-103 C	7.16
915692	Y3-103 E	7.97
917131	Z2-028 OP1	142.9
918321	AA1-044 C	150.05
918322	AA1-044 E	22.42
919011	AA1-123 OP	109.76

Bus Number	Bus Name	Full Contribution
920601	AA2-166	2.67
930072	AB1-015 E	3.87
930081	AB1-017 C	11.43
930082	AB1-017 E	13.58
930421	AB1-083	3.21
930601	AB1-105 C1	118.62
930602	AB1-105 C2	118.62
930603	AB1-105 C3	147.81
930604	AB1-105 E1	12.56
930605	AB1-105 E2	12.56
930606	AB1-105 E3	15.65
930702	AB1-114 E	2.23
930982	AB1-147 E	2.38
931281	AB1-178	2.52

Generation Interconnection System Impact Study Report

For

PJM Generation Interconnection Request Queue Position AB1-105

Highland-Hanna 345kV

February 2017

Preface

The intent of the System Impact Study is to determine a plan, with approximate cost and construction time estimates, to connect the subject generation interconnection project to the PJM network at a location specified by the Interconnection Customer. As a requirement for interconnection, the Interconnection Customer may be responsible for the cost of constructing: Network Upgrades, which are facility additions, or upgrades to existing facilities, that are needed to maintain the reliability of the PJM system. All facilities required for interconnection of a generation interconnection project must be designed to meet the technical specifications (on PJM web site) for the appropriate transmission owner.

In some instances an Interconnection Customer may not be responsible for 100% of the identified network upgrade cost because other transmission network uses, e.g. another generation interconnection or merchant transmission upgrade, may also contribute to the need for the same network reinforcement. The possibility of sharing the reinforcement costs with other projects may be identified in the Feasibility Study, but the actual allocation will be deferred until the System Impact Study is performed.

The System Impact Study estimates do not include the feasibility, cost, or time required to obtain property rights and permits for construction of the required facilities. The project developer is responsible for the right of way, real estate, and construction permit issues. For properties currently owned by Transmission Owners, the costs may be included in the study.

General

Clean Energy Future-Trumbull, LLC, the Interconnection Customer (IC), has proposed a natural gas generating facility located Trumbull County, Ohio. The installed facilities will have a total capability of 940 MW with 850 MW of this output being recognized by PJM as capacity. The proposed in-service date for this project is October 2020. **This study does not imply a American Transmission Systems, Incorporated (ATSI) commitment to this in-service date.**

Point of Interconnection

AB1-105 will interconnect with the ATSI transmission system along the Highland-Hanna 345kV line.

Cost Summary

The AB1-105 project will be responsible for the following costs:

Description	Cost
Attachment Facilities	$ 0
Direct Connection Network Upgrades	$ 10,078,400
Non Direct Connection Network Upgrades	$ 890,500
Allocation for New System Upgrades	$ 19,962,879
Contribution for Previously Identified Upgrades	$ 0
Total Costs	**$ 30,931,779**

Attachment Facilities

There are no Attachment Facilities are required to support this interconnection.

Direct Connection Cost Estimate

The total preliminary cost estimate for the Direct Connection work is given in the table below. These costs do not include CIAC Tax Gross-up.

Description	Cost
AB1-105 Interconnect SS. 345kV 3-breaker ring bus, Hannah-Highland line. n5196	$ 8,723,600
Highland 345kV Line Drop into New Ring Bus. Loop the Hanna-Highland 345kV circuit into the new 345kV ring bus approximately 1.3 circuit miles southwest of Highland Sub to create a new circuit from Highland Sub to the new ring bus. n5197	$ 683,900
Hanna 345kV Line Drop into New Ring Bus. Loop the Hanna-Highland 345kV circuit into the new 345kV ring bus approximately 1.3 circuit miles southwest of Highland Sub to create a new circuit from Hanna Sub to the new ring bus. n5198	$ 670,900
Total Direct Connection Facility Costs	**$ 10,078,400**

Non-Direct Connection Cost Estimate

The total preliminary cost estimate for the Non-Direct Connection work is given in the table below. These costs do not include CIAC Tax Gross-up.

Description	Cost
Highland SS. Install new line relaying for future AB1-105 Interconnect line exit. n5199	$ 160,900
Hanna SS. Install new communications equipment on existing Hanna future AB1-105 Interconnect and install new line relaying panel. n5200	$ 224,100
Highland - AB1-105 Interconnection SS. Install Fiber Optic Cable from the AB1-105 Interconnection to the Highland substations and back, approximately 2.9 miles each way. n5201	$ 505,500
Total Non-Direct Connection Facility Costs	**$ 890,500**

Schedule:

A proposed forty-eight (48) month schedule is estimated to complete the engineering, construction and the associated activities, assuming an Interconnection Construction Service Agreement has been fully-executed, and a Construction Kick-Off Meeting has occurred. This schedule assumes that all issues covered by the "Environmental, Real Estate and Permitting Issues" section of this document are resolved, and outages will occur as planned. Construction cannot begin until after all applicable permits and/or easements have been obtained.

Interconnection Customer Requirements

1. An Interconnection Customer entering the New Services Queue on or after October 1, 2012 with a proposed new Customer Facility that has a Maximum Facility Output equal to or greater than 100 MW shall install and maintain, at its expense, phasor measurement units (PMUs). See Section 8.5.3 of Appendix 2 to the Interconnection Service Agreement as well as section 4.3 of PJM Manual 14D for additional information.

2. The Interconnection Customer may be required to install and/or pay for metering as necessary to properly track real time output of the facility as well as installing metering which shall be used for billing purposes. See Section 8 of Appendix 2 to the Interconnection Service Agreement as well as Section 4 of PJM Manual 14D for additional information.

3. The purchase and installation of fully rated 345 kV circuit breakers to permit tripping of each entire unit.

4. The purchase and installation of the minimum required FE generation interconnection relaying and control facilities. This includes over/under voltage protection, over/under frequency protection, and zero sequence voltage protection relays.

5. The purchase and installation of supervisory control and data acquisition (SCADA) equipment to provide information in a compatible format to the FE Transmission System Control Center.

6. The establishment of dedicated communication circuits for SCADA to the FE Transmission System Control Center.

7. A compliance with the FE and PJM generator power factor and voltage control requirements.

8. The execution of a back-up service agreement to serve the customer load supplied from the Hanna-Highland 345 kV (AB1-105) generation project metering point when the units are out-of-service. This assumes the intent of Clean Energy Future-Trumbull, LLC is to net the generation with the load.

Revenue Metering and SCADA Requirements

PJM Requirements

The Interconnection Customer will be required to install equipment necessary to provide Revenue Metering (KWH, KVARH) and real time data (KW, KVAR) for IC's generating Resource. See PJM Manuals M-01 and M-14D, and PJM Tariff Sections 24.1 and 24.2.

First Energy Requirements

The Interconnection Customer will be required to comply with all FE Revenue Metering Requirements for Generation Interconnection Customers. The Revenue Metering Requirements may be found within the "FirstEnergy Requirements for Transmission Connected Facilities" document located at the following links:

http://www.firstenergycorp.com/feconnect
http://www.pjm.com/planning/design-engineering/to-tech-standards.aspx

Network Impacts

The Queue Project AB1-105 was evaluated as a 850.0 MW (Capacity 850.0 MW) injection into a tap of the Highland – Hanna 345 kV line in the ATSI area. Project AB1-105 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AB1-105 was studied with a commercial probability of 100%. Potential network impacts were as follows:

Generator Deliverability

(Single or N-1 contingencies for the Capacity portion only of the interconnection)

None

Light Load Analysis

Light Load Studies to be conducted during later study phases (applicable to wind, coal, nuclear, and pumped storage projects).

Multiple Facility Contingency

(Double Circuit Tower Line contingencies were studied for the full energy output. The contingencies of Line with Failed Breaker and Bus Fault will be performed for the Impact Study.)

