AEP OHIO TRANSMISSION COMPANY

An AEP Company

BOUNDLESS ENERGY

Application for Amendment to the

GROVES ROAD - SHANNON 138 kV TRANSMISSION LINE PROJECT

OPSB CASE NO. 25-0255-EL-BTA

Submitted pursuant to O.A.C. 4906-5

AEP Ohio Transmission Company, Inc.

April 2025

BEFORE THE OHIO POWER SITING BOARD

Application for Amendment #2 to the Groves Road - Shannon 138 kV Transmission Line Project

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AMENDMENT CHANGE SUMMARY

AEP Ohio Transmission Company, Inc. (the Company) submitted a Certificate Application to the Ohio Power Siting Board ("OPSB") on March 7, 2022 for the Groves Road – Shannon 138 kV Transmission Line Project ("Project") in Case Number 21-0199-EL-BTX. On June 2, 2022, the Company filed a Notice of Adjustment to adjust approximately 0.1 mile between Refugee Road and Chatterton Road, on the west side of Brice Road. On February 16, 2023, the OPSB approved the stipulation and recommendation filed by the Company and issued a certificate of environmental compatibility and public need for the Preferred Route. On June 12, 2023, the Company submitted an application for amendment to the Project under OPSB Case No. 23-0643-EL-BTA (the "First Amendment Application") to document the changes to the Preferred Route alignment since the OPSB's approval of the Preferred Route, and to seek OPSB approval of the revised alignment. On October 19, 2023, the OPSB issued its Certificate of Environmental Compatibility and Public Need for the First Amendment Application.

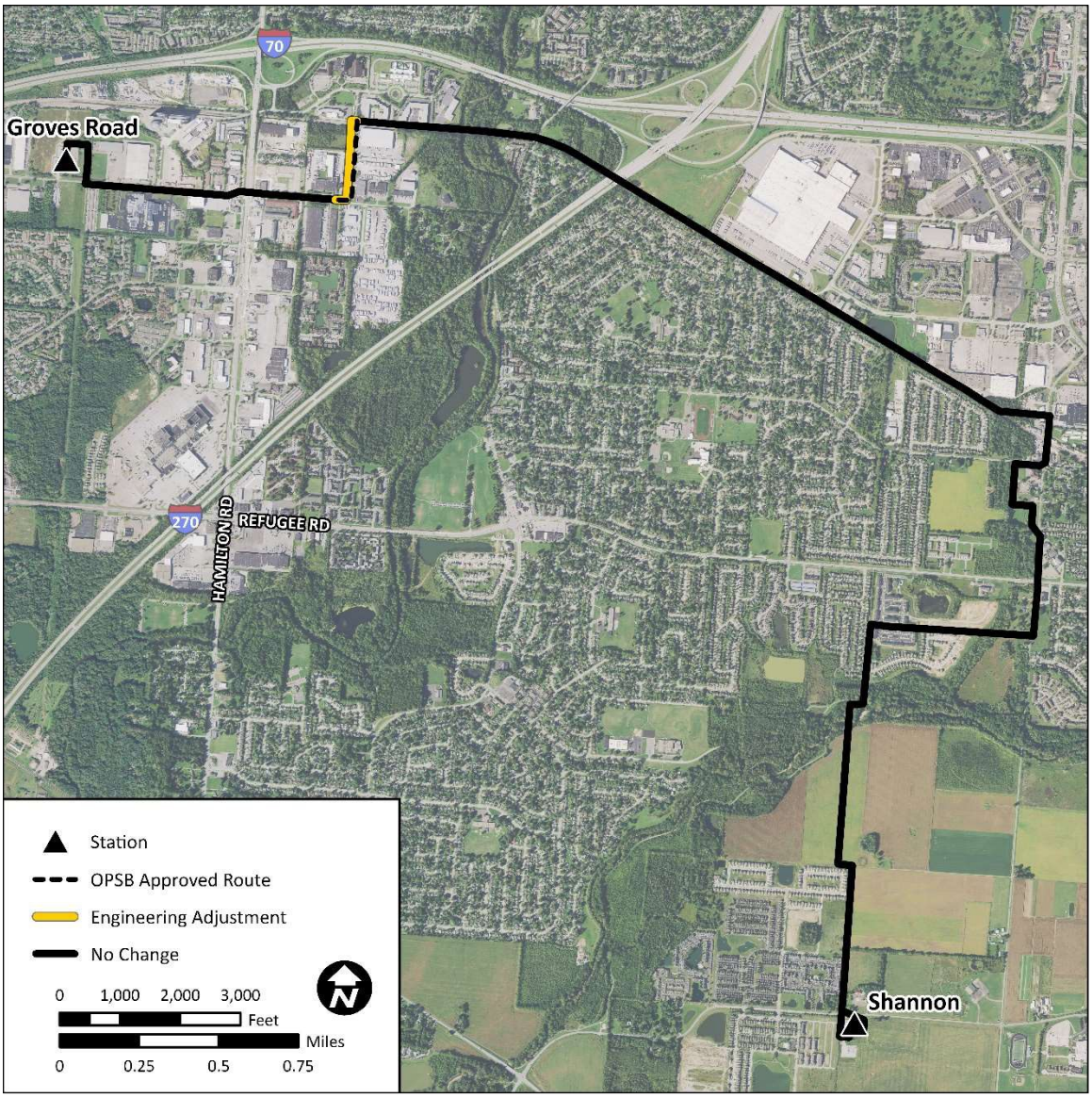
The purpose of this Second Amendment Application is to document the change in the location of the approved centerline and to seek OPSB approval of the revised centerline. This Second Amendment Application does not provide updated information for the Alternate Route because the purpose of this amendment is to document the changes to the centerline of the Preferred Route alignment that have been made since the OPSB's approval of the Preferred Route.

