Case No. 24-0014-EL-BLN

Part 1 of 9

Letter of Notification for the Vassell – Green Chapel 345 kV Transmission Line Project

AEP OHIO TRANSMISSION COMPANY

An AEP Company

BOUNDLESS ENERGY

PUCO Case No. 24-0014-EL-BLN

Submitted to:
The Ohio Power Siting Board
Pursuant to Ohio Administrative Code
Section 4906-6-05

Submitted by:
AEP Ohio Transmission Company, Inc.

January 19, 2024

LETTER OF NOTIFICATION

AEP Ohio Transmission Company, Inc.

Vassell – Green Chapel 345 kV Transmission Line Project

4906-6-05 Accelerated Application Requirements

AEP Ohio Transmission Company, Inc. (the "Company") provides the following information to the Ohio Power Siting Board ("OPSB") in accordance with the accelerated application requirements of Ohio Administrative Code Section 4906-6-05.

4906-6-05(B) General Information

B(1) Project Description

The name of the project and applicant's reference number, names and reference number(s) of resulting circuits, a brief description of the project, and why the project meets the requirements for a Letter of Notification.

The Company is proposing the Vassell – Green Chapel 345 kV Transmission Line Project (the "Project"), located within Berkshire, Harlem, and Trenton townships in Delaware County, Ohio and Jersey and Monroe townships in Licking County, Ohio. The Project involves constructing approximately 13 miles of new 345 kV transmission line between the existing Vassell 345 kV Station (approved Case No. 11-1313-EL-BSB) and the proposed Green Chapel 345 kV Station (approved Case No. 23-0028-EL-BLN). The Project will use the Company's Breakthrough Overhead Line Design (BOLD), consisting of steel monopole structures on a new 150-foot right-of-way. In addition to the Project, the Company has identified the need for a second 345 kV transmission line and the Curleys Station; both of which will be filed under separate applications. The location of the Project is shown on Maps 1 and 2 in Appendix A.

The Project meets the requirements for a Letter of Notification (LON) as defined by Items 1(d)(ii) of Appendix A to Ohio Administrative Code Section 4906-1-01, *Application Requirement Matrix for Electric Power Transmission Lines*:

> *(1) New construction, extension, or relocation of single or multiple circuit electric power transmission line(s), or upgrading existing transmission or distribution line(s) for operation at a higher transmission voltage, as follows:*
>
> > *(d) Line(s) primarily needed to attract or meet the requirements of a specific customer or customers as follows:*
> >
> > > *(ii) Any portion of the line is on property owned by someone other than the specific customer or applicant.*

The Project has been assigned Case No. 24-0014-EL-BLN.

B(2) Statement of Need

If the proposed Letter of Notification project is an electric power transmission line or gas or natural gas transmission line, a statement explaining the need for the proposed facility.

The New Albany area continues to see some of the fastest growing electric demand in the AEP system. The robust economic development activity in New Albany is creating a continued influx of new customer interconnection requests.

The approximate load in the New Albany area today is 500 MW and the demand is expected to exceed 2,000 MW by the end of 2027 and will continue to grow in future years. Due to the projected customer load, existing facilities that serve the area including the 345 kV circuits between Corridor Station and Vassell Station will exceed their thermal capacities under certain scenarios.

The Company proposes to introduce new 345 kV sources into the area to address identified planning criteria violations by constructing two new 345 kV transmission lines between the Company's Vassell Station and the Green Chapel and Curleys Stations, respectively. Several projects in the New Albany area will be needed address issues created by the projected load growth and to serve the current demand of more than 10 new customer requests in the area.

Failure to move forward with the proposed Project and future projects will result in the inability to serve the various customer load expectations (existing and new customers). In addition to the direct customer service, failure to move forward with the Project would have a negative impact on economic development in the area.

Each customer need was presented and reviewed with stakeholders between February 2022 and April 2023, at the PJM SRRTEP or TEAC Meetings. The solution to the Project was presented in the December 5, 2023, PJM TEAC Meeting (see Appendix B).

B(3) Project Location

The applicant shall provide the location of the project in relation to existing or proposed lines and substations shown on an area system map of sufficient scale and size to show existing and proposed transmission facilities in the Project area.

The location of the Project in relation to existing transmission lines and substations is shown on Map 1, in Appendix A. Map 2, in Appendix A, identifies the Project components on a 2022 aerial photograph.

B(4) Alternatives Considered

The applicant shall describe the alternatives considered and reasons why the proposed location or route is best suited for the proposed facility. The discussion shall include, but not be limited to, impacts associated with socioeconomic, ecological, construction, or engineering aspects of the project.

The Company conducted a siting study for the Project, which evaluated five suitable Alternative Routes for connecting the existing Vassell 345 kV Station and the future Green Chapel 345 kV Station (Project endpoints). The Alternative Routes considered are shown in Appendix A, Map 4. The Siting Study is presented in its entirety in Appendix D. Because the second 345 kV line is in the same vicinity, the Siting Study also covers the proposed Vassell – Curleys 345 kV Transmission Line (to be filed under a separate application).

The goal of selecting a suitable route for the Project was to minimize impacts on land use and natural and cultural resources while avoiding circuitous routes, significantly higher costs, and non-standard design requirements. Based on quantitative and qualitative analysis, field examination, and landowner and stakeholder input, the Company concluded that the Project's Proposed Route is the most feasible and appropriate route for the Project.

The Proposed Route was selected because it represents a direct, non-circuitous option for connecting the Project endpoints, which minimizes effects to the built and natural environment by primarily paralleling parcel boundaries of properties with compatible uses, minimizes impacts to nearby residences, reduces interferences with existing infrastructure, and optimizes constructability factors such as construction schedule, access, and cost. Lastly, the Proposed Route for the Project was considered in conjunction with the second 345 kV transmission proposed in the area, the Vassell – Curleys 345 kV Transmission Line (to be filed under a separate application) to minimize overall impacts to the community.

Overall, the Proposed Route represents the most suitable location and most appropriate solution for meeting the customers' and Company's needs in the area.

B(5) Public Information Program

The applicant shall describe its public information program to inform affected property owners and tenants of the nature of the project and the proposed timeframe for project construction and restoration activities.

The Project's public communications and outreach process began in early 2023, when the Company initiated stakeholder engagement by coordinating with local governments and agencies. Company representatives invited landowners within the Project area to in-person open house meetings, conducted on May 2 and May 3, 2023, and provided a link to the Project website to access information via a virtual open house. The landowners were also provided with contact information for the Company's outreach specialist and were encouraged to submit comments and questions.

Additionally, the Company will inform affected property owners and tenants about this Project through several different mediums. Within seven days of filing this LON, the Company will issue a public notice in a newspaper of general circulation in the Project area. The notice will comply with all requirements of OAC Section 4906-6-08(A)(1-6). Further, the Company will mail a letter, via first class mail, to affected landowners, tenants, contiguous owners and any other landowner the Company may approach for an easement necessary for the construction, operation, or maintenance of the Project. The letter will comply with all requirements of OAC Section 4906-6-08(B). The Company maintains a website (http://aeptransmission.com/ohio/) which hosts an electronic copy of this LON and the public notice of this LON. An electronic copy of the LON will be served to the public library in each political subdivision affected by this Project. In addition, the Company retains ROW land agents that discuss Project timelines, construction and restoration activities and convey this information to affected owners and tenants.

B(6) Construction Schedule

The applicant shall provide an anticipated construction schedule and proposed in-service date of the project.

Construction of the Project is planned to begin in October 2024 with an anticipated in-service date of April 2026.

B(7) Area Map

The applicant shall provide a map of at least 1:24,000 scale clearly depicting the facility with clearly marked streets, roads, and highways, and an aerial image.

Maps 1 and 2, in Appendix A, identify the location of the Project area on United States Geological Survey 1:24,000 topographic quadrangle maps (Jersey, Johnstown, and Sunbury). Appendix A, Map 2 shows the Project area on a 2022 aerial photograph.

To visit the northern terminus of the Project from downtown Columbus, Ohio, take I-670 E towards the airport for 0.7 miles, then take exit 5C to continue on I-71 N towards Cleveland for 22.1 miles. Take exit 131 on the right for US-36 E for 3.7 miles. Continue straight onto W Cherry Street for 0.5 mile before turning right onto S Morning Street. Continue onto OH-37 E/ E Granville Street for 0.7 mile. The Company's existing Vassell 345 kV Station is located on the right, approximately 0.2 mile east of Joe Walker Road.

B(8) Property Agreements

The applicant shall provide a list of properties for which the applicant has obtained easements, options, and/or land use agreements necessary to construct and operate the facility and a list of the additional properties for which such agreements have not been obtained.

A list of properties required for the Project are provided in Appendix C. The easement form exhibit provided in Appendix C represents the minimum easement rights the Company would require in order to construct, operate, and maintain these facilities.

B(9) Technical Features

The applicant shall describe the following information regarding the technical features of the project.

B(9)(a) Operating characteristics, estimated number and types of structures required, and right-of-way and/or land requirements.

The Vassell – Green Chapel 345 kV Transmission Line is estimated to include the following:

Voltage:	345 kV
Conductors:	(3) 2-Bundle 1590 kCM Falcon ACSS (54/19)
Static Wire:	2x (1) 144 Ct OPGW
Insulators:	Polymer
ROW Width:	150 feet
Structure Type:	Forty (40) Steel monopole, V-String insulators, tangent structures on custom concrete pier with anchor bolt foundation Seven (7) Steel monopole, suspension insulators, running corner structures on custom concrete pier with anchor bolt foundation Seventeen (17) Steel monopole, strain insulator, deadend structure on concrete pier with anchor bolt foundation

B(9)(b) Electric and Magnetic Fields

For electric power transmission lines that are within one hundred feet of an occupied residence or institution, the production of electric and magnetic fields during the operation of the proposed electric power transmission line.

B(9)(b)(i) Calculated Electric and Magnetic Field Strength Levels

i) Calculated Electric and Magnetic Field Levels

Two residences are located within 100 feet of the Project.

Three loading conditions were examined: (1) Normal Maximum Loading, (2) Emergency Loading, and (3) Winter Normal Conductor Rating, consistent with the OPSB requirements. Normal Maximum Loading represents the peak flow expected with all system facilities in service; daily/hourly flows fluctuate below this level. Emergency loading is the maximum current flow during unusual (contingency) conditions, which exist only for short periods of time. Winter normal (WN) conductor rating represents the maximum current flow that a line, including its terminal equipment, can carry

during winter conditions. **It is not anticipated that this circuit of this line would operate at its WN rating in the foreseeable future.**

Electric and Magnetic Field (EMF) levels were computed one meter above ground under the line and at the ROW edges (75/75 feet, left/right, of centerline).

The Company's results were calculated using EPRI's EMF Workstation 2015 software and are summarized below.

Vassell – Green Chapel 345 kV					
Condition	**Phase Current (A)**	**Phasing Arrangements**	**Sag (feet)**	**Electric Field (kV/m)***	**Magnetic Field (mG)***
(1) Normal Max. Loading^	1313.56	A-B-C	31.0	(0.43/0.87/0.3)	(18.04/25.24/11.85)
(2) Emergency Line Loading^^	1901.65	A-B-C	44.9	(0.51/1.19/0.31)	(32.41/50.87/19.82)
(3) Winter Conductor Rating^^^	6623.10	A-B-C	31.0	(0.43/0.87/0.3)	(89.21/125.98/59.82)

*EMF levels (left ROW edge/maximum/right ROW edge) computed one meter above ground at the point of minimum ground clearance, assuming balanced phase currents and 1.0 P.U. Voltages. ROW width is 75 feet (left) and 75 feet (right) of centerline, respectively.

^Peak line flow expected with all system facilities in service.
^^Maximum flow during a critical system contingency
^^^Maximum continuous flow that the line, including its terminal equipment, can withstand during winter conditions.

For power-frequency EMF, IEEE Standard C95.6TM-2002 recommends the following limits:

	General Public	Controlled Environment
Electric Field Limit (kV/m)	5.0	20.0
Magnetic Field Limit (mG)	9040	27,100

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

B(9)(b)(ii) Design Alternatives

A discussion of the applicant's consideration of design alternatives with respect to electric and magnetic fields and their strength levels, including alternate conductor configuration and phasing, tower height, corridor location, and right-of-way width.

The Company did not consider design alternatives due to EMF and their strength levels. Transmission lines, when energized, generate EMF. Laboratory studies have failed to establish a strong correlation between exposure to EMF and effects on human health. However, some people are concerned that EMF has impacts on human health. Due to these concerns, EMF associated with the new circuits was calculated in the table above. The EMF was computed assuming the highest possible EMF values that could exist along the proposed transmission line. Normal daily EMF levels will operate below these maximum load conditions. Based on studies from the National Institutes of Health, the magnetic field (measured in milliGauss, or mG) associated with emergency loading at the highest EMF value for this transmission line, is lower than those associated with normal household appliances like microwaves, electric shavers and hair dryers. For additional information regarding EMF, the National Institute of Health has posted information on their website:

https://www.niehs.nih.gov/health/materials/electric_and_magnetic_fields_associated_with_the_use_of_electric_power_questions_and_answers_english_508.pdf

B(9)(b)(ii)(c) Project Cost

The estimated capital cost of the project.