None

Short Circuit

(Summary of impacted circuit breakers)

New circuit breakers found to be over-duty:

#	Area	Bus No.	Bus	Breaker	Rating Type	Duty Percent Without AB1-105	Duty Percent With AB1-105	Duty Percent Difference
1	ATSI	9104	EVERGREEN 138.kV	2801-B-16	S	98.25%	101.83%	3.58%
2	ATSI	9104	EVERGREEN 138.kV	2801-B-6	S	98.04%	101.60%	3.57%
3	ATSI	9104	EVERGREEN 138.kV	2801-B-65	S	97.67%	101.25%	3.58%
4	ATSI	9431	SAMMIS 345.kV	B5213(GEN B	S	99.97%	100.71%	0.74%
5	ATSI	9431	SAMMIS 345.kV	B5218(GEN B	S	99.97%	100.71%	0.74%
6	ATSI	9431	SAMMIS 345.kV	BVR VLY(B456	S	99.97%	100.71%	0.74%
7	ATSI	9431	SAMMIS 345.kV	BVR VLY(B459	S	99.97%	100.71%	0.74%

#	Area	Bus No.	Bus	Breaker	Rating Type	Duty Percent Without AB1-105	Duty Percent With AB1-105	Duty Percent Difference
8	ATSI	9431	SAMMIS 345.kV	GEN.3-E(B279	S	99.97%	100.71%	0.74%
9	ATSI	9431	SAMMIS 345.kV	GEN.4-E.(B11	S	99.97%	100.71%	0.74%
10	ATSI	9431	SAMMIS 345.kV	GEN.5-E(B284	S	99.97%	100.71%	0.74%
11	ATSI	9431	SAMMIS 345.kV	GEN.6-E.B(B5	S	99.97%	100.71%	0.74%
12	ATSI	9431	SAMMIS 345.kV	GEN.7-E(B453	S	99.97%	100.71%	0.74%
13	ATSI	9431	SAMMIS 345.kV	HIL-W.B(B280	S	99.97%	100.71%	0.74%
14	ATSI	9431	SAMMIS 345.kV	HL-GEN3(B278	S	99.97%	100.71%	0.74%
15	ATSI	9431	SAMMIS 345.kV	S.CAN-W(B290	S	99.97%	100.71%	0.74%
16	ATSI	9431	SAMMIS 345.kV	SN-GEN5(B287	S	99.97%	100.71%	0.74%
17	ATSI	9431	SAMMIS 345.kV	SR-W.BUS(B17	S	99.97%	100.71%	0.74%
18	ATSI	9431	SAMMIS 345.kV	STRGEN.4(B14	S	99.97%	100.71%	0.74%
19	ATSI	9431	SAMMIS 345.kV	TR-GEN6(B295	S	99.97%	100.71%	0.74%
20	ATSI	9431	SAMMIS 345.kV	TRW.BUS(B298	S	99.97%	100.71%	0.74%

Contribution to Previously Identified Overloads

(This project contributes to the following contingency overloads, i.e. "Network Impacts", identified for earlier generation or transmission interconnection projects in the PJM Queue)

None

Steady-State Voltage Requirements

(Summary of the VAR requirements based upon the results of the steady-state voltage studies)

None

Stability and Reactive Power Requirement for Low Voltage Ride Through

(Summary of the VAR requirements based upon the results of the dynamic studies)

To be provided in a revised Impact Study

New System Reinforcements

(Upgrades required to mitigate reliability criteria violations, i.e. Network Impacts, initially caused by the addition of this project generation)

Violation #	Overloaded Facility	Upgrade Description	Network Upgrade Number	Upgrade Cost	AB1-105 Allocation
1, 2, 3	Evergreen 138kV Circuit Breakers	Replace three 138kV Breakers (B6, B16, & B65) at Evergreen Substation with 63kA Breakers	n5195	**$ 763,300**	**$ 763,300**
4	Sammis 345kV Circuit Breaker	At Sammis substation- Replace 345kV Circuit Breaker with a 80kA Breaker B5213(GEN B)	n5194.1	**$ 1,129,387**	**$ 1,129,387**
5	Sammis 345kV Circuit Breaker	At Sammis substation- Replace 345kV Circuit Breaker with a 80kA BreakerB5218(GEN B)	n5194.2	**$ 1,129,387**	**$ 1,129,387**
6	Sammis 345kV Circuit Breaker	At Sammis substation- Replace 345kV Circuit Breaker with a 80kA Breaker BVR VLY(B456)	n5194.3	**$ 1,129,387**	**$ 1,129,387**
7	Sammis 345kV Circuit Breaker	At Sammis substation- Replace 345kV Circuit Breaker with a 80kA Breaker BVR VLY(B459)	n5194.4	**$ 1,129,387**	**$ 1,129,387**
8	Sammis 345kV Circuit Breaker	At Sammis substation- Replace 345kV Circuit Breaker with a 80kA Breaker GEN.3-E(B279)	n5194.5	**$ 1,129,387**	**$ 1,129,387**
9	Sammis 345kV Circuit Breaker	At Sammis substation- Replace 345kV Circuit Breaker with a 80kA Breaker GEN.4-E.(B11)	n5194.6	**$ 1,129,387**	**$ 1,129,387**
10	Sammis 345kV Circuit Breaker	At Sammis substation- Replace 345kV Circuit Breaker with a 80kA Breaker GEN.5-E(B284)	n5194.7	**$ 1,129,387**	**$ 1,129,387**
11	Sammis 345kV Circuit Breaker	At Sammis substation- Replace 345kV Circuit Breaker with a 80kA Breaker GEN.6-E.B(B5)	n5194.8	**$ 1,129,387**	**$ 1,129,387**
12	Sammis 345kV Circuit Breaker	At Sammis substation- Replace 345kV Circuit Breaker with a 80kA Breaker GEN.7-E(B453)	n5194.9	**$ 1,129,387**	**$ 1,129,387**
13	Sammis 345kV Circuit Breaker	At Sammis substation- Replace 345kV Circuit Breaker with a 80kA Breaker HIL-W.B(B280)	n5194.10	**$ 1,129,387**	**$ 1,129,387**
14	Sammis 345kV Circuit Breaker	At Sammis substation- Replace 345kV Circuit Breaker with a 80kA Breaker HL-GEN3(B278)	n5194.11	**$ 1,129,387**	**$ 1,129,387**
15	Sammis 345kV Circuit Breaker	At Sammis substation- Replace 345kV Circuit Breaker with a 80kA Breaker S.CAN-W(B290)	n5194.12	**$ 1,129,387**	**$ 1,129,387**

Violation #	Overloaded Facility	Upgrade Description	Network Upgrade Number	Upgrade Cost	AB1-105 Allocation
16	Sammis 345kV Circuit Breaker	At Sammis substation- Replace 345kV Circuit Breaker with a 80kA Breaker SN-GEN5(B287)	n5194.13	**$ 1,129,387**	**$ 1,129,387**
17	Sammis 345kV Circuit Breaker	At Sammis substation- Replace 345kV Circuit Breaker with a 80kA Breaker SR-W.BUS(B17)	n5194.14	**$ 1,129,387**	**$ 1,129,387**
18	Sammis 345kV Circuit Breaker	At Sammis substation- Replace 345kV Circuit Breaker with a 80kA Breaker STRGEN.4(B14)	n5194.15	**$ 1,129,387**	**$ 1,129,387**
19	Sammis 345kV Circuit Breaker	At Sammis substation- Replace 345kV Circuit Breaker with a 80kA Breaker TR-GEN6(B295)	n5194.16	**$ 1,129,387**	**$ 1,129,387**
20	Sammis 345kV Circuit Breaker	At Sammis substation- Replace 345kV Circuit Breaker with a 80kA Breaker TRW.BUS(B298)	n5194.17	**$ 1,129,387**	**$ 1,129,387**
				Total New Network Upgrades	**$ 19,962,879**

Contribution to Previously Identified System Reinforcements

(Overloads initially caused by prior Queue positions with additional contribution to overloading by this project. This project may have a % allocation cost responsibility which will be calculated and reported for the Impact Study)