As detailed engineering of the transmission line progressed after OPSB approval in October 2023, the Company identified five additional structure shifts along the Preferred Route, see Table 1 below. These changes are categorized as engineering adjustments (adjustments located within the 60-foot right-of-way ("ROW") of the OPSB-approved alignment) and are due to property owner input and current use of the property. A property owner on the east side of Cloverleaf Street uses the property in a manner that is in direct conflict with the proposed transmission line and would render the property useless for activities to continue to be conducted on the property. An overview of the engineering adjustments is provided in Exhibit 1.

Table 1. Proposed Engineering Adjustments Along the Preferred Route

Structure Numbers	Distance from Approved Centerline
18	4 feet
19	84 feet
20	83 feet
21	90 feet
22	96 feet

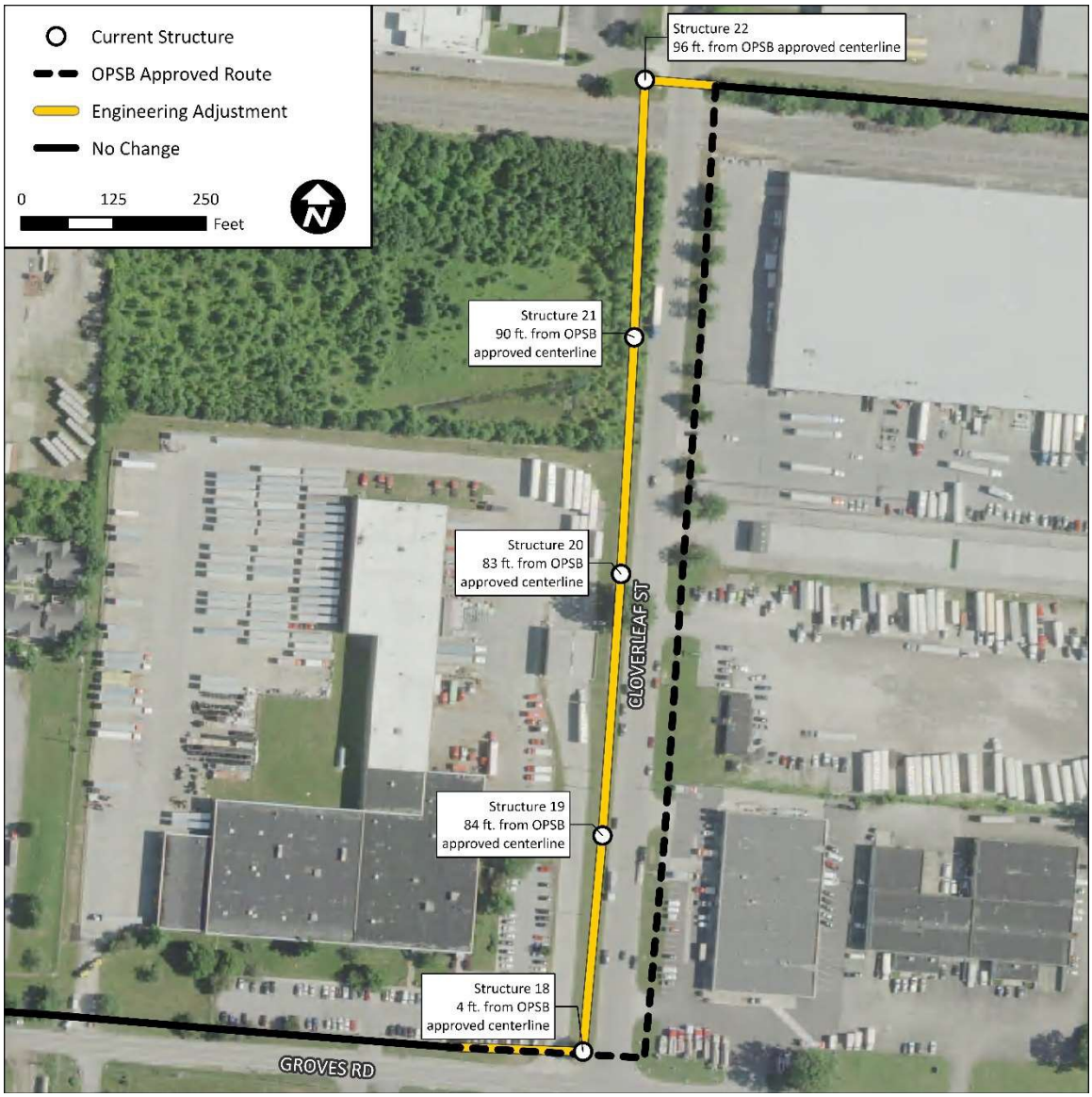
EXHIBIT 1: Summary of Engineering Adjustments to the Preferred Route



Engineering Adjustments

During the detailed engineering design phase of the Project, the Company identified five structure shifts along the OPSB-approved Preferred Route that were necessary for constructability. The structure shifts are shown in greater detail below in **Exhibit 2.**

EXHIBIT 2: Map Illustration of Engineering Adjustments (Structures 18 through 22)



Structures 18 through 22 were originally located along the east side of Cloverleaf Street. A property owner on the east side of Cloverleaf Street uses tall equipment and would be in direct conflict with the proposed transmission line. To avoid these land use conflicts, the Company worked with property owners on the west side of Cloverleaf Street to find a feasible solution that does not impact existing land uses. Therefore, the Company proposes shifting Structures 18 through 22 to the west side of Cloverleaf Street.