The cost estimate for the proposed Project is comprised of applicable tangible and capital costs, is approximately $104.5 million using a Class 4 estimate. Pursuant to the PJM OATT, the costs for this

Project will be recovered in the AEP Ohio Transmission Company Inc.'s FERC formula rate (Attachment H-20 to the PJM OATT) and allocated to the AEP Zone.

B(10) Social and Ecological Impacts

The applicant shall describe the social and ecological impacts of the project:

B(10)(a) Operating Characteristics

Provide a brief, general description of land use within the vicinity of the proposed project, including a list of municipalities, townships, and counties affected.

The Project is located in Berkshire, Trenton, and Harlem Townships within Delaware County, Ohio and in Monroe and Jersey Townships within Licking County, Ohio. The northern portion of the Project is bounded by the City of Sunbury and the cities of Johnstown and New Albany are located in the southeastern portion of the Project area. Cultivated farmland is the dominant land use for the Project area, followed by residential development, as classified by the county auditors or identified during field review. According to plans acquired from local governments and agencies, suburban sprawl with mixed residential-commercial growth is anticipated north of New Albany and west of Johnstown, which is located near the proposed Green Chapel Station.

Residential areas are primarily clustered around US-62 near Fancher Road and Green Chapel Road, south of OH-37 near the existing Kammer – Dumont Transmission Line, and in the central portion of the Project. Additionally, the Miller Memorial United Methodist Church is located approximately 980 feet from the centerline of the Project at the intersection of Millers Church Road and US-62. There are no schools, parks, cemeteries, wildlife management areas, or nature preserve lands within 1,000 feet of the centerline of the Project.

B(10)(b) Agricultural Land Information

Provide the acreage and a general description of all agricultural land, and separately all agricultural district land, existing at least sixty days prior to submission of the application within the potential disturbance area of the project.

The Project occupies approximately 230 acres. Based on email correspondence with the Delaware County Auditor's office on December 18, 2023, no properties registered as agricultural district land are crossed by the Project. Based on email correspondence with the Licking County Auditor's office on October 8, 2023, three properties registered as agricultural district land are crossed by the Project. The Licking County Auditor confirmed that the existing list of parcels is current and accurate on January 17, 2024. Overall, the Project crosses a combined 20.3 acres of agricultural district land in Licking County. However, agricultural impacts will be minimized, as the proposed structures are monopoles which reduces the footprint and agricultural actives are a compatible and permitted use with a transmission right-of-way.

The Project occupies approximately 230 acres. Approximately 189 acres of the site has historically been used for row crop land and 13.7 acres has historically been used for pasture/hayfields.

Two (2) Ohio Department of Agriculture (ODA) conservation easements are located approximately 0.4 mile east of Center Village Road and Edwards Road (see Map 2 in Appendix A). However, the Project does not cross either of these (or any other) ODA conservation easements.

B(10)(c) Archaeological and Cultural Resources

Provide a description of the applicant's investigation concerning the presence or absence of significant archaeological or cultural resources that may be located within the potential disturbance area of the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.

The Company's consultant completed Phase I Archaeological and Phase I History/Architectural surveys, which involved subsurface testing and visual inspection for an area encompassing the Project. No previously unrecorded resources that were identified were considered as being landmarks or eligible for the National Register of Historic Places. As a result, the Company recommended to the SHPO that the Project would have no adverse effect on historic properties and no further cultural resource work would be necessary. In their response, dated January 8, 2024, SHPO supported the consultant's recommendations. See Appendix E.

B(10)(d) Local, State, and Federal Agency Correspondence

Provide a list of the local, state, and federal governmental agencies known to have requirements that must be met in connection with the construction of the project, and a list of documents that have been or are being filed with those agencies in connection with siting and constructing the project.

A Notice of Intent will be filed with the Ohio Environmental Protection Agency for authorization of construction stormwater discharges under General Permit OHC000006. The Company will also coordinate stormwater permitting needs with the appropriate local entities as required. The Company will implement and maintain best management practices (BMPs) as outlined in the Project-specific Storm Water Pollution Prevention Plan (SWPPP) to minimize erosion control sediment to protect surface water quality during storm events.

Wetland and stream delineation field surveys were completed within the Proposed Route's 150-foot-wide right-of-way (ROW) for the Project by the Company's consultant in June 2023 and between September to December 2023 (see Appendix F). The Company's consultant identified a total of four palustrine emergent (PEM) wetlands, 10 palustrine forested (PFO) wetlands, two PEM/PFO wetland complexes, and one palustrine scrub-shrub (PSS)/PFO wetland complex within the proposed 150-foot ROW. Additionally, 13 streams (six perennial streams, five intermittent streams, and two ephemeral streams) and one pond were identified within the proposed 150-foot ROW.

Ponds and streams are not anticipated to be disturbed by construction activities, as they will be spanned or the Company will install temporary timber matting above the Ordinary Highwater Mark (OWHM) to avoid permanent impacts. Based on preliminary engineering design, four structures are currently located within delineated PFO wetlands. Additionally, approximately 8.2 acres of ROW tree clearing will occur in delineated PFO wetlands.

It is anticipated that the Project will require a Clean Water Act (CWA) Section 404/401 Permit authorization via the United States Army Corps of Engineers (USACE) under a Nationwide Permit 57 and a Section 401 CWA Isolated Wetland Permit approval with the Ohio Environmental Protection Agency (OEPA). Therefore, the Company intends to obtain approvals from both the USACE and OEPA prior to the commencement of construction activities for the Project.

The FEMA Flood Insurance Rate Map (FIRM) was reviewed to identify any floodplains/flood hazard areas that have been mapped within the Project Area (specifically, map number 39089C0120H, 39089C0140H, and 39089C0139H). Based on this mapping, FEMA-designated 100-year floodplains associated with Duncan Run and Kiber Run are crossed by the proposed alignment; however, no proposed structures are planned to be located within the floodplain areas. Local floodplain permitting, if deemed necessary for the Project, will be coordinated with agencies of jurisdiction as applicable prior to construction.

B(10)(e) Threatened, Endangered, and Rare Species

Provide a description of the applicant's investigation concerning the presence or absence of federal and state designated species (including endangered species, threatened species, rare species, species proposed for listing, species under review for listing, and species of special interest) that may be located within the potential disturbance area of the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.

As part of the ecological study completed for the Project, a coordination letter was submitted to the United States Fish and Wildlife Service (USFWS) Ohio Ecological Services Field Office seeking technical assistance on the Project for potential impacts to threatened or endangered species. The September 11, 2023, response letter from the USFWS (see Appendix E) indicated that the federally endangered Indiana bat (*Myotis sodalis*) and northern long-eared bat (*My*otis *septentrionalis*) occur throughout the state of Ohio. The USFWS indicated that seasonal tree clearing would be required if suitable bat habitat trees were identified. Any tree clearing required for the Project will adhere to seasonal restrictions (March 31 through October 1); therefore, adverse impacts to protected bat species are not anticipated as a result of the Project. Due to the Project type, size, and location, USFWS does not anticipate adverse effects to any other federally endangered, threatened, proposed, or candidate species.

A coordination letter was submitted to the Ohio Department of Natural Resources (ODNR) Division of Wildlife (DOW) Ohio Natural Heritage Program (ONHP) and the ODNR - Office of Real Estate seeking an environmental review of the proposed Project for potential impacts on state listed and federally listed

threatened or endangered species. Correspondence from ODNR DOW/OHNP and the ODNR – Office of Real Estate was received on October 13, 2023 (See Appendix E).

According to the DOW, the Project is within the range of the state and federally endangered Indiana bat, the state and federally endangered northern long-eared bat, the state endangered little brown bat (*Myotis lucifugus*), and the state endangered tricolored bat (*Perimyotis subflavus*). Additionally, the DOW indicated that the southern portion of the Project is within the vicinity of records for the northern long-eared bat. Because of the presence of state endangered bat species established in the area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area.

Similar to the USFWS response, ODNR recommends cutting between October 1 and March 31 to avoid impacts to theses protected bat species. Based on a desktop survey for caves, mines, and other potential openings, no winter hibernacula were identified within 0.25 mile of the Project (See Appendix F). Approximately 25 acres of tree clearing are anticipated for the Project, which will occur within the seasonal restrictions. Therefore, no additional coordination with ODNR regarding bat species is required.

The ODNR-DOW indicated that the Project is within the range of five mussel species: the federally endangered rayed bean (*Villosa fabalis*), the federally endangered snuffbox (*Epioblasma triquetra*), the federally threatened rabbitsfoot (*Quadrula cylindrica cylindrica*), the state threatened salamander mussel (*Simpsonaias ambigua*), and the state threatened pondhorn (*Uniomerus tetralasmus*). No in-water work within a perennial stream is proposed for the Project; therefore, these species are not anticipated to be impacted by the Project.

In addition, the ODNR lists the Project in the range of the northern harrier (*Circus hudsonius*). The ODNR recommends that nesting habitats for the listed species be avoided during their nesting periods. The professional survey completed for avian resources concluded no suitable habitat was observed for the northern harrier in the Project area; therefore, no impacts to this bird species are anticipated.

B(10)(f) Areas of Ecological Concern

Provide a description of the applicant's investigation concerning the presence or absence of areas of ecological concern (including national and state forests and parks, floodplains, wetlands, designated or proposed wilderness areas, national and state wild and scenic rivers, wildlife areas, wildlife refuges, wildlife management areas, and wildlife sanctuaries) that may be located within the potential disturbance area of the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.

Within the proposed 150-foot ROW, the Company's consultant has identified four PEM wetlands, 10 PFO wetlands, two PEM/PFO wetland complexes, and one PSS/PFO wetland complex within the proposed ROW. Four preliminary structure locations are within a PFO delineated wetland.

Within the proposed 150-foot ROW, the Company's consultant has identified 13 streams (two ephemeral streams, five intermittent streams, and six perennial streams) and one pond. No preliminary structure locations are within a delineated stream or pond. Approximately 25 acres of ROW tree clearing is anticipated for the Project, of which, 8.2 acres occurs in delineated PFO wetlands.

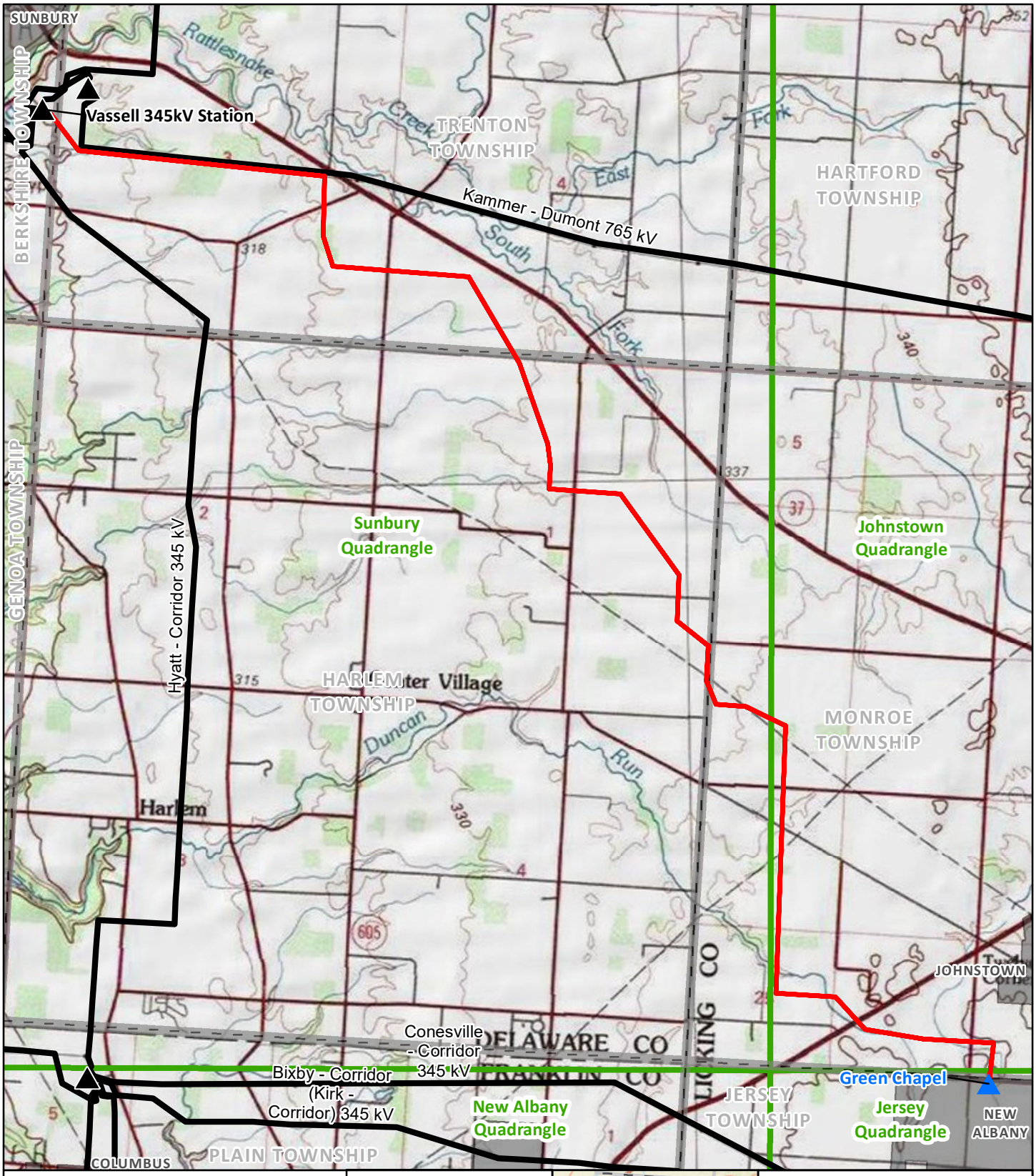
Based on a review of the Protected Areas Database of the United States as well as the Conservation Easement Database, there are no state or national parks, forests, or wildlife areas within the vicinity of the Project.