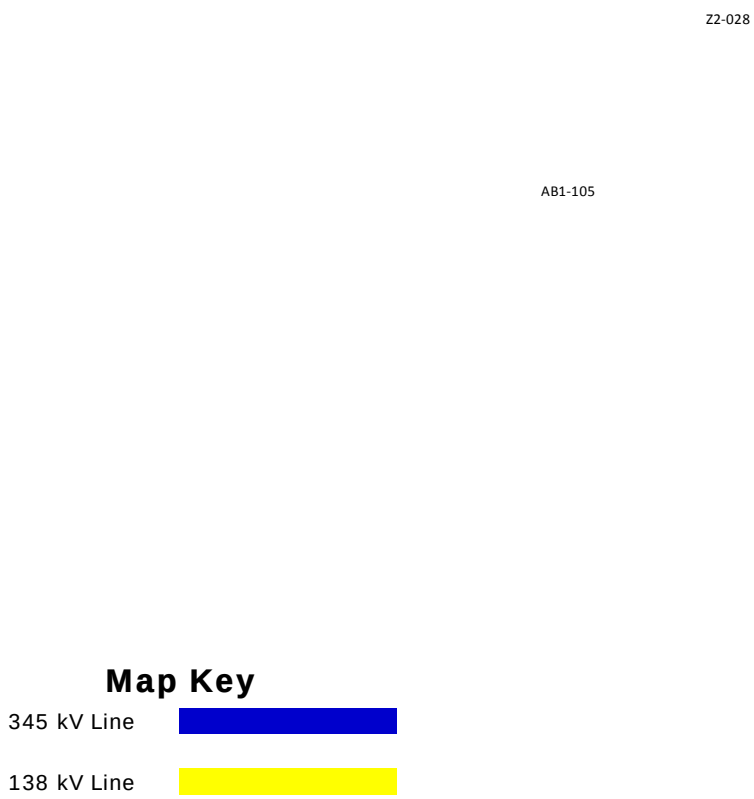
None

Potential Congestion due to Local Energy Deliverability

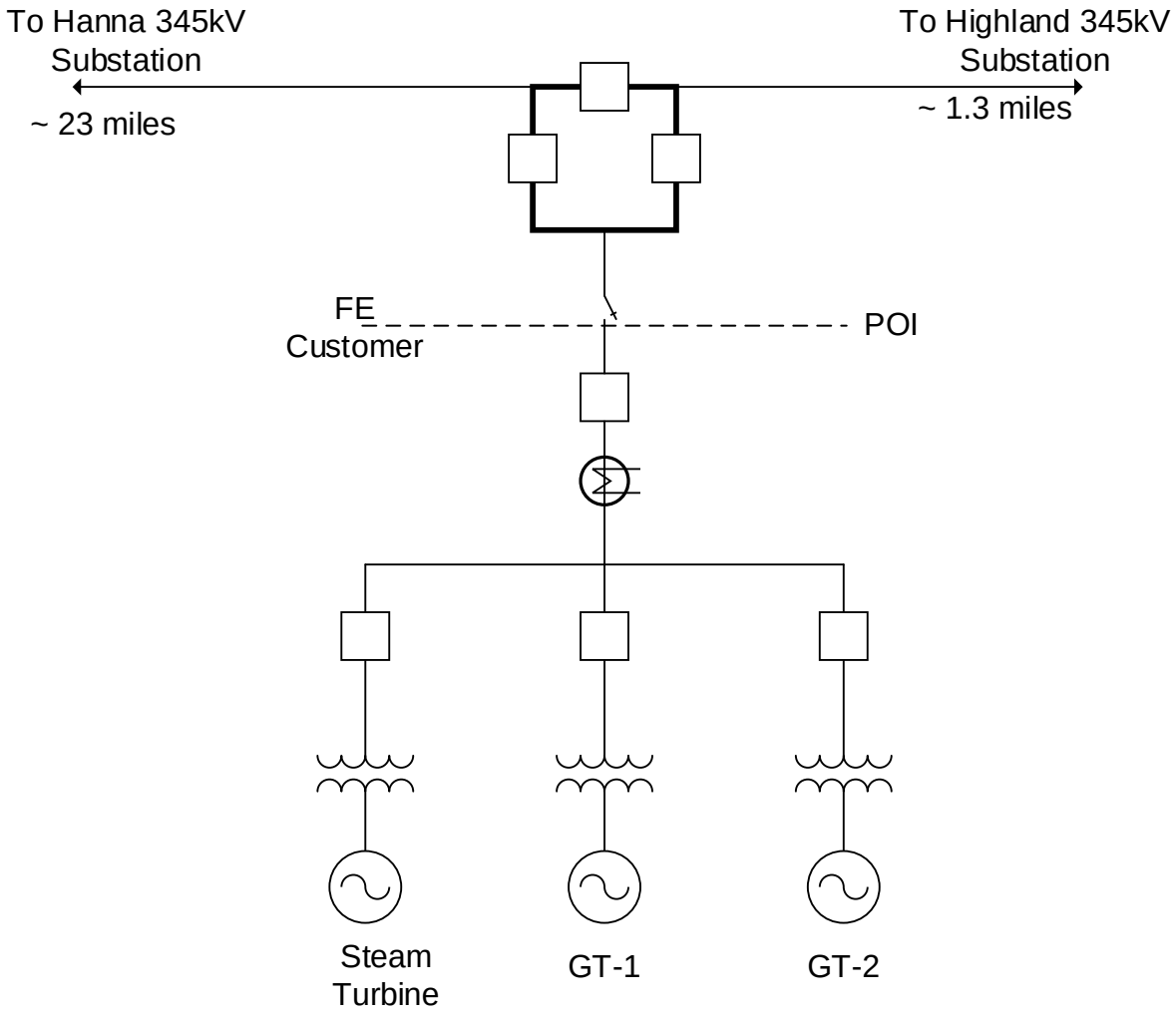
PJM also studied the delivery of the energy portion of this interconnection request. Any problems identified below are likely to result in operational restrictions to the project under study. The developer can proceed with network upgrades to eliminate the operational restriction at their discretion by submitting a Merchant Transmission Interconnection request.

None

Attachment 1. Project Location



Attachment 2. Single Line Diagram



Attachment 3. First Energy Protection Requirements

AB1-105 345kV Interconnecting Substation

345kV Transmission Line Protection

- Hanna line exit
  - Primary relay: SEL-421-5 directional comparison blocking line relaying operating over power line carrier (PLC) communications
    - Ametek/Pulsar UPLC on/off carrier set for use with directional comparison blocking line relaying.
    - CCVTs with carrier accessories in one phase and at least two secondary windings, line tuner, and wavetrap for use with PLC relaying and direct transfer trip
  - Backup relay: SEL-421-5 non-pilot direct tripping backup relay
  - Transfer trip: Dual Ametek/Pulsar UPLC FSK TX/RX carrier sets for use with direct transfer trip
  - Line tuner, wavetrap, CCVT with carrier accessories, and hybrids for use with PLC relaying and direct transfer trip

- Highland line exit
  - Primary relay: SEL-411L relay with line current differential protection over fiber
  - Backup relay: SEL-411L relay with line current differential protection over fiber

- AB1-105 generating facility
  - Primary relay: SEL-411L relay with line current differential protection over fiber
  - Backup relay: SEL-411L relay with line current differential protection over fiber

345kV AB1-105 Interconnecting Station Communications

- AB1-105 Interconnecting Station to Highland
  Install two separately routed 1300 nm single mode fiber-optic cable with dedicated fibers for use with SEL-411L primary and SEL-411L backup relaying (approximately 3 miles).
    - Minimum of 12 fibers, separate primary and backup fiber cables

- AB1-105 Interconnecting Station to AB1-105 generating facility
  Install two separately routed 1300 nm single mode fiber-optic cable with dedicated fibers for use with SEL-411L primary and SEL-411L backup relaying.
    - Minimum of 12 fibers, separate primary and backup fiber cables

345kV Breaker Failure to Trip Protection

- 345kV Breaker Failure to Trip Relaying
  - SEL-501 breaker failure to trip relaying (1 on each of three 345kV breakers). The breaker failure to trip relaying on each Hanna line exit breaker shall initiate direct transfer trip to Hanna over power line carrier (UPLC). The breaker failure to trip relaying on each Highland line exit breaker shall initiate direct transfer trip to Highland via the SEL-411L primary and backup line relays (fiber). The breaker failure to trip relaying on each LS Power Plant line exit breaker shall initiate direct

transfer trip to LS Power Plant via the SEL-411L primary and backup line relays (fiber).

AB1-105 Generating Station 345kV

345kV Transmission Line Protection @ AB1-105 generating station

- AB1-105 Interconnecting Station line exit
  - Primary relay: SEL-411L relay with line current differential protection over fiber
  - Backup relay: SEL-411L relay with line current differential protection over fiber
  - Synch check for manual/SCADA close on the interconnecting line to be done at AB1-105 Generating Station

345kV Breaker Failure to Trip Protection

- 345kV Breaker Failure to Trip Relaying
  - SEL-352-2 breaker failure to trip relaying on each of four 345kV breakers. The breaker failure to trip relaying on the AB1-105 Interconnecting Station line exit breaker shall initiate direct transfer trip via the SEL-411L primary and backup line relays (fiber).