4906-5-02 PROJECT SUMMARY AND APPLICANT INFORMATION

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(A) PROJECT SUMMARY

AEP Ohio Transmission Company, Inc. (the Company) is seeking the approval of the Ohio Power Siting Board (OPSB) to construct a new, ~~approximately 5 to 7~~ 6.6 mile long, 138 kV transmission line through Blacklick Estates, the City of Columbus, the Village of Brice, and Truro and Madison townships in Franklin County, Ohio (Project). The Project is part of the overall Southeast Columbus Area Improvements Project, which aims to improve the reliability of the electric transmission grid in Franklin County, Ohio. The proposed transmission line will connect the Groves Road Station to the Shannon Station. Route Alternatives considered as part of the route selection process are displayed in **Appendix 4-1**. **Figure 2-1**, Project Overview, provides a general overview of the entire Project Area. Project construction will be phased and began in March 2023 and is anticipated to end in August 2027.

(1) General Purpose of the Facility

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(2) General Location, Size, and Operating Characteristics of the Proposed Facility

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(3) Suitability of the Preferred Route and Alternate Route for the Proposed Facility

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(i) Preferred Route

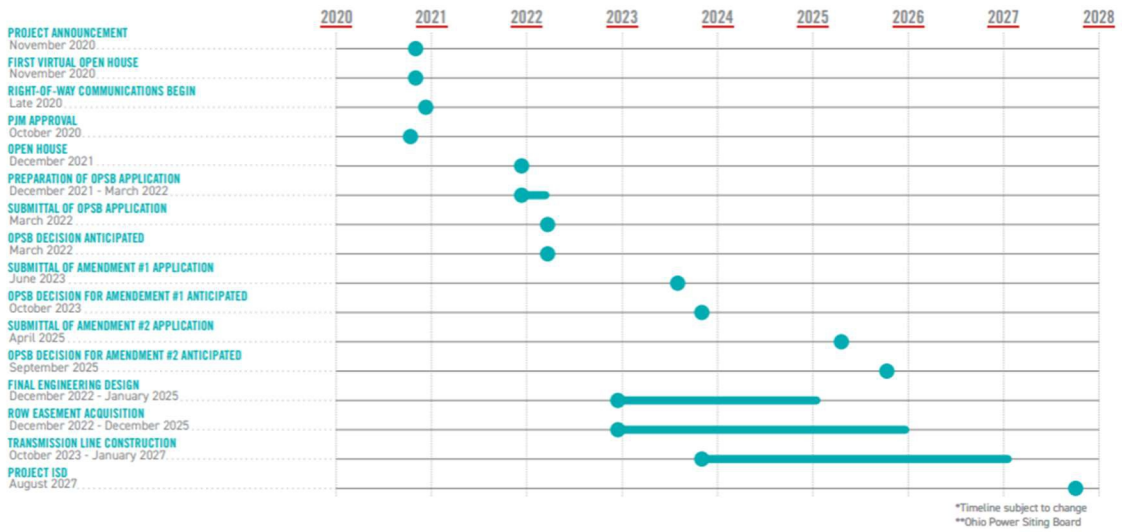
Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(ii) Alternate Route

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(4) Project Schedule

The current Project schedule is illustrated in the diagram below.



(B) HISTORY, AFFILIATE RELATIONSHIPS, CURRENT OPERATIONS

(1) Company History

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(2) Current Operations and Affiliate Relationships

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

4906-5-03 REVIEW OF NEED AND SCHEDULE

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(A) JUSTIFICATION OF NEED

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(1) Purpose of the Proposed Facility

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

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

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(3) Load Flow Studies and Contingency Analyses

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(4) System Performance Transcription Diagrams

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(B) REGIONAL EXPANSION PLANS

(1) Proposed Facility in Long-Term Forecast

(a) Reference in Recent Long-Term Forecast

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(b) Explanation if Not Referenced

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(c) Reference in Regional Expansion Plans

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(C) SYSTEM ECONOMY AND RELIABILITY

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(D) OPTIONS TO ELIMINATE THE NEED FOR THE PROPOSED PROJECT

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(E) FACILITY SELECTION RATIONALE

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(F) PROJECT SCHEDULE

(1) Schedule Gantt Chart

~~Figure 3-1 on the following page provides the~~ The Project schedule is shown as a Gantt bar chart in Section 4906-5-02 (A)(4) above. Construction of the Project ~~is planned to begin in October 2023~~ began in March 2023, and the anticipated in-service date is ~~November 2024~~ August 2027.

(2) Impact of Critical Delays

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

4906-5-04 ROUTE ALTERNATIVES ANALYSIS

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(A) ROUTE SELECTION STUDY

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(1) Study Area Description and Rationale

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(2) Study Area Map

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(3) Map of Study Area and Routes Evaluated

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(4) Siting Criteria

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(5) Siting Process for the Preferred Route and Alternate Route

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(6) Route Descriptions and Rationale for Selection

Text provided in the June 12, 2023 application amendment filing remains unchanged as to any applicable requirements for this amendment.