B(10)(g) Unusual Conditions

Provide any known additional information that will describe any unusual conditions resulting in significant environmental, social, health, or safety impacts.

To the best of the Company's knowledge, no unusual conditions exist that would result in significant environmental, social, health, or safety impacts.

Appendix A Project Maps



Proposed AEP Substation

Existing AEP Substation

Proposed Vassell - Green Chapel 345kV Transmission Line

Municipality

Township Boundary

USGS 7.5' Topographic Quad Boundary

Sources: USGS (2021)

StatePlane Ohio North NAD 83

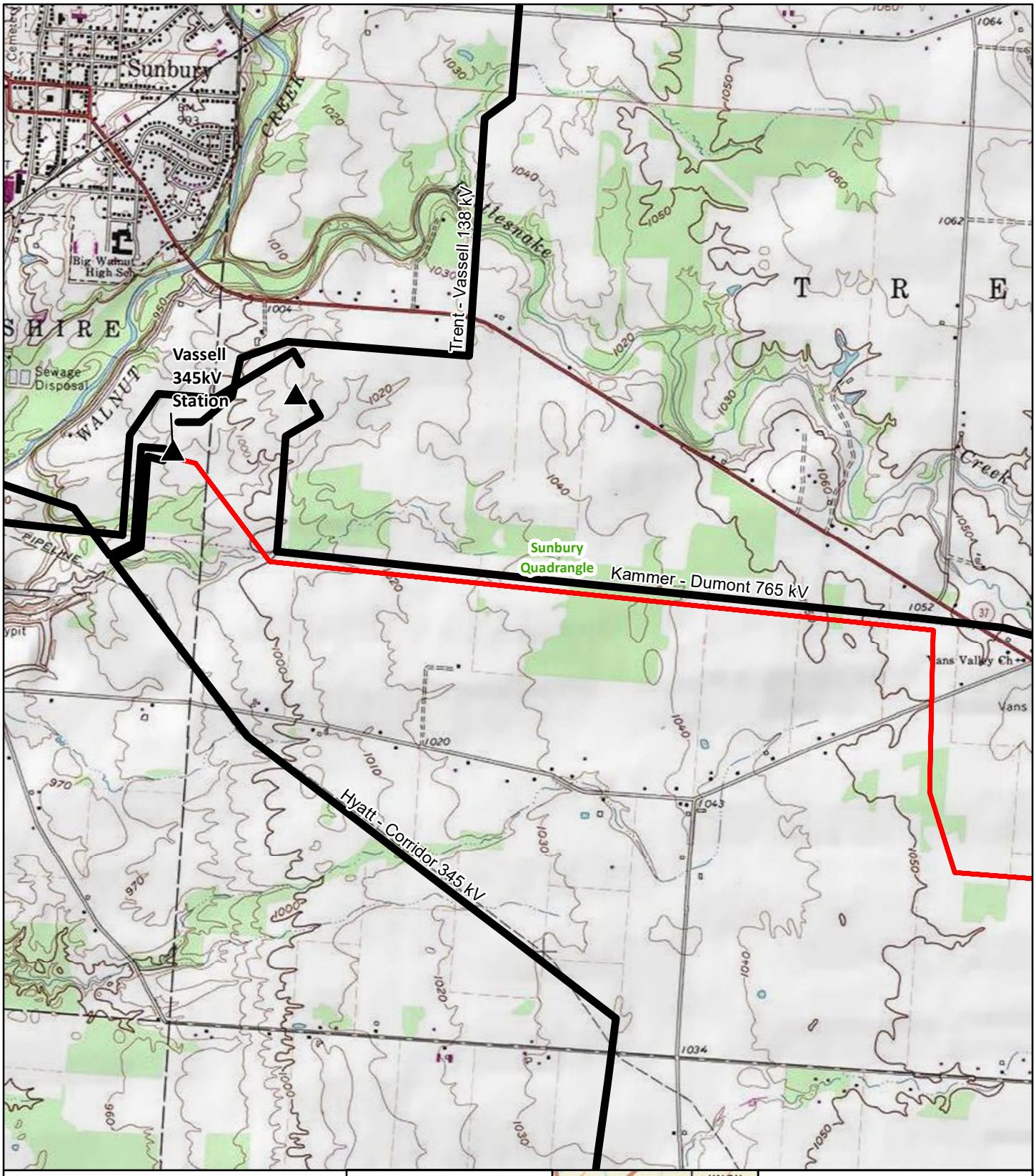
January 09, 2024

Map 1
Project Overview

AEP OHIO

Vassell - Green Chapel 345 kV Transmission Line Project

0 0.5 1 1.5
Miles



Existing AEP Substation

Proposed Vassell - Green Chapel 345kV Transmission Line

Existing AEP Transmission Line

USGS 7.5' Topographic Quad Boundary

Sources:
USGS (2021)

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StatePlane
Ohio North
NAD 83

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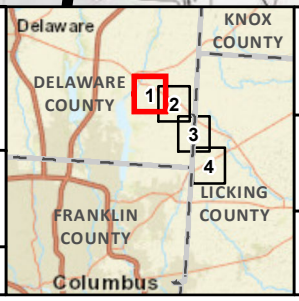
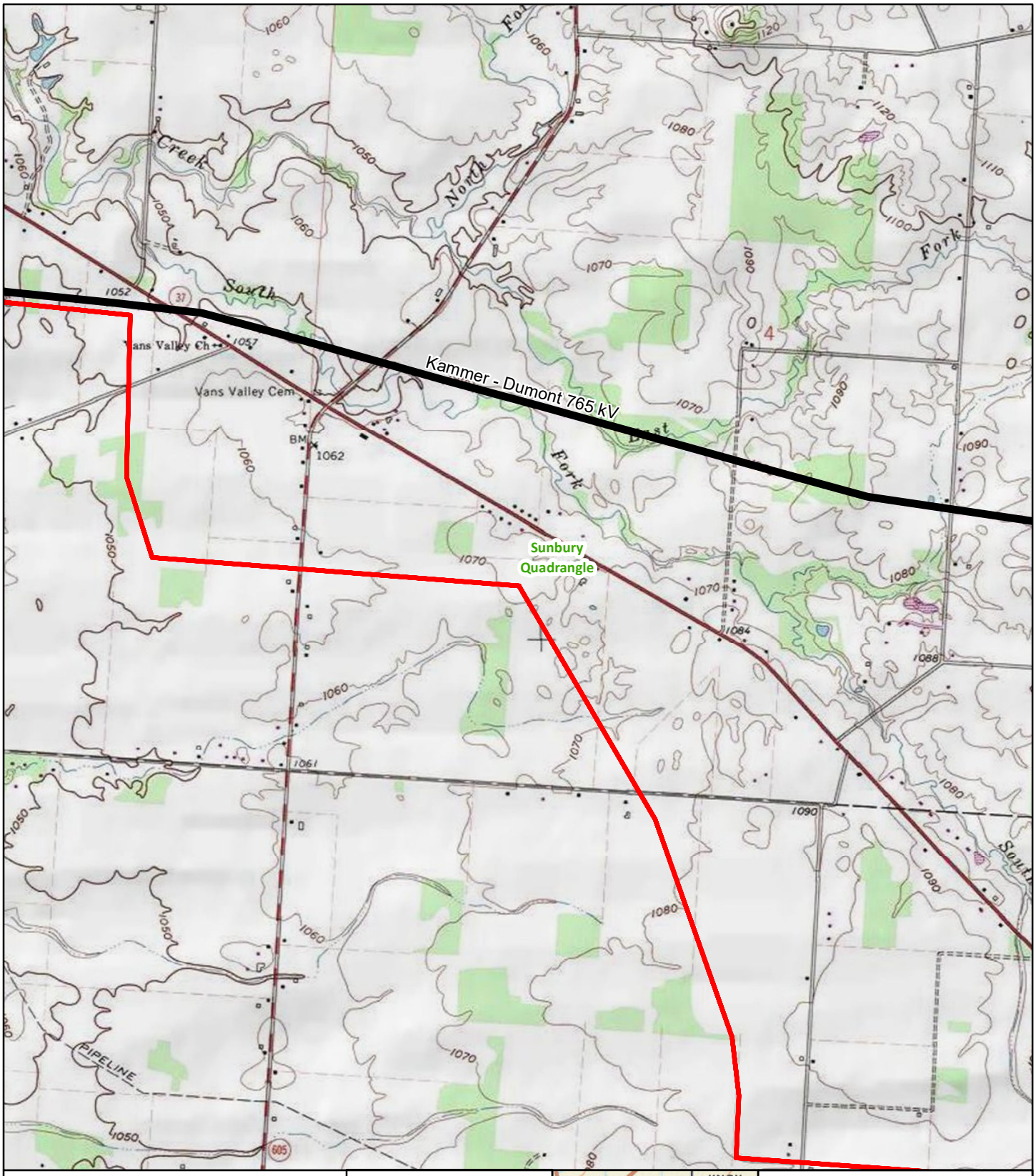


Map 2
Project Area

Vassell - Green Chapel 345 kV Transmission Line Project

0 1,000 2,000
Feet



Proposed Vassell - Green Chapel 345kV Transmission Line

Existing AEP Transmission Line

USGS 7.5' Topographic Quad Boundary

Sources:
USGS (2021)

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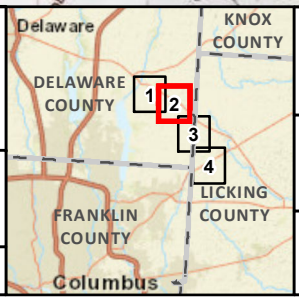
StatePlane
Ohio North
NAD 83