345kV Bus & GSU Transformer Protection @ AB1-105 generating station (minimum protection to meet FE requirements)

- Dual, independent transformer differential protection schemes (Transformer and Overall)
- Transformer neutral time overcurrent relay

The Connecting Party shall provide utility-grade relays for protection of the FE Transmission System. FE shall approve all relays specified for the protection of the FE Transmission System, including time delay and auxiliary relays. Relay operation for any of the listed functions that are required shall initiate immediate separation of the parallel generation from the FE Transmission System:

Relay	Function
Frequency	To detect underfrequency and overfrequency operation.
Overvoltage	To detect overvoltage operation.
Undervoltage	To detect undervoltage operation.
Ground Fault Detector	To detect a circuit ground on the FE Transmission System.
Phase Fault Detector	To detect phase to phase faults on the FE Transmission System.
Transfer Trip Receiver	To provide tripping logic to the generation owner for isolation of the generation upon opening of the FE supply circuits.
Directional Power	To detect, under all system conditions, a loss of FE primary source. The relay shall be sensitive enough to detect transformer magnetizing current supplied by the generation.

FE System Modifications

Highland Substation
345kV Transmission Line Protection

- AB1-105 Interconnecting Station line exit Primary Relaying
  - Primary relay: SEL-411L relay with line current differential protection over fiber
  - Backup relay: SEL-411L relay with line current differential protection over fiber

Hanna Substation
345kV Transmission Line Protection

- Dual Ametek/Pulsar UPLC FSK TX/RX carrier sets for use with direct transfer trip
- Line tuner, wavetrap, CCVT with carrier accessories, and hybrids for use with PLC relaying and direct transfer trip

Evergreen 138kV Substation
345kV Circuit Breaker Adequacy

- (1) 138kV circuit breakers have been identified by PJM as overdutied with the addition of AB1-105. This would necessitate replacing the existing breaker with a 63kAIC breaker.

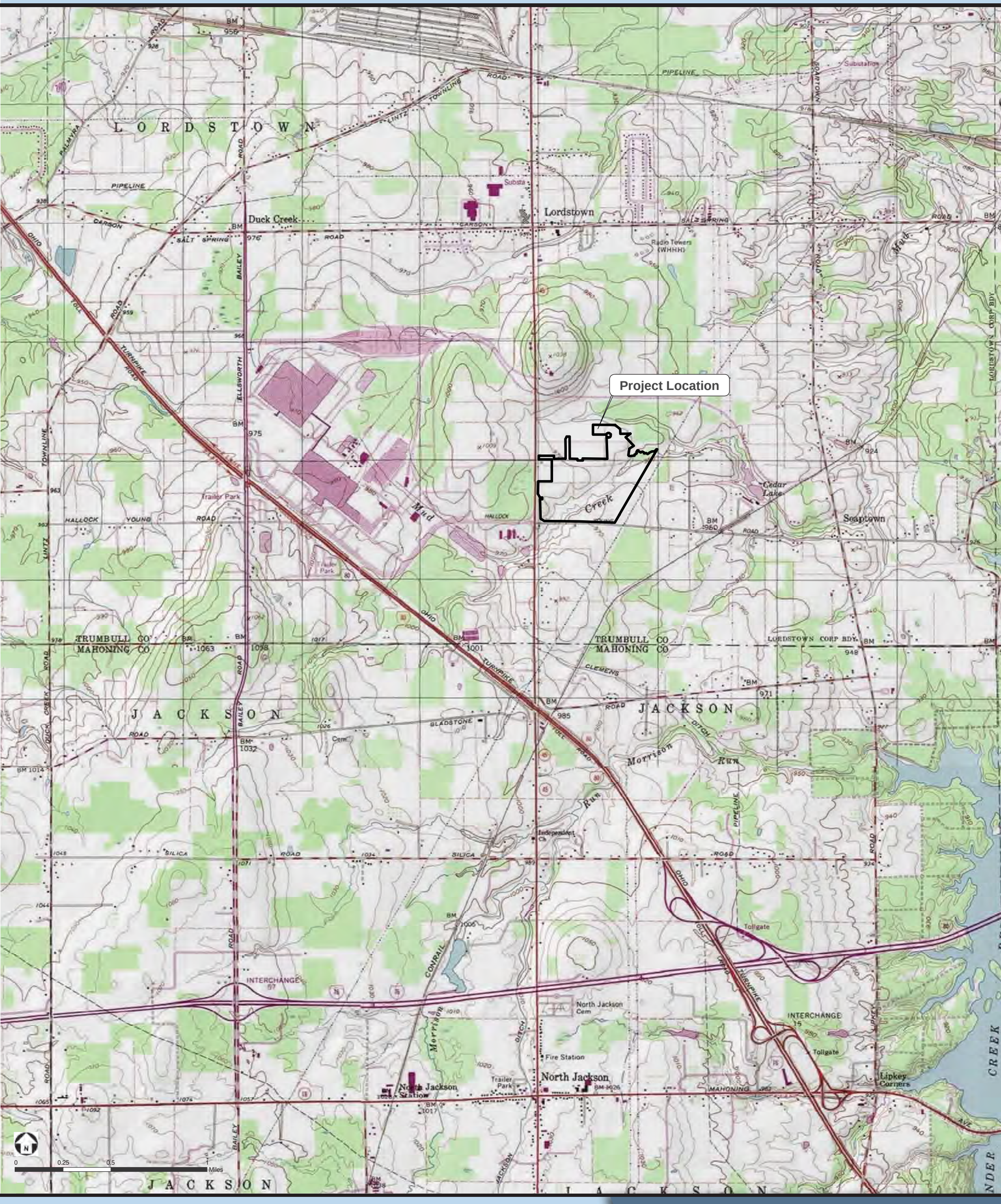
Settings Changes

Settings changes are possible at, but not limited to, the following stations:

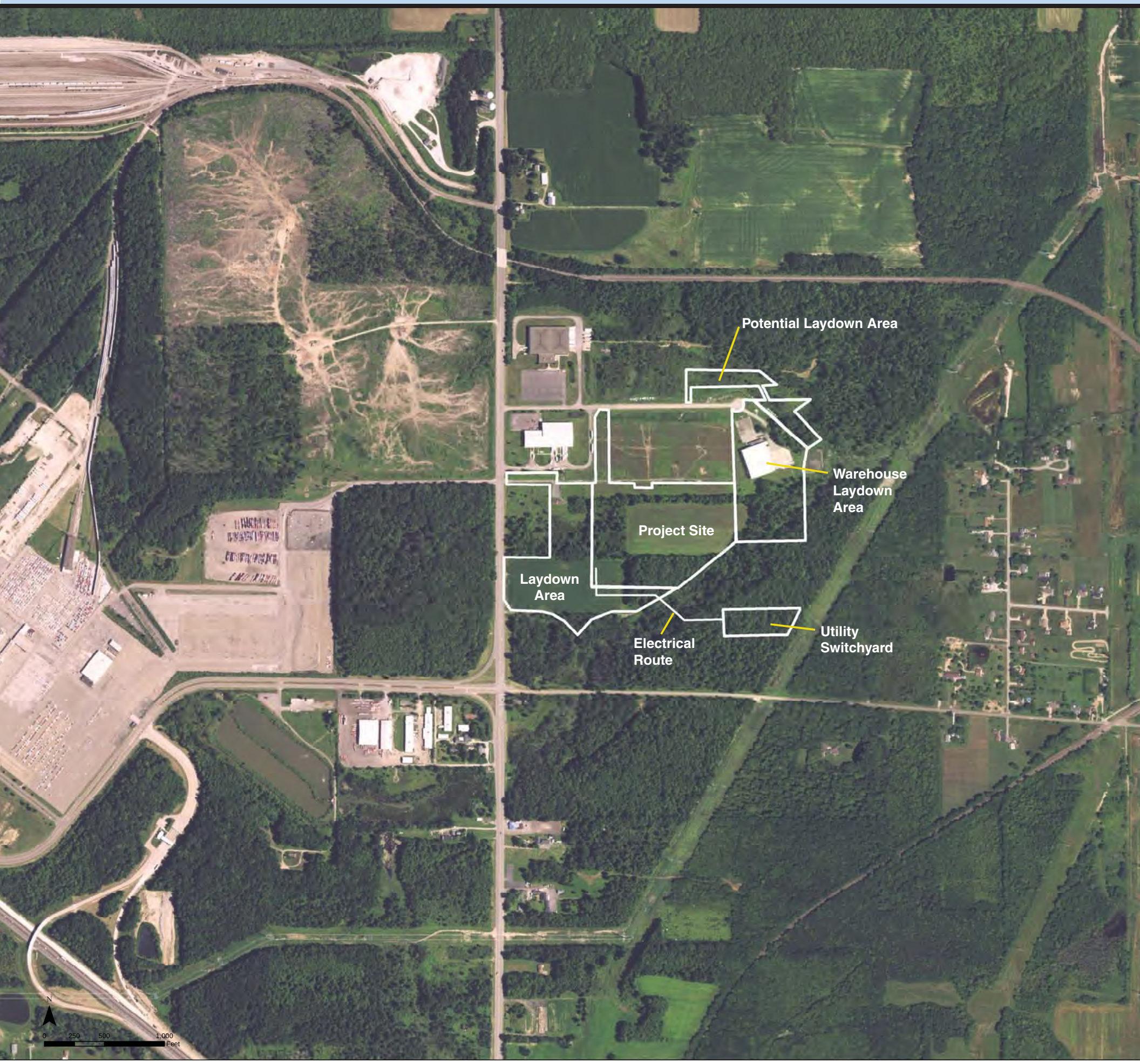
- Beaver Valley
- Bluebell
- Bruce Mansfield
- Chamberlin
- Darrow
- East Akron
- Evergreen
- GM Lordstown
- Ivanhoe
- Juniper
- Mahoningside
- Newton Falls
- Niles
- Niles Central
- Packard
- Salt Springs
- Sammis
- Shalersville
- Shenango
- West Ravenna