(B) SUMMARY TABLE

Text provided in the June 12, 2023 application amendment filing remains unchanged as to any applicable requirements for this amendment.

(C) PUBLIC INVOLVEMENT

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

4906-5-05 PROJECT DESCRIPTION

(A) PROJECT AREA DESCRIPTION

~~AEP Ohio Transmission Company, Inc. (the Company)~~ The Company is seeking the approval of the ~~Ohio Power Siting Board (OPSB)~~ OPSB to construct a new, ~~approximately 5 to 7 mile long~~ 6.6-mile-long, 138 kV transmission line through Blacklick Estates, the City of Columbus, the Village of Brice, and Truro and Madison townships in Franklin County, Ohio (Project). The Project is part of the overall Southeast Columbus Area Improvements Project, which aims to improve the reliability of the electric transmission grid in Franklin County, Ohio. The proposed transmission line will connect the Groves Road Station to the Shannon Station. Route Alternatives considered as part of the route selection process are displayed in **Appendix 4-1**. **Figure 2-1**, Project Overview, provides a general overview of the entire Project Area. Project construction will be phased and is anticipated to begin in October 2023 and end in ~~November 2024~~ August 2027.

(1) Project Area Map

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(a) Proposed Transmission Line Alignments

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(b) Proposed Station Locations

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(c) Major Highways and Railroad Routes

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(d) Publicly identified and owned institutions, parks and recreational areas

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(e) Utility Corridors

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(f) Lakes, Ponds, Reservoirs, Streams, Canals, and Rivers

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(g) Population Centers and Legal Boundaries

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(2) Proposed Right-of-Way, Transmission Length, and Properties Crossed

The Preferred Route is 6.6 miles long and crosses ~~123~~ 119 parcels. Of these ~~123~~ 119 parcels, 74 are currently within the ROW of the existing Shannon – Astor 138 kV Transmission Line, and 5 are currently within the ROW of the existing Groves Road – Refugee 138 kV Transmission Line, which are proposed to be rebuilt as part of the Preferred Route. The Alternate Route is 5.2 miles long and crosses 54 parcels. Of these 54 parcels, four are currently within the ROW of the existing Shannon – Astor 138 kV Transmission Line, where rebuild is proposed, and 11 are within the existing Bixby – Groves Road 138 kV Transmission Line ROW. Both Route Alternatives have a proposed ROW width of 60 feet and use some amount of existing 138 kV transmission ROW. The Preferred Route requires 26.2 acres of greenfield ROW and uses 22.1 acres of existing, maintained ROW, for a total ROW of 48.3 acres. The Alternate Route requires 21.3 acres of greenfield ROW and uses 16.2 acres of existing, unmaintained ROW, for a total ROW of 37.5 acres.

(B) ROUTE OR SITE ALTERNATIVE FACILITY LAYOUT AND INSTALLATION

(1) Proposed Clearing, Construction Methods, and Reclamation Operations

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(a) Surveying and Soil Testing

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(b) Grading and Excavation

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(c) Construction of Temporary and Permanent Access Roads and Trenches

Construction access will be required for installation of the pole structures and stringing of the conductor cable or wire. Access roads will require the landowner's input and approval. Preliminary access roads are presented on Revised **Figure 8-2A** through **Figure 8-2J**. Note that these access roads cannot be fully planned and identified until after a final route is approved and contact with affected landowners for the transmission line easements has been completed by the Company. Where access across wetlands or streams is necessary, timber mats or equivalent will be used where possible to minimize the environmental impacts. If field conditions necessitate the modification of the finalized access road locations during construction, the concurrence of the property owner will be obtained, necessary environmental field studies will be performed, and necessary permits will be updated.

(d) Stringing of Cable

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(e) Installation of Electric Transmission Line Poles and Structures, Including Foundations

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(f) Post-Construction Reclamation

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(2) Facility Layout

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(a) Transmission Line Route Map

Revised **Figure 8-2A** through **8-2E** show maps at 1:12,000-scale of the Preferred and Alternate Routes. These maps illustrate the data required by O.A.C. 4906-5-05(A)(1). ~~Although the additional information required by O.A.C. 4906-5-05 (B)(2)(a) (for example, pole structure locations) will not be finalized until a final route is approved by the OPSB and the final engineering design is complete. The data and information defined in O.A.C. 4906-5-05 (B)(2)(a) includes temporary access roads and proposed locations of transmission line poles and buildings.~~ Revised Figures 8-2A through 8-2E have been updated to include the location of the OPSB-approved structures as well as the locations of the five relocated structure locations. No fenced-in or secured areas are planned for Project.

The Company is currently using a laydown facility in Etna, Ohio for project materials.