January 09, 2024

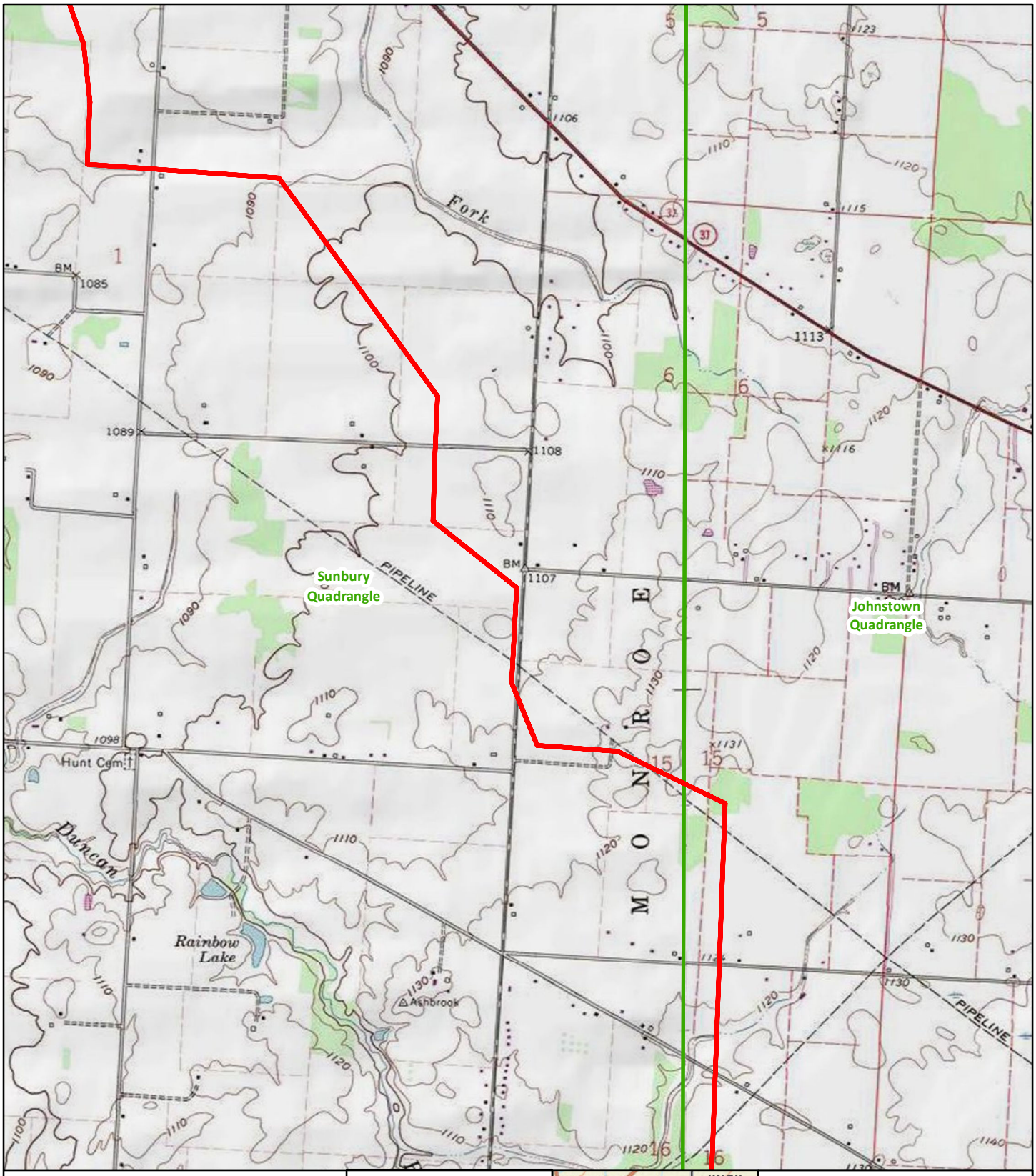


Map 2
Project Area

AEP OHIO

Vassell - Green Chapel 345 kV Transmission Line Project

0 1,000 2,000
Feet



Proposed Vassell - Green Chapel 345kV Transmission Line

USGS 7.5' Topographic Quad Boundary

Sources:
USGS (2021)

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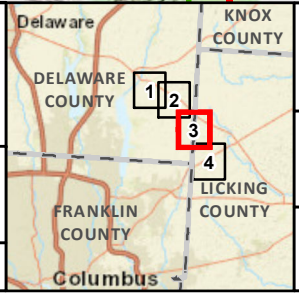
StatePlane
Ohio North
NAD 83

January 09, 2024

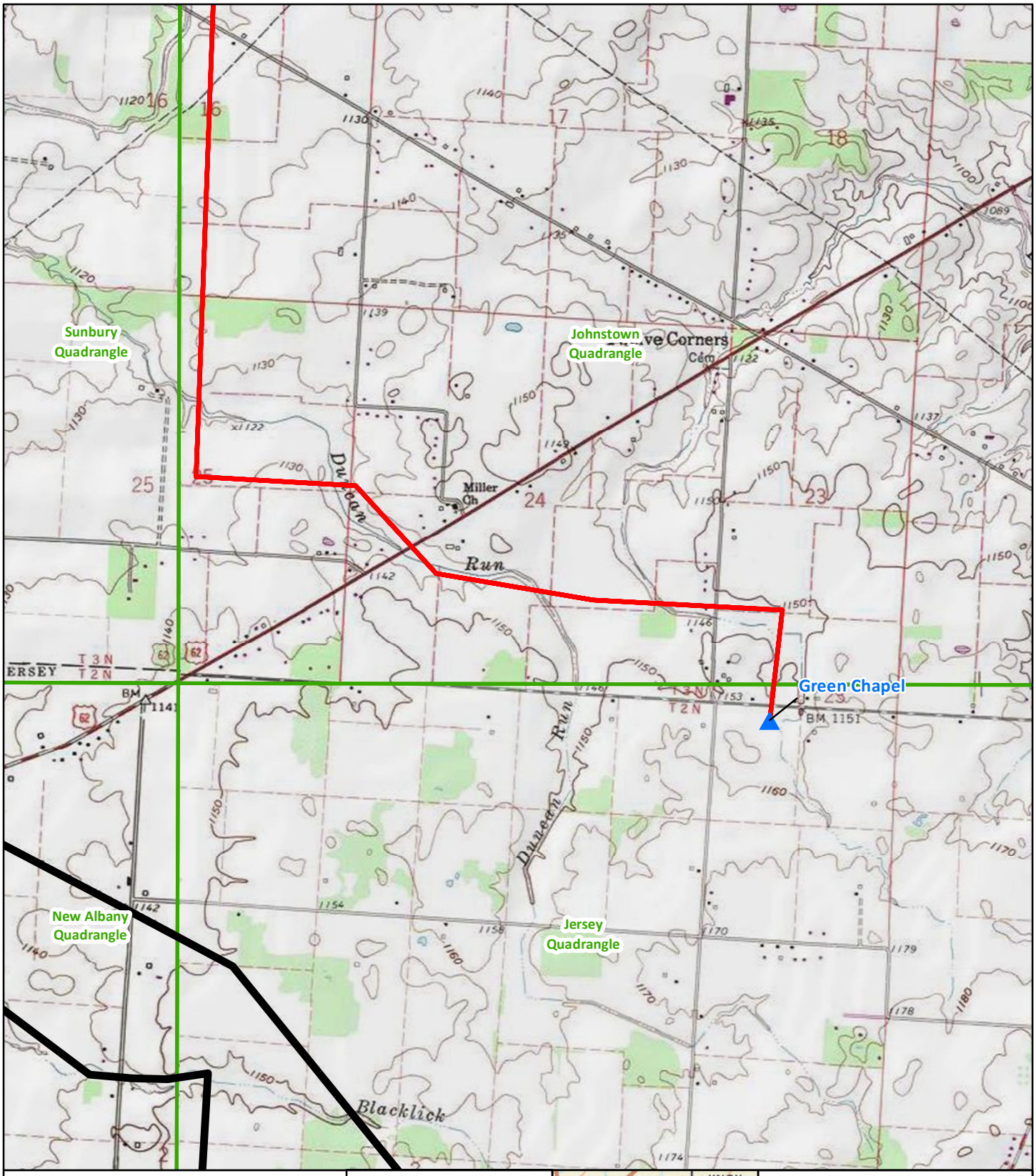


Map 2
Project Area

AEP OHIO

Vassell - Green Chapel 345 kV Transmission Line Project

0 1,000 2,000
Feet



Proposed AEP Substation

Proposed Vassell - Green Chapel 345kV Transmission Line

Existing AEP Transmission Line

USGS 7.5' Topographic Quad Boundary

Sources:
USGS (2021)

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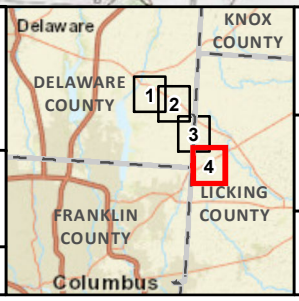
StatePlane
Ohio North
NAD 83

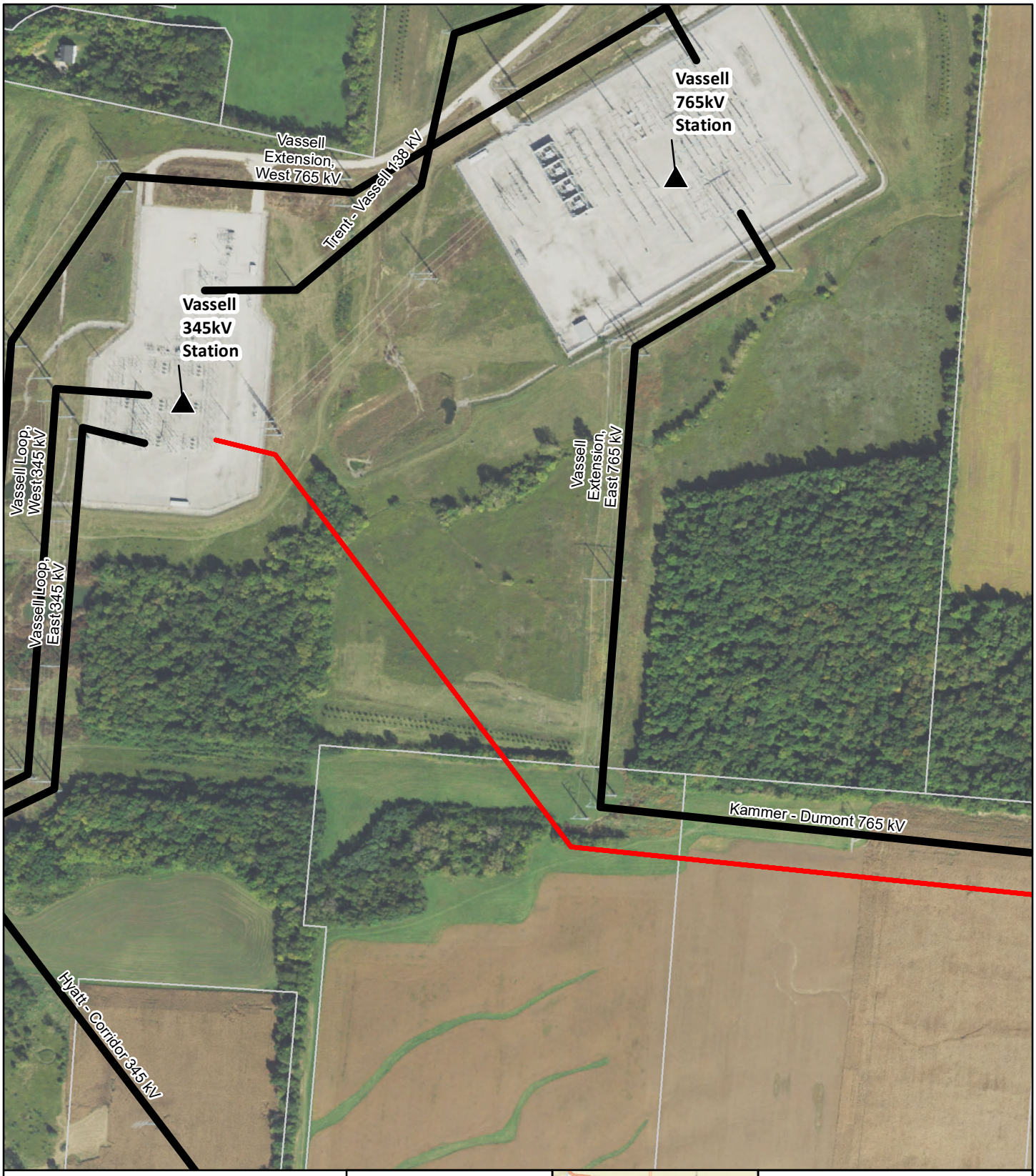
January 09, 2024



Map 2
Project Area

Vassell - Green Chapel 345 kV Transmission Line Project

0 1,000 2,000
Feet



▲ Existing AEP Substation

Proposed Vassell - Green Chapel 345kV Transmission Line

Existing AEP Transmission Line

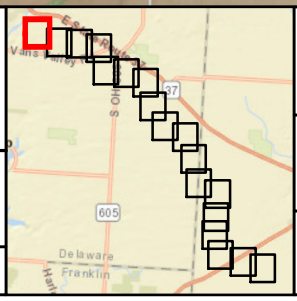
Parcel Boundary

Sources:
NAIP Imagery (USDA 2022)

Page 1 of 18

StatePlane
Ohio South
NAD 83

January 09, 2024



Map 3
Aerial Map

AEP OHIO
An AEP Company

Vassell - Green Chapel 345 kV Transmission Line Project

0 250 500 750
Feet

Proposed Vassell - Green Chapel 345kV Transmission Line

Existing AEP Transmission Line

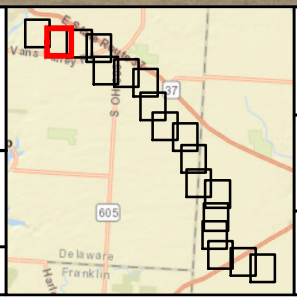
Parcel Boundary

Sources:
NAIP Imagery (USDA 2022)