Attachment B – Public Meeting Information

Project Location – Village of Lordstown, Ohio



Project Site Characteristics



- Project Site is located in the Lordstown Industrial Park
- Natural gas available on-site
- Electric transmission lines adjacent to the Project Site
- Strong proximate transportation network

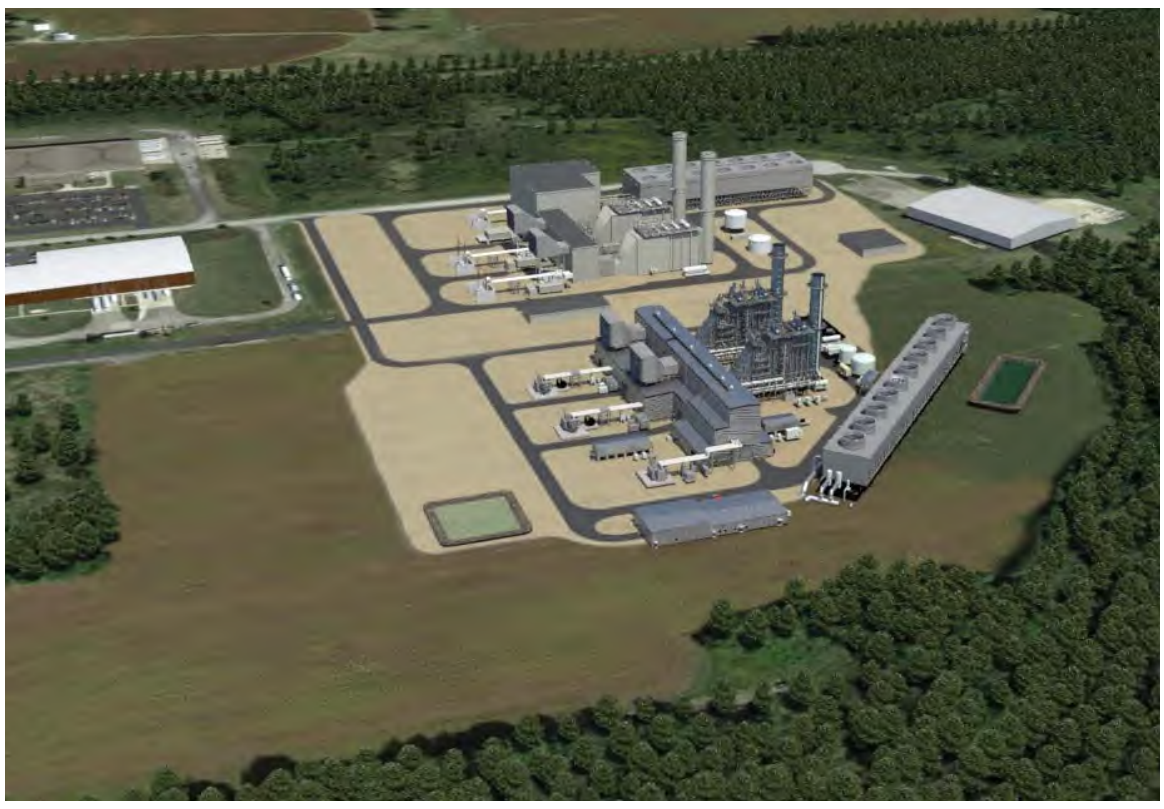
CLEAN ENERGY FUTURE LLC

Trumbull Energy Center
Clean Energy for Northeastern Ohio

Project Characteristics

940-MW Combined Cycle Electricity Project

- Two natural gas-fired, high efficiency H-class combustion turbines with two heat recovery steam generators and one steam turbine
- Supplemental firing and evaporative cooling allows for power demand flexibility during peak power periods
- State-of-the-art emissions controls
- High-efficiency wet cooling towers for most energy-efficient power production, using abundant regional water
- Project's water supply from regional water sources
- Stormwater best management practices
- Clean, quiet, and efficient electricity



Natural Gas Supply

- East Ohio has some of the lowest priced natural gas in the U.S.
- Project will connect to on-site DEO lateral
- Access to low-cost shale gas via regional pipelines
- A highly efficient power project using low-cost gas yields low-cost power

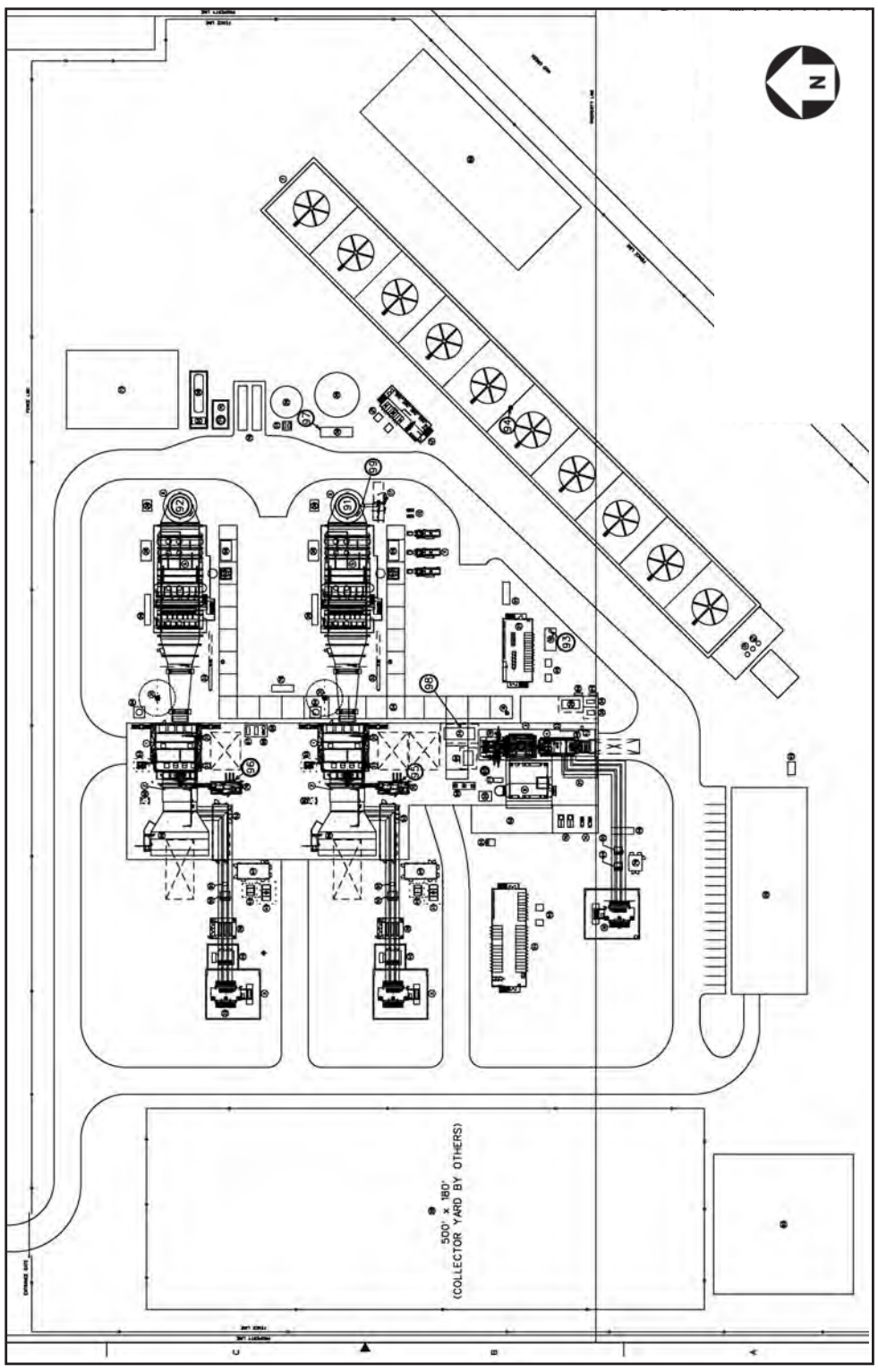
Transmission Interconnection

- Project site approximately 375 feet west of existing First Energy 345-kV power lines
- Replaces power from Northeastern Ohio coal-fired facilities that will be closing, maintaining electric system reliability