(b) Reasons for Proposed Layout Rationale and Unusual Feature

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(c) Plans for Future Modifications

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(C) TRANSMISSION EQUIPMENT

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

4906-5-06 ECONOMIC IMPACT AND PUBLIC INTERACTION

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

4906-5-07 HEALTH AND SAFETY, LAND USE, AND REGIONAL DEVELOPMENT

(A) HEALTH AND SAFETY INFORMATION FOR EACH ALTERNATE ROUTE

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(B) LAND USE

(1) Map of the Site and Route Alternatives

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(2) Impact of Facility on Each Land Use

Table 1-3. Acreage and Percent of Land Uses crossed by the Proposed 60-foot Right of Way

Land Use	Preferred Route		Alternate Route	
	Acreage	Percent (%)	Acreage	Percent
Agricultural	4.9	10.1%	5.2	13.9%
Commercial	3.3	6.8%	0.6	1.6%
County Road or Highway	4.5	9.4%	8.3	22.1%
Forested	2.9	6.0%	5.1	13.5%
Hospital/Office/School	~~1.7~~ 1.8	~~3.5%~~ 3.7%	0	0%
Industrial/Facility	~~6.5~~ 6.0	~~13.4%~~ 12.2%	2.3	6.3%
Landscaped/Maintained	5.3	10.9	4.1	10.9%
Old Field	~~4.0~~ 4.5	~~8.2%~~ 9.4%	1.3	3.3%
Open Space/Recreational	1.1	2.4%	0.3	0.7%
Place of Worship	1.7	3.5%	0.7	1.7%
Planned Residential	2.2	4.6%	5.1	13.6%
Railroad	3.6	7.5%	0	0%
Residential	4.6	9.6%	4.3	11.4%
Scrub-Shrub	1.8	3.7%	0.3	0.8%
Stream	0.1	0.2%	0	0%
Vacant	0	0%	5.2	13.9%
Total:	**48.3**	**100%**	**37.5**	**100%**

(a) Residential

Preferred Route: The Preferred Route is located within 1,000 feet of ~~1,493~~ 1,402 residences, none of which are within the proposed ROW.

(b) Commercial and Industrial

Preferred Route: The Preferred Route is located within 1,000 feet of ~~120~~ 132 commercial/industrial buildings, none of which are within the proposed ROW. As shown in **Table 7-3**, 6.8% and ~~13.4%~~ 12.1% of the Preferred Route ROW are classified as commercial and industrial lands (3.3 acres and ~~6.5~~ 5.9 acres, respectively).

(c) School and Hospitals

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(d) Places of Worship

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(e) Recreational

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(f) Agricultural

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(g) Vacant

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(3) Impact on Identified Structures

(a) Structures within 200 Feet of Proposed Right-of-way

There are two unoccupied outbuildings and one walk-up restaurant within the Preferred Route proposed 60-foot ROW. The Company plans to remove one unoccupied outbuilding and design around the other unoccupied railroad maintenance outbuilding and walk-up restaurant. Within 200 feet of the Preferred Route ROW, there are 48 commercial/industrial structures, one communication tower, 28 multi-family residential dwellings, 95 unoccupied outbuildings, 4 places of worship, 231 single-family residential dwellings, and ~~one~~ 2 schools.

Commercial/industrial structures, places of worship, and schools within 200 feet of the proposed ROWs are included below in revised **Table 7-4**, with their measured distances. No impacts are anticipated for any of the structures listed.

Table 7-4. Structures within 200 feet of Proposed 60-foot Right of Way			
Preferred Route		**Alternate Route**	
Structure Type	Distance from ROW (ft)	Structure Type	Distance from ROW (ft)
Outbuilding	0 (within ROW) [1]	--	--
Outbuilding	0 (within ROW) [1]	--	--
Commercial/Industrial			
Walk-Up Restaurant	0 (within ROW) [1]	Residential Leasing Office	28
Retail - Strip Mall	1	Loan Services	35
Retail - Pallet Supplier	2	Dental Office	64
Vacant Commercial	3	Residential Leasing Office	129
Retail – Home & Furniture	13	City of Columbus Fleet Licensing	136
Self Storage	21	Gas Station	183
Mixed-Use Retail/Office	24	--	--
Rental Office	29	--	--
Mixed-Use Retail/Office	29	--	--
Mixed-Use Retail/Office	29	--	--
Automotive Services	30	--	--
Retail - Electronics	35	--	--
Retail – Convenience	36	--	--
Cleaning Services	~~47~~ 131	--	--
Vacant Commercial	47	--	--
Gas Station	53	--	--
Storage Unit	~~57~~ 140	--	--
Self Storage	62	--	--
City of Columbus Fleet Management	65	--	--
Trucking Logistics - Warehouse	~~65~~ 80	--	--
Self Storage	65	--	--
Self Storage	65	--	--
Self Storage	66	--	--
Retail - Salon	72	--	--
Restaurant	66	--	--
Trucking Logistics - Office	89	--	--
Retail - Automotive	89	--	--
Gas Station	90	--	--

Table 7-4. Structures within 200 feet of Proposed 60-foot Right of Way			
Preferred Route		**Alternate Route**	
Structure Type	Distance from ROW (ft)	Structure Type	Distance from ROW (ft)
Retail - HVAC	91	--	--
US Post Office	92	--	--
Manufacturer - Heating	92	--	--
Beverage Supplier	97	--	--
Hotel & Lodging	102	--	--
Gas Station	104	--	--
Automotive Services	105	--	--
Towing Services	108	--	--
Restaurant	116	--	--
Retail - Home Improvement	119	--	--
City of Columbus Fleet Licensing	123	--	--
Multi-Tenant Office	133	--	--
Warehouse	134	--	--
City of Columbus Fleet Licensing	134	--	--
Retail - Automotive	172	--	--
Brice Mayor's Office	174	--	--
Retail - Automotive	175	--	--
Retail - Automotive	182	--	--
Crane Services	183	--	--
Warehouse	195	--	--
Places of Worship			
Baptist Church	2	--	--
Methodist Church	14	Methodist Church	88
Baptist Church	45	Baptist Church	109
Buddhist Temple	177	--	--
Institutional (School)			
Performance Academy	60	--	--
College Preparatory Academy [2]	111	--	--

[1] Do not anticipate direct impact or removal due to engineered solutions.