Page 2 of 18

StatePlane
Ohio South
NAD 83

January 09, 2024



Map 3
Aerial Map

AEP OHIO
An AEP Company

Vassell - Green Chapel 345 kV Transmission Line Project

0 250 500 750
Feet

Proposed Vassell - Green Chapel 345kV Transmission Line

Existing AEP Transmission Line

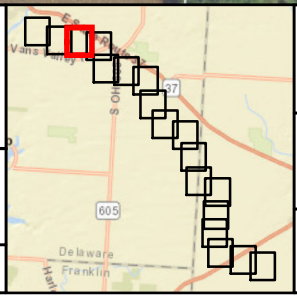
Parcel Boundary

Sources:
NAIP Imagery (USDA 2022)

Page 3 of 18

StatePlane
Ohio South
NAD 83

January 09, 2024

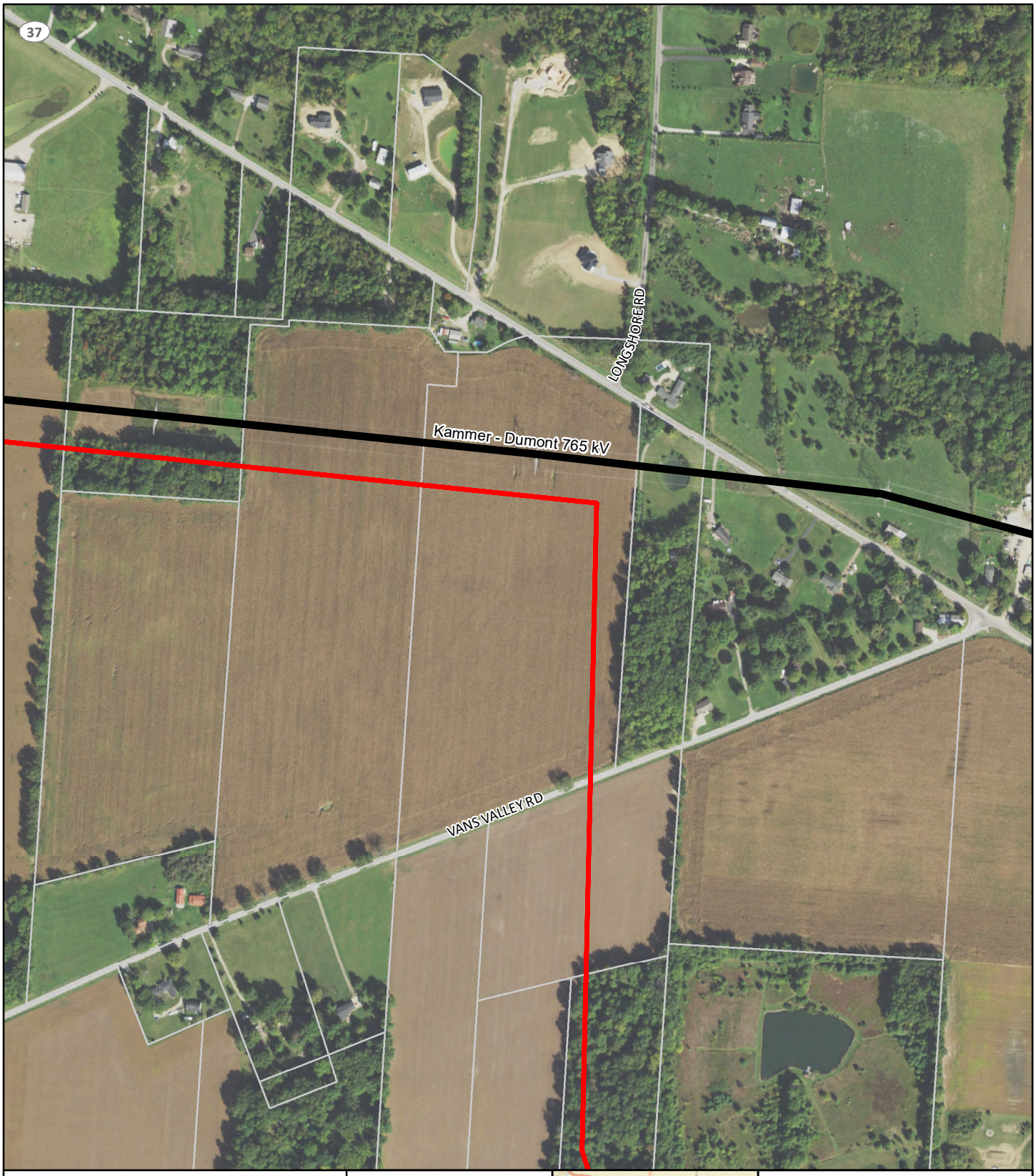


Map 3
Aerial Map

AEP OHIO
An AEP Company

Vassell - Green Chapel 345 kV Transmission Line Project

0 250 500 750
Feet



Proposed Vassell - Green Chapel 345kV Transmission Line

Existing AEP Transmission Line

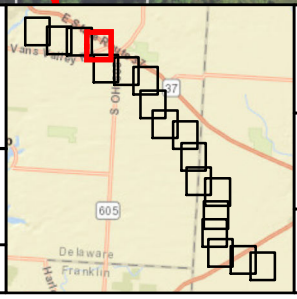
Parcel Boundary

Sources:
NAIP Imagery (USDA 2022)

Page 4 of 18

StatePlane
Ohio South
NAD 83

January 09, 2024



Map 3
Aerial Map

AEP OHIO
An AEP Company

Vassell - Green Chapel 345 kV Transmission Line Project

0 250 500 750
Feet

Proposed Vassell - Green Chapel 345kV Transmission Line

Parcel Boundary

Sources:
NAIP Imagery (USDA 2022)

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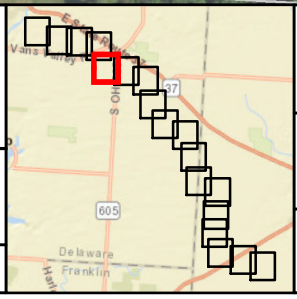
StatePlane
Ohio South
NAD 83

January 09, 2024



Map 3
Aerial Map

AEP OHIO
An AEP Company

Vassell - Green Chapel 345 kV Transmission Line Project

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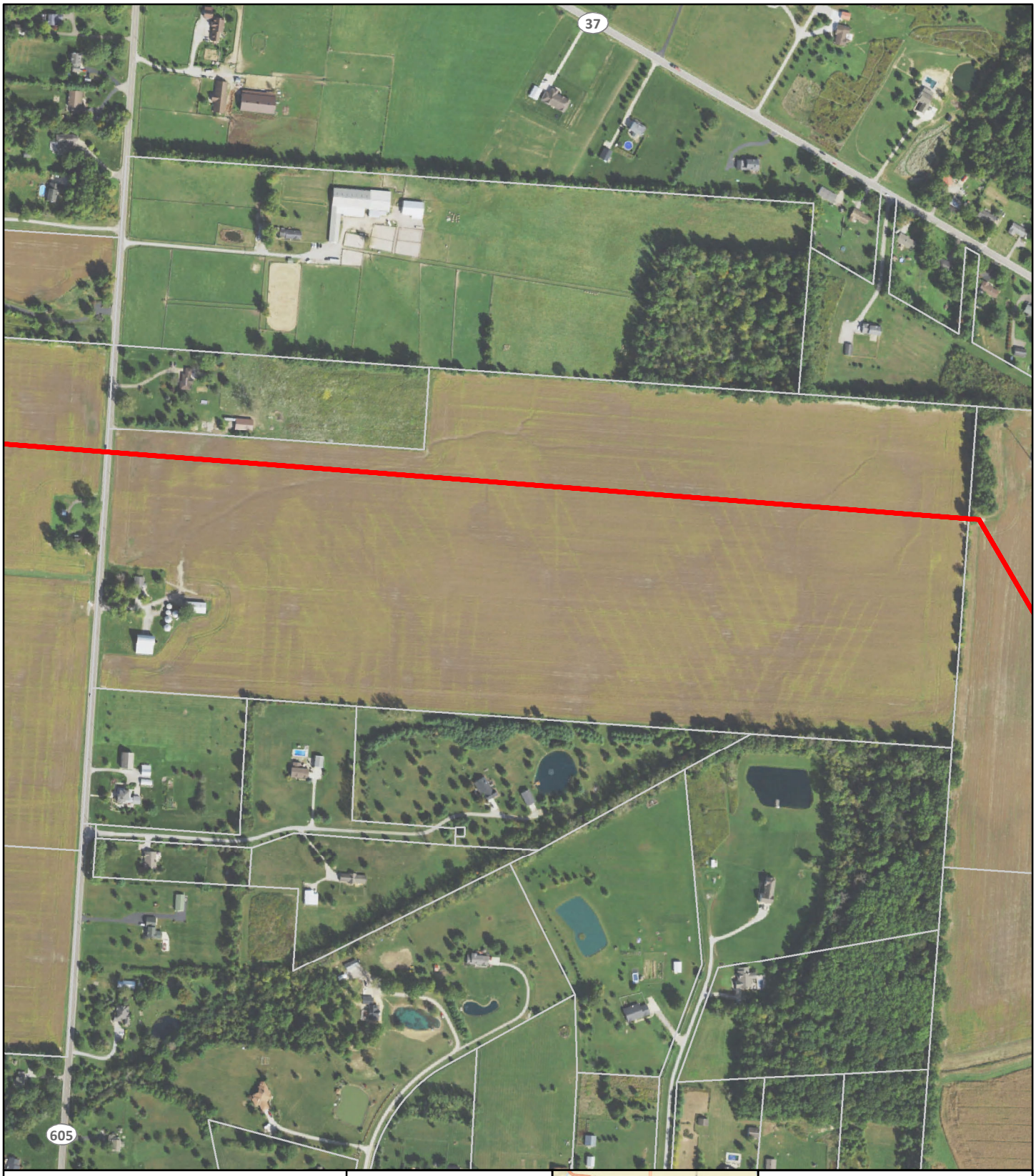
Feet



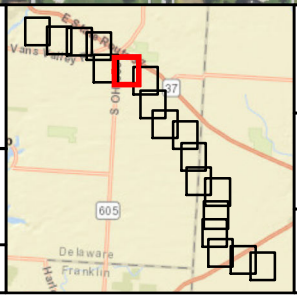
Proposed Vassell - Green Chapel 345kV Transmission Line

Parcel Boundary

Sources:
NAIP Imagery (USDA 2022)

StatePlane
Ohio South
NAD 83

January 09, 2024



Map 3
Aerial Map

AEP OHIO
An AEP Company

Vassell - Green Chapel 345 kV Transmission Line Project

0 250 500 750
Feet

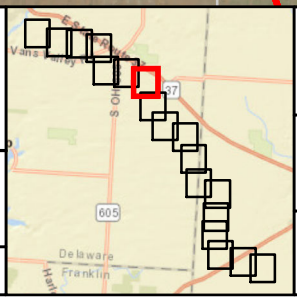
Proposed Vassell - Green Chapel 345kV Transmission Line

Parcel Boundary

Sources:
NAIP Imagery (USDA 2022)

StatePlane
Ohio South
NAD 83

January 09, 2024



Map 3
Aerial Map

AEP OHIO
An AEP Company

Vassell - Green Chapel 345 kV Transmission Line Project

0 250 500 750
Feet

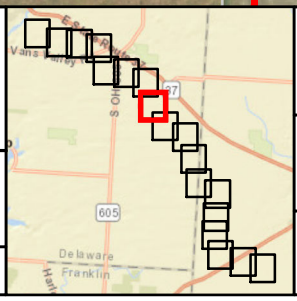
Proposed Vassell - Green Chapel 345kV Transmission Line

Parcel Boundary

Sources:
NAIP Imagery (USDA 2022)