Project Benefits

Local Advantages

- Compatible land use; use of industrially zoned (I-1) property
- 100% private funding – no Village, County, or State funds
- Both construction and long-term operational jobs
- Incremental PILOT payments provide additional revenues for the Village and school system
- Purchase of Village water and sewer services
- Clean, quiet, and efficient electricity
- A business that promotes education/ jobs in engineering, math, and science
- Diversity of Village's economy and tax base



Regional Advantages

- Replace power from closing of local and regional coal plants
- Respond to potential energy and capacity supply gap, with the ability to supply power for the region
- Maintain reliability of local electric grid system
- Low-cost gas and high-efficiency technology yield favorable power cost
- State-of-the-art environmental and safety features

Employment Facts and Figures

- Construction union labor, with a peak of more than 500 jobs over the 30-month construction period
- Benefits from 1,600,000 construction labor person-hours
- Boost to local economy from purchase of goods and services: concrete, gravel, rebar, fuel, lumber, supplies, hotel, and food
- More than 20 full-time permanent highly skilled jobs
- Ongoing boost to the local economy through purchase of supplies/services

Project Schedule

The Trumbull Energy Center has completed a number of major milestones and is on schedule for commercial operation to begin May 2020.

PJM Interconnection Process Started	October 2015
PJM Feasibility Study Completed	March 2016
PJM System Impact Study Initiated	April 2016
Natural Gas Transport Options Initiated	December 2016
File Air Permit Application	January 2017
File OPSB Application	February 2017
Complete PJM Facility Study	May 2017
Complete All Required Permits	August 2017
Construction Start	January 2018
Commercial Operations	May 2020

Attachment C – Model Landowner Letters

LIST OF PROPERTY OWNERS WITHIN AND ADJACENT TO THE PROJECT AREA

Property Owner	Mailing Address	City	State
Michael B Giovannone	0 Goldner Lane	Lordstown	OH
Pennsylvania Lines LLC	110 Franklin Road SE	Roanoke	VA
Daniel & Pamela Clark	1154 Hallock Young	Lordstown	OH
George F & Kathy E Propst	1180 Ina Drive	Lordstown	OH
Julie A Himes	1186 Ina Drive	Lordstown	OH
Integrated Automation Systems LLC	1701 Henn Parkway	Lordstown	OH
Copeland Properties 16 LP	1702 Henn Parkway	Lordstown	OH
Lordstown Henn LLC	1871 Henn Parkway	Lordstown	OH
General Motors	2300 Hallock Young Rd	Warren	OH
Albert V. & Ida Lucarelli	3485 Goldner Lane	Lordstown	OH
Milton E & Karen M Emch	3490 Goldner Lane	Lordstown	OH
Moseley Property Management LLC	3500 Goldner Lane	Lordstown	OH
Brenda Estlack	3521 Goldner Lane	Lordstown	OH
Integra Excavating LLC	3530 Goldner Lane	Lordstown	OH
Jamie A Moseley	3538 Goldner Lane	Lordstown	OH
David D Alltop	3551 Goldner Lane	Lordstown	OH
Betty Jean Frantz	3555 Goldner Lane	Lordstown	OH
NP Lordstown 173 LLC	5015 NW Canal Street, Suite 200	Riverside	MO
Henn Development LLC	692 Aberdeen Run	The Villages	FL
Henn Limited Partnership	692 Aberdeen Run	The Villages	FL
Alan L & Lois M Miller	7439 SW Tod Ave	Lordstown	OH
Harry Brian & Mary Jane F Wilson	7612 Highland	Lordstown	OH
The Lordstown Lions Club	7887 Todd Avenue	Lordstown	OH
Florence F. Siglin	8213 State Route 45	Lordstown	OH
Trumbull Preserve Trails LLC	Henn Parkway	Lordstown	OH

Clean Energy Future – Trumbull, LLC

June 12, 2017

«Owner»
«Address»
«City», «State» «Zip»

Dear «Salutation»:

We are writing to make you aware that Clean Energy Future-Trumbull, LLC ("CEF-T") is preparing to construct electrical interconnection to the Trumbull Energy Center in the Village of Lordstown, Trumbull County, Ohio. The Trumbull Energy Center Electrical Interconnection ("TEC Electrical Interconnection") consists of: three consolidated generator leads that will extend approximately 0.25-mile within a 100-foot wide right-of-way supported on three vertical, monopole dead-end structures; and new 3-breaker ringbus, proposed on approximately 4 acres of land located adjacent to the FirstEnergy 345-kV Highland-Hanna circuit into which the generator leads interconnect. There will be two access roads to the TEC Electric Interconnection site. All components of the TEC Electrical Interconnection will be located entirely within the Village of Lordstown, Trumbull County, Ohio. Upon completion of construction, the utility switchyard and associated access road will be transferred to FirstEnergy, while one of the access roads will remain under the ownership and control of CEF-T.

It is expected that construction of the TEC Electrical Interconnection could begin sometime in the first quarter of 2018 and the project is scheduled to be in-service by the fourth quarter of 2019. At the conclusion of construction, as soon as weather permits, disturbed land will be restored.

We will be happy to answer any questions you may have about the upcoming activity. You may feel free to contact Steve Remillard, CEF-T, at 508-579-6317 or sremillard@enervenresources.com.

Sincerely,

CLEAN ENERGY FUTURE-TRUMBULL, LLC

Project Development Manager

Clean Energy Future – Trumbull, LLC

June __, 2017

Re: Application of Clean Energy Future-Trumbull, LLC
Trumbull Energy Center Electrical Interconnection