[2] This building was not included in the March 2022 filing or the June 2023 amendment because it was greater than 200 feet from the previous ROW.

(b) Destroyed, Acquired, or Removed Buildings

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(c) Mitigation Procedures

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(C) AGRICULTURAL LAND IMPACTS

Text provided in the June 12, 2023 application amendment filing remains unchanged as to any applicable requirements for this amendment.

(1) Agricultural Land Map

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(a) Acreage Impacted

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(b) Evaluation of Construction, Operation, and Maintenance Impacts

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(c) Field Operations

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(ii) Irrigation

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(iii) Field Drainage Systems

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(iv) Structures Used for Agricultural Operations

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(v) Agricultural Land Viability for Agricultural Districts

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(c) Mitigation Procedures

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(D) LAND USE PLANS AND REGIONAL DEVELOPMENT

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(1) Impacts to Regional Development

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(2) Compatibility of Proposed Facility with Current Regional Land Use Plans

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(E) CULTURAL AND ARCHAEOLOGICAL RESOURCES

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

4906-5-08 ECOLOGICAL INFORMATION AND COMPLIANCE WITH PERMITTING REQUIREMENTS

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(A) ECOLOGICAL MAP

Maps at 1:12,000 (1 inch = 1,000 feet) illustrating areas within 1,000 feet of the Preferred Route and Alternate Route are presented as revised **Figures 7-1A** through **Figure 7-1J**. These maps depict transmission line alignments, station locations, and land use classifications, including vegetative cover[2]. Features within 1,000 feet of the proposed routes were identified from published data and, where accessible, verified by the field ecological survey.

Maps at 1:12,000-scale depicting lakes, ponds, reservoirs, highly erodible soils, slopes of 12 percent or greater, wildlife areas, nature preserves, conservation areas, and proposed ROW are provided as revised **Figures 8-1A through 8-1J**. More detailed maps at 1:6,000-scale depicting delineated features within the survey corridor are provided as revised **Figures 8-2A** through **Figure 8-2V**.

(B) FIELD SURVEY REPORT FOR VEGETATION AND SURFACE WATERS

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(1) Vegetative Communities, Wetlands, and Streams in Study Area

(a) Woody and Herbaceous Vegetation Land

Text provided in the June 12, 2023 application amendment filing remains unchanged as to any applicable requirements for this amendment.

[2] Land Use classifications discussed in Section 7 were obtained by imagery from the National Agricultural Imagery Program (NAIP) obtained from the United States Department of Agriculture (dated 2015). The data shown on these maps do not depict areas that were field verified.

(b) Wetlands

The Company's consultant identified ~~16~~ 17 wetlands totaling ~~5.04~~ 5.10 acres in the combined Project Environmental Survey Corridor ("ESC"). Two wetlands are within the ESC of both the Preferred Route and Alternate Route; therefore, there is an approximate 0.15 acre overlap of the total acreages listed below.

~~Ten~~ Eleven wetlands totaling ~~1.81~~ 1.87 acres were identified within the 260-foot-wide survey corridor along the Preferred Route, and 0.69 acre within the proposed 60-foot-wide ROW. Four of the ~~10~~ 11 wetlands are crossed by the Preferred Route centerline, for a total length of 521 linear feet.

Eight wetlands totaling 3.38 acres were identified within the 260-foot-wide survey corridor along the Alternate Route, and 0.99 acre within the proposed 60 foot wide ROW. Three of these nine wetlands are crossed by the Alternate Route centerline, for a total length of 739 linear feet.

Representative photographs of wetlands identified during the field reconnaissance and completed USACE and ORAM forms are included in **Appendix 8-1**. Field delineated wetlands within the survey corridor are mapped on revised **Figures 8-2A** through **8-2V** and are summarized below in **Table 8-2.**

Table 8-2. Delineated Wetlands within the Preferred Route and Alternate Route Survey Corridor[1]								
Wetland Name	**Route**	**Figure**	**Cowardin Wetland Type [a]**	**ORAM Score**	**ORAM Category**	**Length Crossed by Centerline (feet)**	**Acreage Within Survey Corridor**	**Acreage within Proposed Maintained ROW [b]**
Preferred Route Wetlands								
Wetland 2-A	Preferred	8-2B	PEM	19	1	0	0.06	0
Wetland AS-02	Preferred	8-2I and 8-2J	PEM	20.5	1	123	0.21	0.16
Wetland AS-03	Preferred	8-2L	PEM	22.5	1	0	0.47	0.05
Wetland GS-07	Preferred	8-2K	PEM	16	1	0	0.05	0
Wetland GS-08	Preferred	8-2E and 8-2F	PEM	41	Modified 2	0	0.21	0
Wetland GS-09	Preferred	8-2D and 8-2E	PEM	43	Modified 2	46	0.14	0.07
Wetland GS-10	Preferred	8-2C and 8-2D	PFO	55	2	0	0.07	0
Wetland GS-11	Preferred	8-2B, 8-2C, and 8-2D	PFO	48	2	310	0.40	0.35
Wetland GS-12	Preferred	8-2B, 8-2C, and 8-2D	PEM	56	2	42	0.11	0.06
Wetland GS-13*	Preferred	8-2A	PEM	18	1	0	0.13	0
Wetland SS-01*	Preferred	8-2L	PSS	12.5	1	0	0.02	< 0.01
					Total	521	~~1.81~~ 1.87	0.69
Alternate Route Wetlands								
Wetland GS-01	Alternate	8-2N	PEM/PFO	28	1	112	0.47	0.15

[1] The survey corridor referenced during field surveys of the Preferred Route and Alternate Route was generally 260 feet in width, apart from areas confined to the Company's existing 200-foot-wide easement (Alternate Route) and areas south of the existing railroad corridor (Preferred Route).