StatePlane
Ohio South
NAD 83

January 09, 2024



Map 3
Aerial Map

AEP OHIO
An AEP Company

Vassell - Green Chapel 345 kV Transmission Line Project

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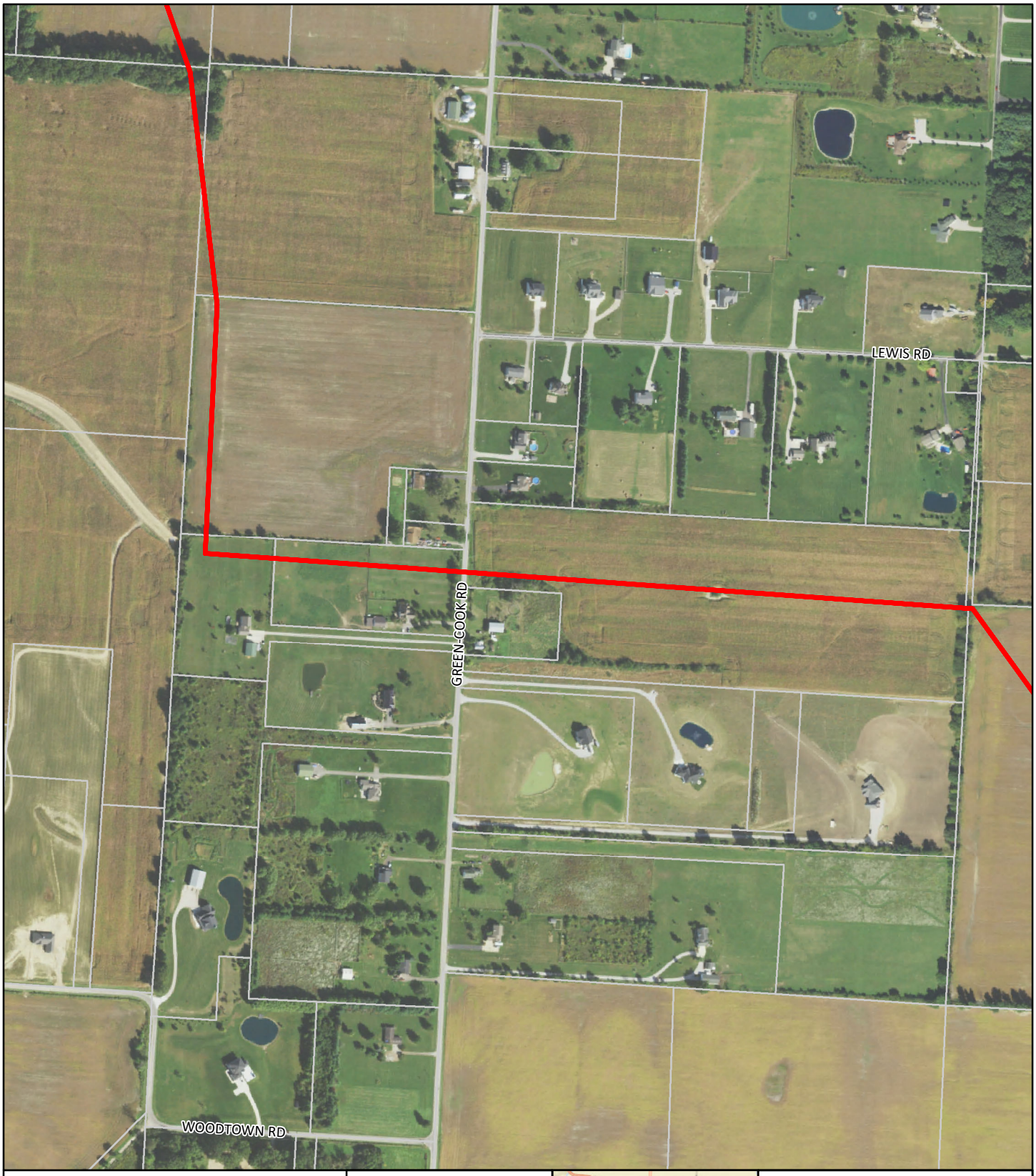
Feet



Proposed Vassell - Green Chapel 345kV Transmission Line

Parcel Boundary

Sources:
NAIP Imagery (USDA 2022)

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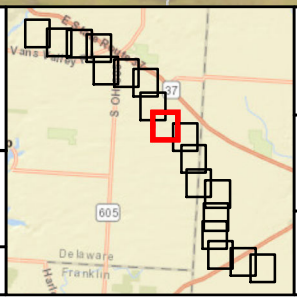
StatePlane
Ohio South
NAD 83

January 09, 2024



Map 3
Aerial Map

AEP OHIO
An AEP Company

Vassell - Green Chapel 345 kV Transmission Line Project

0 250 500 750
Feet

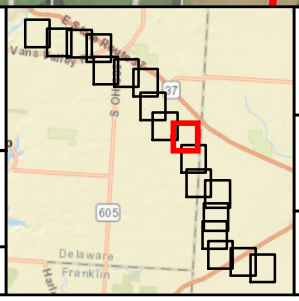
Proposed Vassell - Green Chapel 345kV Transmission Line

Parcel Boundary

Sources:
NAIP Imagery (USDA 2022)

StatePlane
Ohio South
NAD 83

January 09, 2024



Map 3
Aerial Map

AEP OHIO
An AEP Company

Vassell - Green Chapel 345 kV Transmission Line Project

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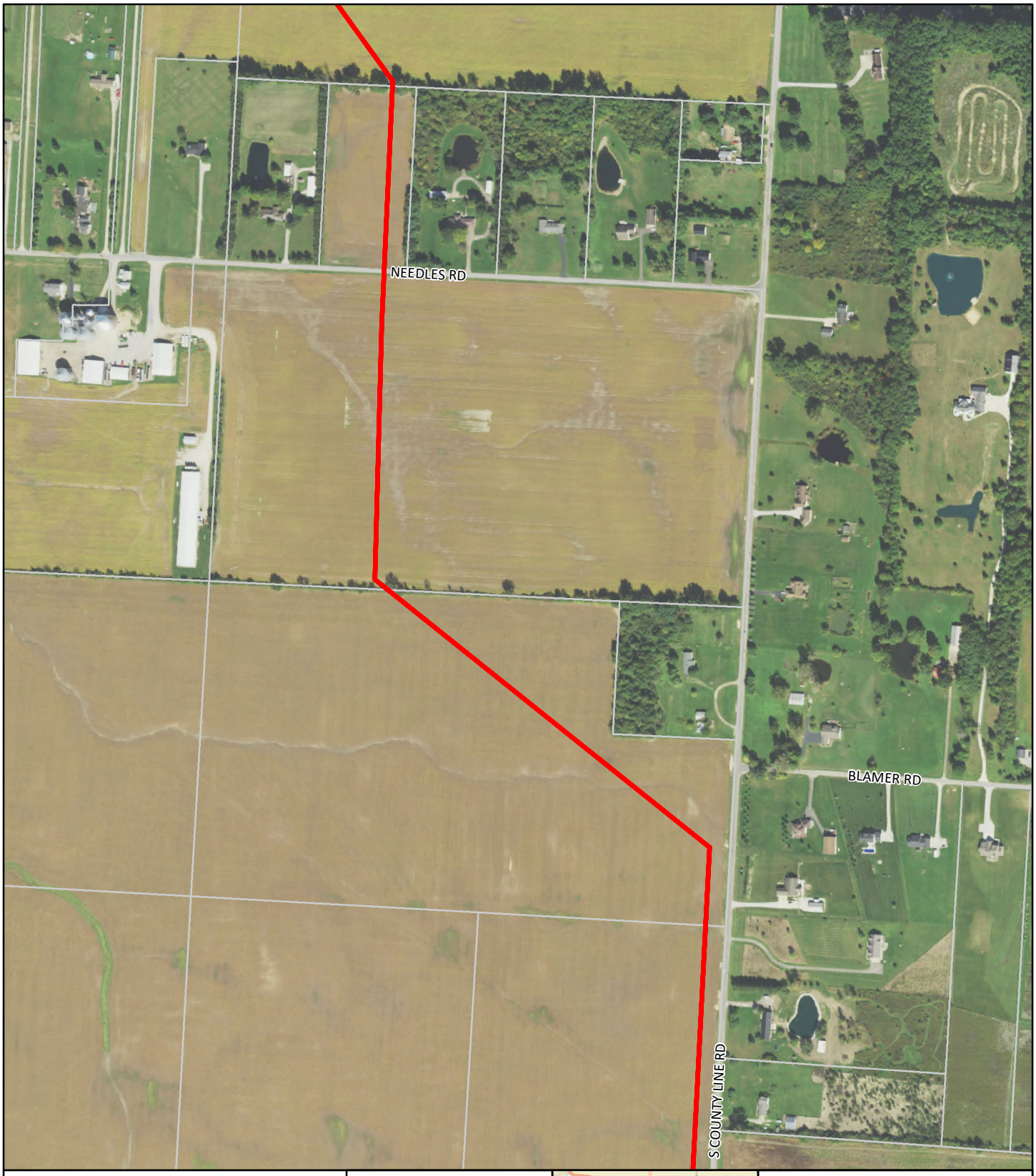
Feet



Proposed Vassell - Green Chapel 345kV Transmission Line

Parcel Boundary

Sources:
NAIP Imagery (USDA 2022)

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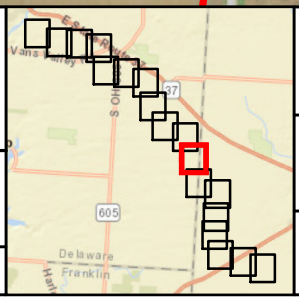
StatePlane
Ohio South
NAD 83

January 09, 2024



Map 3
Aerial Map

AEP OHIO
An AEP Company

Vassell - Green Chapel 345 kV Transmission Line Project

0 250 500 750
Feet

Proposed Vassell - Green Chapel 345kV Transmission Line

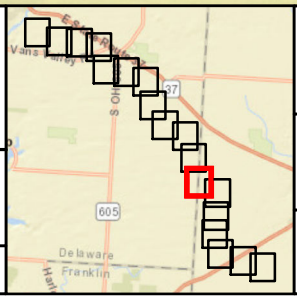
Agricultural District Parcel

Parcel Boundary

Sources:
NAIP Imagery (USDA 2022)

StatePlane
Ohio South
NAD 83

January 09, 2024



Map 3
Aerial Map

AEP OHIO
An AEP Company

Vassell - Green Chapel 345 kV Transmission Line Project

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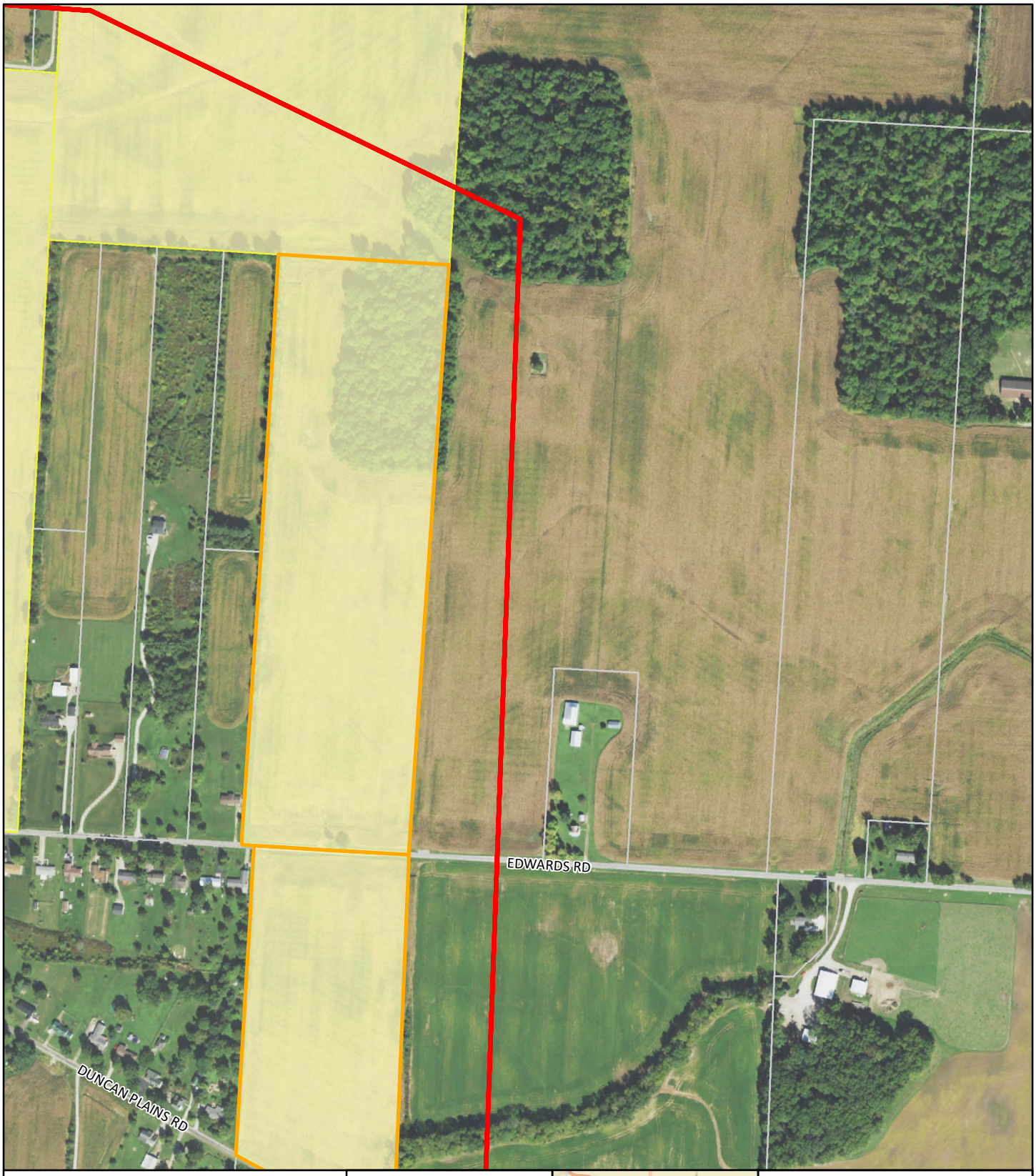
Feet