OPSB Case No. 17-817-EL-BLN

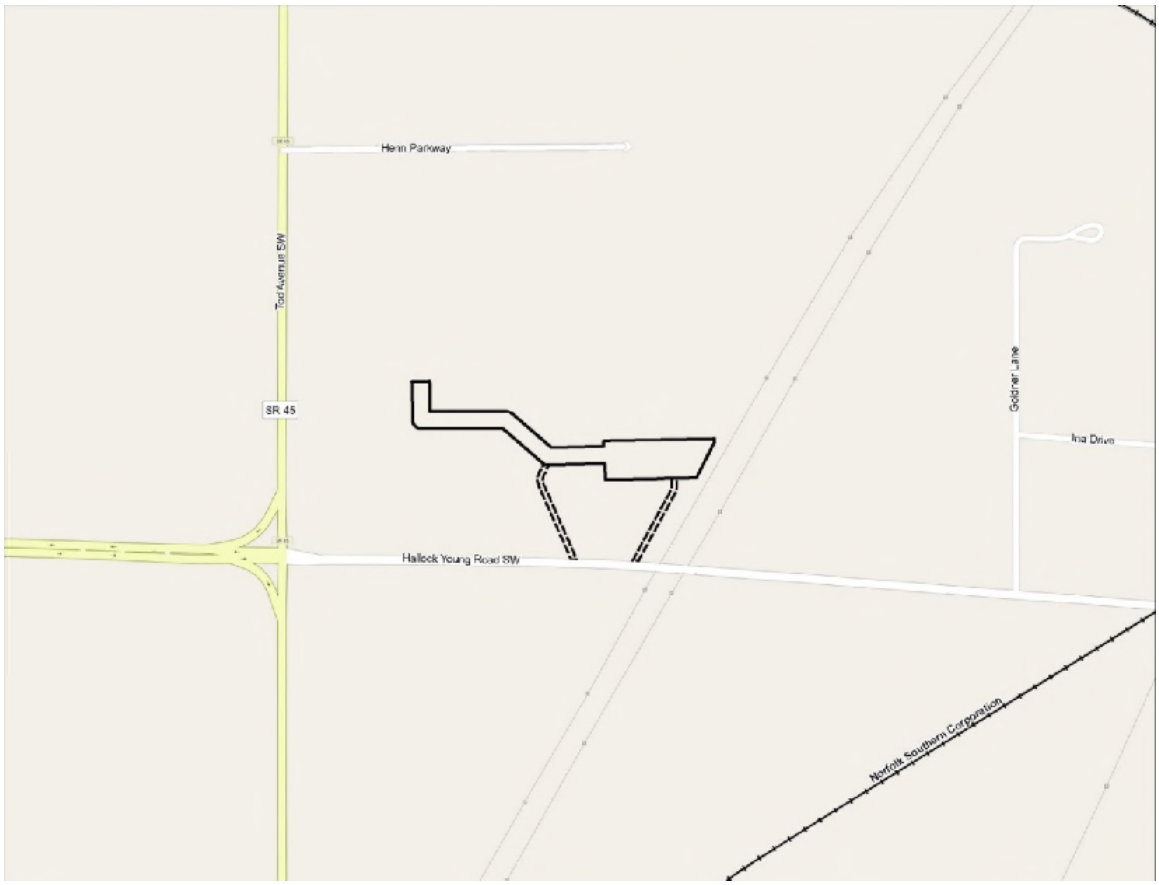
) Property Owners and Tenants within the route of the proposed project
) Property Owners and Tenants who are located contiguous to the proposed site
Dear) Property Owners and Tenants of Permanent and Temporary Easements within the planned site:
) Property Owners and Tenants of the Existing Right-of-Way
) Property Owners and Tenants who may be approached for any additional easement necessary for the construction operation or maintenance of the project

Description of the New Interconnection Project

As we indicated to you in a prior letter, Clean Energy Future-Trumbull, LLC ("CEF-T") is preparing to construct the Trumbull Energy Center Electrical Interconnection ("TEC Electrical Interconnection") Village of Lordstown, Trumbull County, Ohio. TEC Electrical Interconnection will interconnect CEF-T's Trumbull Energy Center ("TEC") to an existing FirstEnergy Corporation 345-kilovolt transmission line. The TEC Electrical Interconnection consists of the three consolidated generator leads that will extend from TEC's on-site switchyard approximately 0.25-mile to new 3-breaker ringbus, proposed on approximately four (4) acres of land located adjacent to the FirstEnergy 345-kV Highland-Hanna circuit (the Utility Switchyard). The three consolidated generator leads will be located within a 100-foot wide right-of-way (the Interconnection ROW) and supported by three vertical, monopole dead-end structures. Two access roads will be constructed from Hallock Young Road to TEC's on-site switchyard and to the Utility Switchyard.

Map of Location of Proposed Project

The location of the interconnection is shown on the map below:



CEF-T Letter of Notification Pending before the Ohio Power Siting Board (OPSB)

The Letter of Notification has been filed with, and is pending before, the OPSB. It asks for authority to construct the interconnection facility described above. It was assigned **Case No. 17-817-EL-BLN.**

List of Locations Where Copy of the Letter of Notification Can Be Viewed

A copy of the Letter of Notification can be viewed at the Warren-Trumbull County Public Library, Lordstown Branch Library, 1471 Salt Springs Road, Warren, Ohio 44481.

A copy of the Letter of Notification may also be viewed at the OPSB Website: at http://www.opsb.ohio.gov. Scroll down to "Pending Cases" and selecting the case by name or docket number. A copy has also been posted to CEF-T's website at http://cleanenergyfuturellc.com/clean-energy-future-in-ohio/.

Filing to Participate and Comment in this Case

If you would like to participate in this proceeding, you may file a motion to intervene and/or file comments in this matter within ten (10) days from the date of the newspaper publication for this LON. For motions to intervene, please follow the requirements of Ohio Administrative Code Rule 4906-2-12. The intervention rule is available on line at www.opsb.ohio.gov.

Tenants

If you have tenants occupying this property, please advise them of this project.

Questions

Should you have any questions concerning this project, please feel free to contact Steve Remillard at (508) 579-6317 or by e-mail at sremillard@enervenresources.com.

Sincerely

Clean Energy Future-Trumbull, LLC

Clean Energy Future – Trumbull, LLC

[DATE]

ADDRESS
ADDRESS
ADDRESS

Dear Property Owner or Tenant:

Description of the New Interconnection Project

As we indicated to you in prior letters, Clean Energy Future-Trumbull, LLC ("CEF-T") is preparing to construct the Trumbull Energy Center Electrical Interconnection ("TEC Electrical Interconnection") Village of Lordstown, Trumbull County, Ohio. TEC Electrical Interconnection will interconnect CEF-T's Trumbull Energy Center ("TEC") to an existing FirstEnergy Corporation 345-kilovolt transmission line. The TEC Electrical Interconnection consists of the three consolidated generator leads that will extend from TEC's on-site switchyard approximately 0.25-mile to new 3-breaker ringbus, proposed on approximately four (4) acres of land located adjacent to the FirstEnergy 345-kV Highland-Hanna circuit (the Utility Switchyard). The three consolidated generator leads will be located within a 100-foot wide right-of-way (the Interconnection ROW) and supported by three vertical, monopole dead-end structures, and will te Two access roads will be constructed from Hallock Young Road to TEC's on-site switchyard and to the Utility Switchyard.

Timeline for Construction of the Project

CEF-T anticipates construction of the TEC Electrical Interconnection to begin in the first quarter of 2018 and is scheduled to be in-service by the fourth quarter of 2019.

Restoration Activities:

To the extent that any of your property is disturbed, CEF-T will restore your property to the state that it was in prior to CEF-T's construction activities as soon as weather permits after the project construction is completed.

Tenants

If you have tenants occupying this parcel, please advise them of this project.

Questions/Complaints:

CEF-T has a complaint resolution process. Should you have any questions concerning this project, please contact Steve Remillard at (508) 579-6317 or by e-mail at sremillard@enervenresources.com. If you have a complaint during construction or restoration, your call will be returned in a timely manner. Please be aware that CEF-T will make every best effort to resolve issues pertaining to the project.

Complaint Procedure:

1.) CEF-T has a toll free-phone number. ***[This will be inserted when the letter is sent before the beginning of construction].*** A member of the public who has a complaint about the Interconnection project may either call the toll free # and leave a message 24 hours a day or go to the Operations and Maintenance Facility project during regular business hours to register a complaint.

2.) Persons who register a complaint with CEF-T will receive an email from the company no later than 48 hours after registering the complaint. The intent of the initial email is to garner more information from the individual's complaint. Within 30 days of the complaint being received CEF-T will initiate reasonable action to resolve the legitimate complaint or disturbance that is a direct result of its interconnection project.

3.) CEF-T will be responsible for keeping a logbook, which registers every complaint that is received. The logbook will contain all pertinent information about the person making the complaint, the issues surrounding the complaint and the date that the complaint was received. The logbook will also contain the resolution that CEF-T suggests, the date the complaining party agreed to the proposed resolution and the date when the proposed resolution was implemented.

4.) If CEF-T and the complaining person cannot agree to a resolution proposed by CEF-T or one negotiated with the complaining person, CEF-T will provide a summary of the complaint and proposed resolution to the complaining resident so that the resident may bring the complaint to the Ohio Power Siting Board.

Sincerely

Clean Energy Future-Trumbull, LLC

Attachment D – Complaint Resolution Procedure

Complaint Resolution Procedure

Trumbull Energy Center

February 2017

Prepared for:

Clean Energy Future – Trumbull, LLC
24 Proctor Street
Manchester, MA 01944

Prepared by:

Tetra Tech, Inc.
2 Lan Drive, Suite 210
Westford, MA 01886

TETRA TECH

TABLE OF CONTENTS

ATTACHMENTS

1.0 INTRODUCTION

This procedure defines the requirements and process for management of complaints received during the construction, startup, and commissioning of the Trumbull Energy Center (the Project). In all cases, Project representatives will work to resolve or mitigate any issues with those who submit a complaint. During the construction, startup, and commissioning period, the selected Project's the Engineering, Procurement and Construction (EPC) contractor, Fluor Corporation (Fluor), will be in control of this process, and will provide monthly reports to Clean Energy Future – Trumbull, LLC (CEF-T) and the Ohio Power Siting Board (OPSB).