Table 8-2. Delineated Wetlands within the Preferred Route and Alternate Route Survey Corridor[1]								
Wetland Name	**Route**	**Figure**	**Cowardin Wetland Type [a]**	**ORAM Score**	**ORAM Category**	**Length Crossed by Centerline (feet)**	**Acreage Within Survey Corridor**	**Acreage within Proposed Maintained ROW [b]**
Wetland GS-02	Alternate	8-2O and 8-2P	PEM/PSS	36	Modified 2	539	1.26	0.65
Wetland GS-03	Alternate	8-2P	PEM/PFO	51	2	88	0.35	0.15
Wetland GS-05	Alternate	8-2P and 8-2Q	PEM/PUB	35	Modified 2	0	0.07	0.02
Wetland GS-06	Alternate	8-2Q	PSS	34	1 or 2 Grey Zone	0	0.13	0
Wetland GS-13*	Alternate	8-2M	PEM	18	1	0	0.13	0
Wetland GS-14	Alternate	8-2T and 8-2U	PFO	43	Modified 2	0	0.95	0.03
Wetland SS-01*	Alternate	8-2U and 8-2V	PSS	12.5	1	0	0.02	0
					Total	739	3.38	0.99

(c) Waterbodies

(i) Field Delineated Streams

Text provided in the June 12, 2023 application amendment filing remains unchanged as to any applicable requirements for this amendment.

(ii) Lakes, Ponds, and Reservoirs

Text provided in the June 12, 2023 application amendment filing remains unchanged as to any applicable requirements for this amendment.

(2) Delineation Result Mapping

Field delineated streams and wetlands within the survey corridor and proposed ROW are mapped on revised **Figures 8-2A** through **8-2J** and are summarized in **Tables 8-2** and **8-3**, as discussed in Section 4906-5-08(B)(1).

(3) Construction Impacts on Vegetation and Surface Waters

(a) Construction Impacts on Vegetation

The construction impacts on woody and herbaceous vegetation along the Preferred and Alternate Routes will be limited to clearing within the 60-foot ROW for the proposed transmission line and potentially along access roads. Specific locations for access roads will be identified at the time of The Company's transmission line easement acquisition process. However, where required, trees adjacent to the proposed transmission line ROW that are dead, dying, diseased, leaning, significantly encroaching or prone to failure, may require clearing to allow for safe operation of the transmission line. Vegetation wastes (such as tree limbs and trunks) generated during the construction phase will be windrowed or chipped and disposed of appropriately depending on individual landowner requests. Construction impacts to agricultural land within the existing transmission ROW is expected to be temporary in nature and limited to vehicle access and temporary lay down activities.

Approximately 30 feet of clearing will occur on either side of the centerline and will be maintained along either the Preferred Route or Alternate Route. When possible, open areas were crossed in the design of the facility. However, some forested areas will need to be cleared. The Preferred Route will require approximately 11 acres of forest clearing, and the Alternate Route will require approximately 2.8 acres of forest clearing. The approximate vegetation impacts along the Project

ROW are provided in revised **Table 8-4**.

Table 8-4. Approximate Vegetation Impacts Along the ROW			
Land Use Type	**Length of Route (feet)**	**Length of Route (miles)**	**Acreage within ROW**
Preferred Route			
Agricultural Land	4,112	0.8	5.3
Delineated PEM Wetland	216	0.04	0.4
Delineated PFO Wetland	309	0.1	0.3
Delineated Pond	55	0.01	0.1
Delineated Stream	360	0.1	0.5
Landscaped Area	~~11,000~~ 10,818	~~2.1~~ 2.0	~~13.1~~ 12.4
Old Field	2,116	0.4	3.3
Scrub/Shrub	~~2,537~~ 2,586	~~0.4~~ 0.5	~~3.0~~ 3.5
Successional Hardwood Woodland	10,291	1.9	11.0
Urban	~~4,138~~ 3,912	~~0.8~~ 0.7	~~11.4~~ 11.1
Alternate Route			
Agricultural Land	2,954	0.6	3.4
Delineated PEM Wetland	584	0.1	0.8
Delineated PFO Wetland	161	0.03	0.2
Delineated Pond	171	0.03	0.2
Delineated Stream	315	0.1	0.02
Landscaped Area	11,184	2.1	0.02
Old Field	2,202	0.4	0.4
Scrub/Shrub	2,057	0.4	14.1
Successional Hardwood Woodland	5,101	1.0	2.8
Urban	2,519	0.5	2.5

(b) Construction Impacts on Wetlands

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(c) Construction Impacts on Waterbodies

Text provided in the June 12, 2023 application amendment filing remains unchanged as to any applicable requirements for this amendment.