Proposed Vassell - Green Chapel 345kV Transmission Line

ODA Conservation Easement

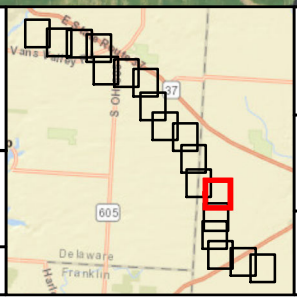
Agricultural District Parcel

Parcel Boundary

Sources:
NAIP Imagery (USDA 2022)

StatePlane
Ohio South
NAD 83

January 09, 2024

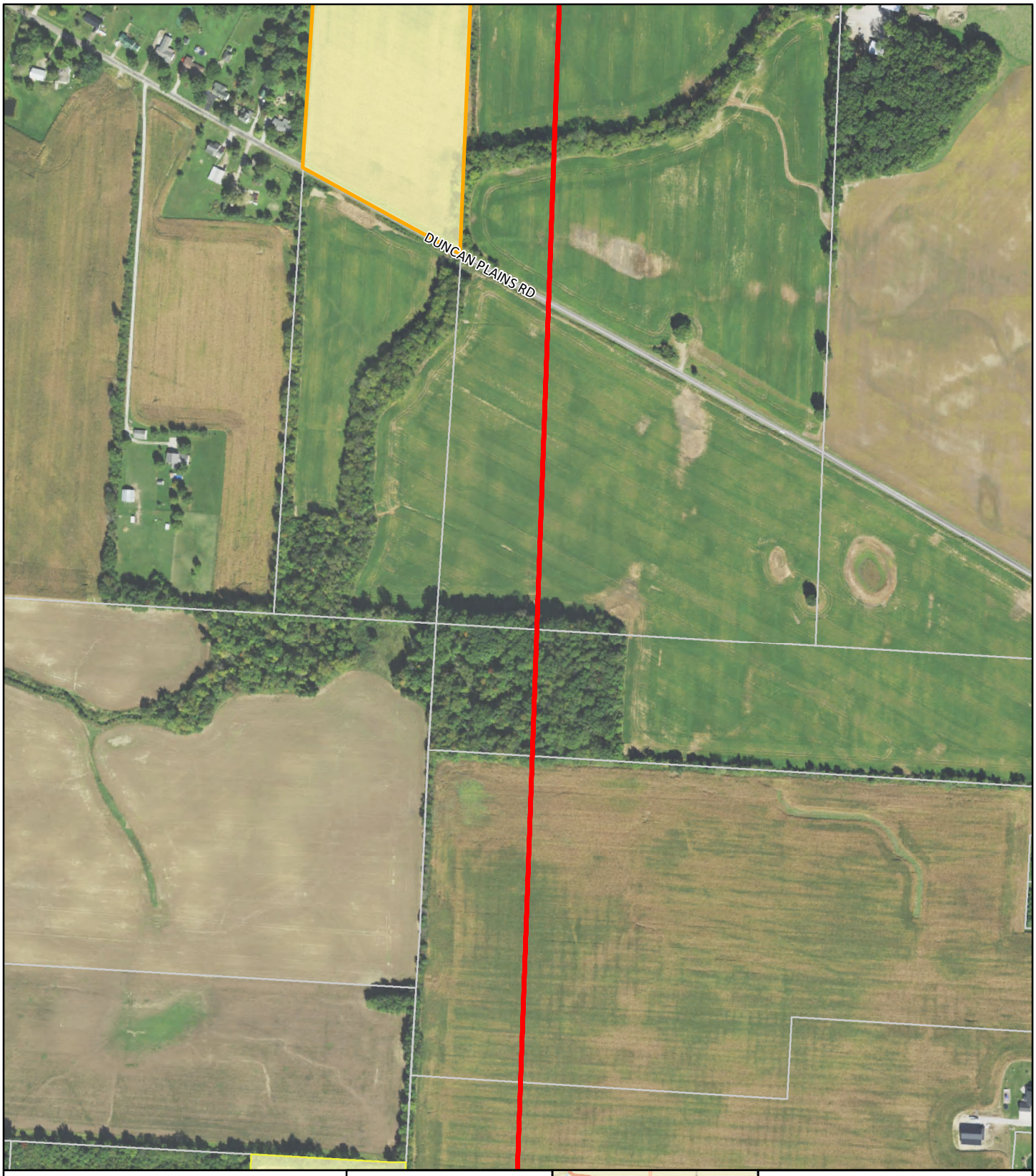


Map 3
Aerial Map

AEP OHIO
An AEP Company

Vassell - Green Chapel 345 kV Transmission Line Project

0 250 500 750
Feet



Proposed Vassell - Green Chapel 345kV Transmission Line

ODA Conservation Easement

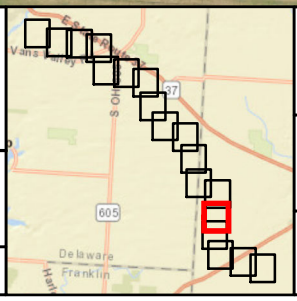
Agricultural District Parcel

Parcel Boundary

Sources:
NAIP Imagery (USDA 2022)

StatePlane
Ohio South
NAD 83

January 09, 2024



Map 3
Aerial Map

AEP OHIO
An AEP Company

Vassell - Green Chapel 345 kV Transmission Line Project

0 250 500 750
Feet

Proposed Vassell - Green Chapel 345kV Transmission Line

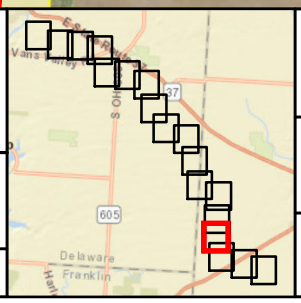
Agricultural District Parcel

Parcel Boundary

Sources:
NAIP Imagery (USDA 2022)

StatePlane
Ohio South
NAD 83

January 09, 2024



Map 3
Aerial Map

AEP OHIO
An AEP Company

Vassell - Green Chapel 345 kV Transmission Line Project

0 250 500 750
Feet

Proposed Vassell - Green Chapel 345kV Transmission Line

Agricultural District Parcel

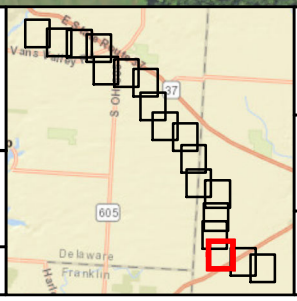
Parcel Boundary

Sources:
NAIP Imagery (USDA 2022)

Page 16 of 18

StatePlane
Ohio South
NAD 83

January 09, 2024

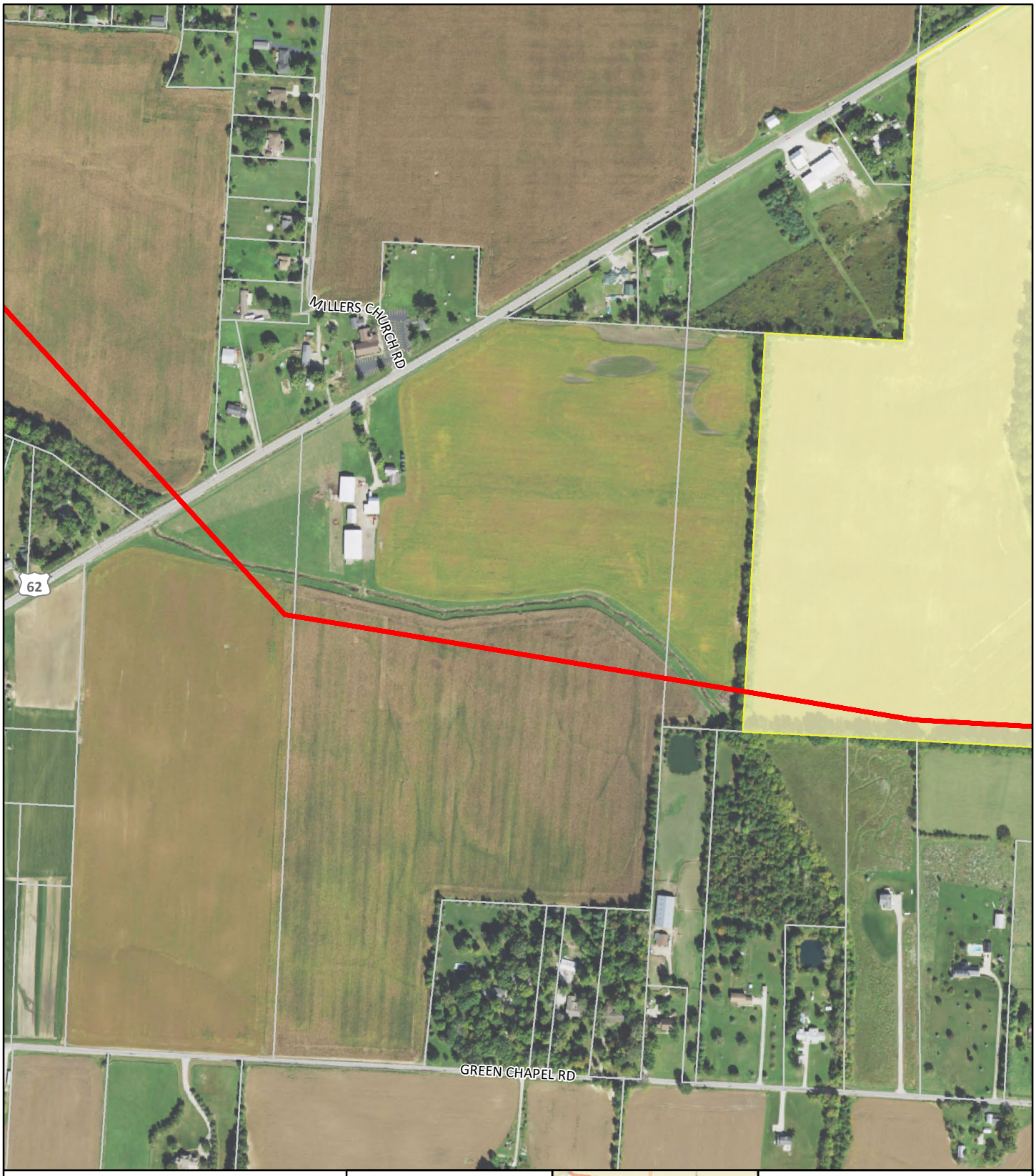


Map 3
Aerial Map

AEP OHIO
An AEP Company

Vassell - Green Chapel 345 kV Transmission Line Project

0 250 500 750
Feet



Proposed Vassell - Green Chapel 345kV Transmission Line

Agricultural District Parcel

Parcel Boundary

Sources:
NAIP Imagery (USDA 2022)

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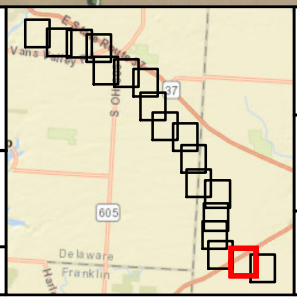
StatePlane
Ohio South
NAD 83