Fluor is committed to reducing employee and subcontractor exposure to high noise levels during construction, commissioning, and initial operation, and will comply with applicable Occupational Safety and Health Administration (OSHA) standards. Fluor is also committed to compliance with OPSB requirements associated with noise and other activities.

Following substantial completion and commercial operation, CEF-T will take control of this process.

2.0 NOISE COMPLAINT PROCESS

Throughout the construction, startup, and commissioning of the Project, Fluor will document, investigate, evaluate, and attempt to resolve all Project-related noise complaints. CEF-T will continue to do so during Project operation. Fluor will:

- Use the Noise Complaint Resolution Form (provided as Attachment A), or a functionally equivalent procedure acceptable to the OPSB, to document and respond to each noise complaint;
- Attempt to contact the person(s) making the noise complaint within 24 hours, or 72 hours if the complaint is made over the weekend;
- Conduct an investigation to determine the source of noise related to the complaint;
- Take all feasible measures to reduce the noise at its source, if the noise is Project-related; and
- Submit a report documenting the complaint and the actions taken.

The report will summarize the complaint, including final results of noise reduction efforts, if applicable. If possible, a signed statement by the complainant stating the issue is resolved will be included. The reports will be filed and maintained by the Fluor or CEF-T Site Manager, as applicable, documenting the resolution of the complaint.

2.1.1 NOISE RESTRICTIONS

Design and implementation of the Project, once completed, will include appropriate noise mitigation measures adequate to ensure that noise levels due to Project operation alone comply with the following:

- Nighttime Project noise contribution, as modeled, will not result in an increase to the ambient sound levels at any identified nearby sensitive receptors of greater than 4 dBA. This condition does not apply to any sensitive receptor for which individual mitigation measures have been implemented including, but not limited to, cooperation agreements or noise easements.

The 30-month construction period is expected to be typical of other power generating facilities in terms of schedule, equipment, and activities. Nighttime construction will be limited; however, activities may occur up to 6 days per week, 10 hours per day.

Impact pile driving and hoe ram operations, if required, will be limited to the hours between 10:00 a.m. to 5:00 p.m., Monday through Friday.

During the high-pressure steam blow process, steam blow piping will be equipped with a temporary silencer that quietens the noise of steam blows.

Haul trucks and other engine-powered equipment will be equipped with adequate mufflers. Haul trucks will be operated in accordance with posted speed limits. Truck engine exhaust brake use will be limited to emergencies.

Certain activities, such as foundation pours, cannot be stopped until the task is completed, which may continue into the nighttime period.

As required, a night shift may be implemented to maintain schedule or complete a continuous task; coordination with local authorities and notifications to neighbors will occur prior to implementation. The last 3 to 4 months of construction would include commissioning and start-up, which would involve steam blows potentially occurring 24 hours a day, 7 days a week.

2.1.2 NOISE COMPLAINT PROCEDURAL STEPS

2.1.2.1 INITIAL CONSTRUCTION NOTIFICATION

At least 10 days prior to the start of ground disturbance, Fluor, or the appropriate EPC contractor, will notify all residents within 1 mile of the Project site and 0.5 mile of any linear facilities, by mail or other effective means, of the commencement of Project construction. Fluor will concurrently establish a telephone number for use by the public to report any undesirable noise conditions associated with the construction and operation of the Project, and will include that telephone number in the above notice. Since the telephone is not staffed 24 hours a day, an automatic answering feature, with date and time stamp recording capability to answer calls when the phone is unattended, will be established. During construction, this telephone number will be posted at the Project site in a manner visible to passersby. The Owner will be notified of such activities in parallel with the resident notifications.

2.1.2.2 BLASTING NOTIFICATION

It is not anticipated that blasting activities will occur in association with construction of the Project. However, if blasting is required, Fluor will notify all residents within 1,000 feet of the blasting location, and shall make the notification available to other area residents in an appropriate manner at least 30 days prior to blasting activities. The notification may be in the form of letters to the area residences, telephone calls, fliers, or other effective means. CEF-T will also be notified of such activities in parallel with the resident notifications. Blasting will be undertaken in accordance with an OPSB-approved blasting plan submitted 30 days prior to the blasting event.

2.1.2.3 STEAM BLOW NOTIFICATION

At least 10 days prior to the first steam blow(s), Fluor will notify all residents within 1 mile of the Project site of the planned steam blow activity and shall make the notification available to other area residents in an appropriate manner. The notification may be in the form of letters to the area residences, telephone calls, fliers or other effective means. The notification will include a description of the purpose and nature of the steam blow(s), the proposed schedule, and the explanation that it is a one-time operation and not part of normal plant operations. CEF-T will also be notified of such activities in parallel with the residents.

3.0 MISCELLANEOUS COMPLAINT PROCESS

Similar to the noise complaint process described in Section 2.0, Fluor will document, investigate, evaluate, and attempt to resolve any other Project-related complaints (e.g., traffic, etc.). Fluor will:

- Use the General Complaint Resolution Form (provided in Attachment A), or a functionally equivalent procedure acceptable to the OPSB, to document and respond to each general complaint;

- Attempt to contact the person(s) making the complaint within 24 hours, or 72 hours if the complaint is made over the weekend;
- Conduct an investigation to determine the cause related to the complaint;
- Take all feasible measures to reduce or prevent the recurrence of the complaint; and
- Submit a report documenting the complaint and the actions taken.

The report will include summary of the complaint, including final results of mitigation efforts, if applicable. If possible, a statement signed by the complainant will be included stating that the problem is resolved to the complainant's satisfaction.

The reports will be filed and maintained by the Fluor Site Manager documenting the resolution of the complaint.

ATTACHMENT A: COMPLAINT RESOLUTION FORMS

Trumbull Energy Center
Noise Complaint Resolution Form

Noise Complaint Log Number: _____ Complainant's name and address: Phone number/email:
Date complaint received: _____ Time complaint received: _____ Date complainant first contacted: _____
Nature of noise complaint:
Definition of problem after investigation:
Initial noise levels at 3 feet from noise source: ____ dBA Date: _____ Initial noise levels at complainant's property: ____ dBA Date: _____ Final noise levels at 3 feet from noise source: ____ dBA Date: _____ Final noise levels at complainant's property: ____ dBA Date: _____
Description of measures taken: Date: _____ Complainant's signature: _____
This information is certified to be correct: Site Manager's Signature Date: _____

(Attach additional pages and supporting documentation, as required.)

Trumbull Energy Center
General Complaint Resolution Form

General Compliant Log Number: _____ Complainant's name and address: Phone number/email:
Date complaint received: _____ Time complaint received: _____ Date complainant first contacted: _____
Nature of complaint:
Definition of problem after investigation:
Description of corrective measures taken: Complainant's signature: _____ Date: _____
This information is certified to be correct: Site Manager's Signature Date: _____

(Attach additional pages and supporting documentation, as required.)

Attachment E – Cultural Correspondence

OHIO HISTORY CONNECTION

In reply refer to
2015-TRU-30840-9

April 28, 2017

Lynn Gresock
Tetra Tech, Inc.
2 Lan Drive, Suite 210
Westford, MA 01886

Dear Ms. Gresock,

RE: Trumbull Energy Center, Lordstown, Trumbull County, Ohio

This is in response to the receipt, on February 28, 2017, of *Phase I Archaeological Investigations for the Approximately 55.9 ha (138 ac) Trumbull Energy Facility in the Village of Lordstown, Trumbull County, Ohio.* The comments of the State Historic Preservation Office are submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended.

Intensive visual inspection and subsurface testing of the project resulted in the identification of one previously unrecorded archaeological site. Site 33 TR 273 consists of foundation remains of several out buildings associated with the demolished Ohio Historic Inventory (OHI) property identified as TRU-2860-22. This site is not likely to yield additional information about Ohio history. Based on the information provided, it is my opinion that this property is not eligible for inclusion in the National Register of Historic Places. No further coordination is required unless the project changes or archaeological remains are discovered during the course of the project. In such a situation, this office should be contacted as per 36 CFR 800.13.

If you have any questions, please contact me at (614) 298-2000, or by email at nyoung@ohiohistory.org.

Sincerely,

Nathan J. Young, Project Reviews Manager
Resource Protection and Review

Summary: Letter of Notification of Trumbull Energy Center Electrical Interconnection - Part 1 electronically filed by Teresa Orahood on behalf of Sally W. Bloomfield