January 09, 2024

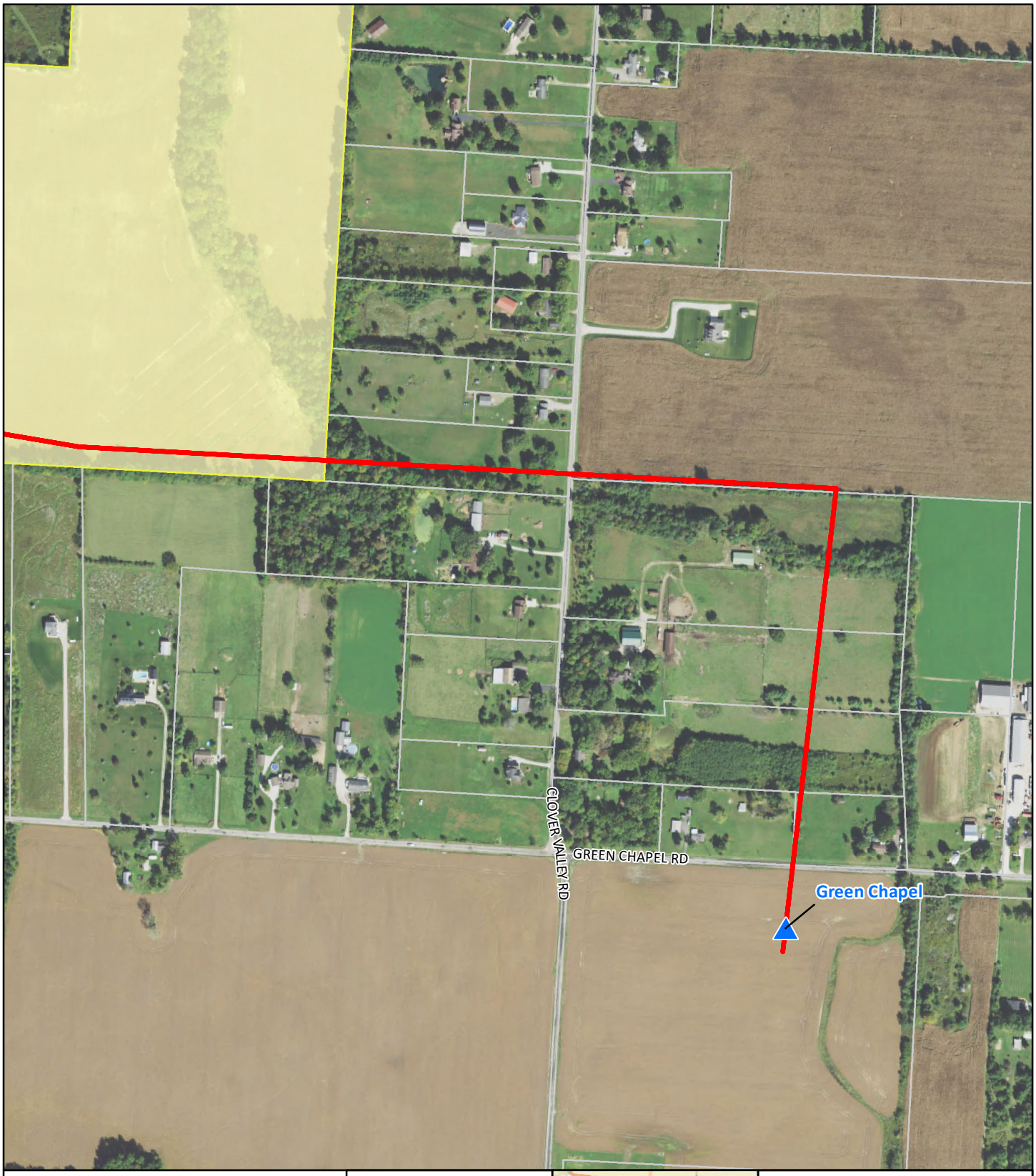


Map 3
Aerial Map

AEP OHIO
An AEP Company

Vassell - Green Chapel 345 kV Transmission Line Project

0 250 500 750
Feet



Proposed AEP Substation

Proposed Vassell - Green Chapel 345kV Transmission Line

Agricultural District Parcel

Parcel Boundary

Sources:
NAIP Imagery (USDA 2022)

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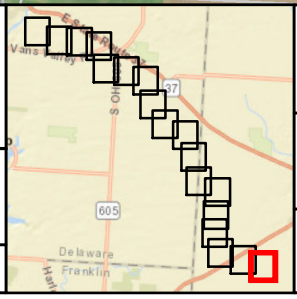
StatePlane
Ohio South
NAD 83

January 09, 2024

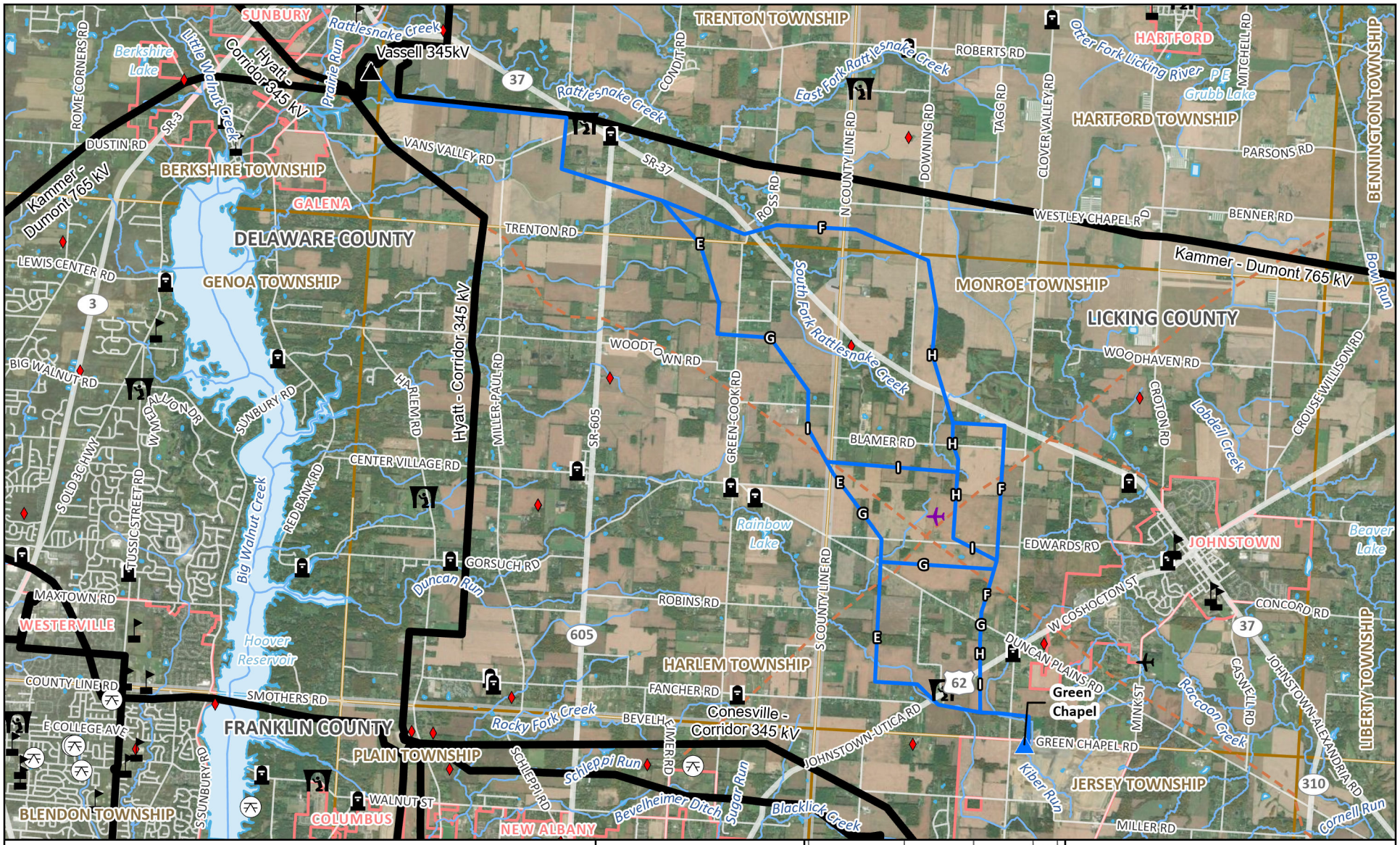


Map 3
Aerial Map

AEP OHIO
An AEP Company

Vassell - Green Chapel 345 kV Transmission Line Project

0 250 500 750
Feet


SUNBURY
Rattlesnake Creek
Vassell 345kV
Hyatt - Corridor 345 kV
Little Walnut Creek
Prairie Run
Berkshire Lake
TRENTON TOWNSHIP
HARTFORD
Otter Fork Licking River
Grubb Lake
HARTFORD TOWNSHIP
East Fork Rattlesnake Creek
ROBERTS RD
CONDIT RD
ROME CORNERS RD
DUSTIN RD
SR-3
BERKSHIRE TOWNSHIP
GALENA
VANS VALLEY RD
SR-37
Kammer - Dumont 765 kV
DELAWARE COUNTY
GENOA TOWNSHIP
TRENTON RD
ROSS RD
N COUNTY LINE RD
DOWNING RD
TAGG RD
CLOVER VALLEY RD
MITCHELL RD
BENNINGTON TOWNSHIP
PARSONS RD
WESTLEY CHAPEL RD
BENNER RD
MONROE TOWNSHIP
LICKING COUNTY
Bow Run
LEWIS CENTER RD
South Fork Rattlesnake Creek
WOODTOWN RD
WOODHAVEN RD
CROTON RD
CROUSE WILLISON RD
Lobdell Creek
BIG WALNUT RD
SUNBURY RD
HARLEM RD
MILLER-PAUL RD
SR-605
GREEN-COOK RD
BLAMER RD
CENTER VILLAGE RD
RED BANK RD
Big Walnut Creek
Rainbow Lake
EDWARDS RD
JOHNSTOWN
Beaver Lake
GORSUCH RD
Duncan Run
ROBINS RD
W COSHOCTON ST
CONCORD RD
MAXTOWN RD
WESTERVILLE
Hoover Reservoir
605
HARLEM TOWNSHIP
S COUNTY LINE RD
DUNCAN PLAINS RD
62
Green Chapel
COUNTY LINE RD
SMOTHERS RD
FANCHER RD
Rocky Fork Creek
BEVELHEIMER RD
Conesville - Corridor 345 kV
JOHNSTOWN-UTICA RD
GREEN CHAPEL RD
MINK ST
Raccoon Creek
CASWELL RD
JOHNSTOWN-ALEXANDRIA RD
LIBERTY TOWNSHIP
E COLLEGE AVE
FRANKLIN COUNTY
PLAIN TOWNSHIP
SCHLEPPI RD
Schleppi Run
Kiber Run
JERSEY TOWNSHIP
310
S SUNBURY RD
WALNUT ST
BLENDON TOWNSHIP
COLUMBUS
NEW ALBANY
Bevelheimer Ditch
Sugar Run
Blacklick Creek
MILLER RD
Cornell Run
Proposed Substation
Existing Substation
FAA Private Airstrip
Airport
Cemetery
Place of Worship
Hospital
Park
School
FCC Communications Tower
Vassell - Green Chapel Alternative Route
Existing Transmission Line
Existing Pipeline
NHD Stream or River
NHD Waterbody
Municipal Boundary
Township Boundary
County Boundary
Data Sources:
FCC 2021,
ESRI 2013 & 2021,
NAIP 2021, ODOT 2021,
USGS 2013 & 2021.
State Plane
Ohio North
NAD 83
January 09, 2024
Marion County
Morrow County
Knox County
Union County
Delaware County
Licking County
Madison County
Franklin County
Columbus
Fairfield County
Perry County
Map 4
Alternative Routes
AEP OHIO TRANSMISSION COMPANY
Vassell - Green Chapel 345 kV
Transmission Line Project
0
0.75
1.5
2.25
3
Miles

Appendix B PJM Solution

New Albany Area

- AEP is experiencing significant load growth in the New Albany area.
- As a result of the land development in this region, new easements and rights-of-way are becoming increasingly difficult and costly to obtain.
- In anticipation of this continual and future growth, AEP is planning to acquire ROW options/easements for two corridors in this area to facilitate any required future infrastructure development.

AEP Transmission Zone M-3 Process
Central/NW OH, Indiana.

Process Stage: Solutions Meeting 5/9/2023, 12/5/2023

Reason for review:

In March 2023, AEP informed stakeholders of its intent to acquire ROW for two 345 kV transmission lines to New Albany in recognition of the interest AEP has received in the area. AEP is now coming back to recommend the supplemental build of these lines to address the amount of load that has signed an LOA. PJM has confirmed in its DNH analysis that these lines do not cause other issues and address the build out of the loads in the area.

AEP Transmission Zone M-3 Process
Central/NW OH, Indiana.

Need Number: AEP-2022-OH023, AEP-2022-OH034, AEP-2022-OH036, AEP-2022-OH045, AEP-2022-OH046, AEP-2022-OH075, AEP-2022-OH077, AEP-2023-OH016, AEP-2023-OH019, AEP-2023-OH032, AEP-2023-OH040, AEP-2023-OH044, AEP-2023-OH052, AEP-2023-OH063

Process Stage: Solutions Meeting 5/9/2023, 12/5/2023

Proposed Solution (continued):

The following components are system reinforcements that were initially identified by AEP and later confirmed by PJM through their DNH analysis:

- **Vassell – Green Chapel 345 kV line:** Install approximately 12.5-mile long 345 kV transmission between Vassell and Green Chapel stations to mitigate overloading on multiple transmission facilities including other 345 kV transmission lines and 345-138 kV transformers. Cost: **$75.0 M**
- **Vassell – Curleys 345 kV line:** Install approximately 12.5-mile long 345 kV transmission between Vassell and Curleys stations to mitigate overloading on multiple transmission facilities including other 345 kV transmission lines and 345-138 kV transformers. Cost: **$75.0 M**
- **Vassell 765 & 345 kV stations: A**dd 3-345 kV breakers to connect new lines to Curleys and Green Chapel. Cost: **$10 M**
- **Green Chapel 345/138 kV station:** Install two 675 MVA, 345/138 kV transformers to connect the new Vassell – Green Chapel 345 kV line to 138 kV system and to mitigate overloading on the other 345/138 kV transformers in the system. Cost: **$39.2 M**

System Upgrades: $199.2 M