(4) Operation and Maintenance Impacts on Vegetation and Surface Water

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(5) Mitigation Procedures

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(C) LITERATURE SURVEY OF THE PLANT AND ANIMAL LIFE POTENTIALLY AFFECTED BY THE FACILITY

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

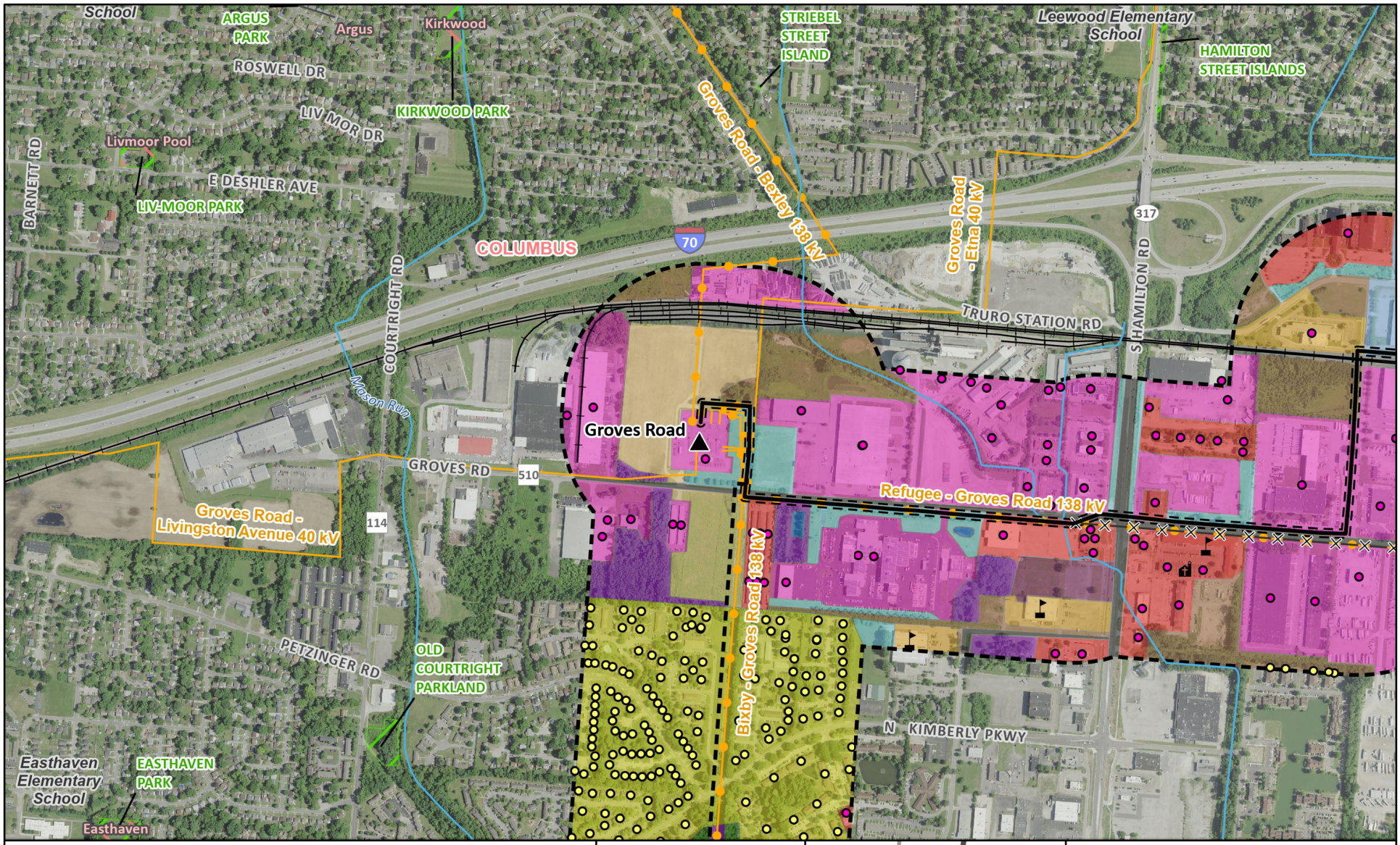
(D) SITE GEOLOGY

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

(E) ENVIRONMENTAL AND AVIATION REGULATION COMPLIANCE

Text provided in the March 7, 2022 filing remains unchanged as to any applicable requirements for this amendment.

FIGURES



Existing Station
Place of Worship
School/ Institution
Residence
Commercial/ Industrial Building
Railroad

Preferred Route
Alternate Route
Existing Transmission to be Retired

Existing Transmission Line
69 kV and below
138 kV
Railroad
NHD Stream or River
Proposed ROW
1,000 Foot Buffer

City of Columbus Park or Easement Boundary

PADUS
Local Government

Land Use
Agricultural
Commercial
County Road or Highway
Forested
Hospital/ Office
Industrial/ Facility
Institutional (School)
Landscaped/ Maintained
Old Field
Residential (includes planned)
Railroad
Scrub-Shrub
Surface Water
Vacant
Township Boundary
Municipal Boundary

Data Sources:
AEP (2017), ESRI (2021), ODOT (2021), OSIP (2022), USGS (2021)

State Plane Ohio South
NAD 83

March 06, 2025

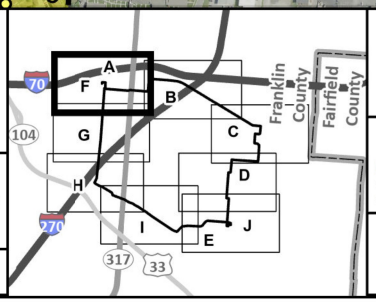
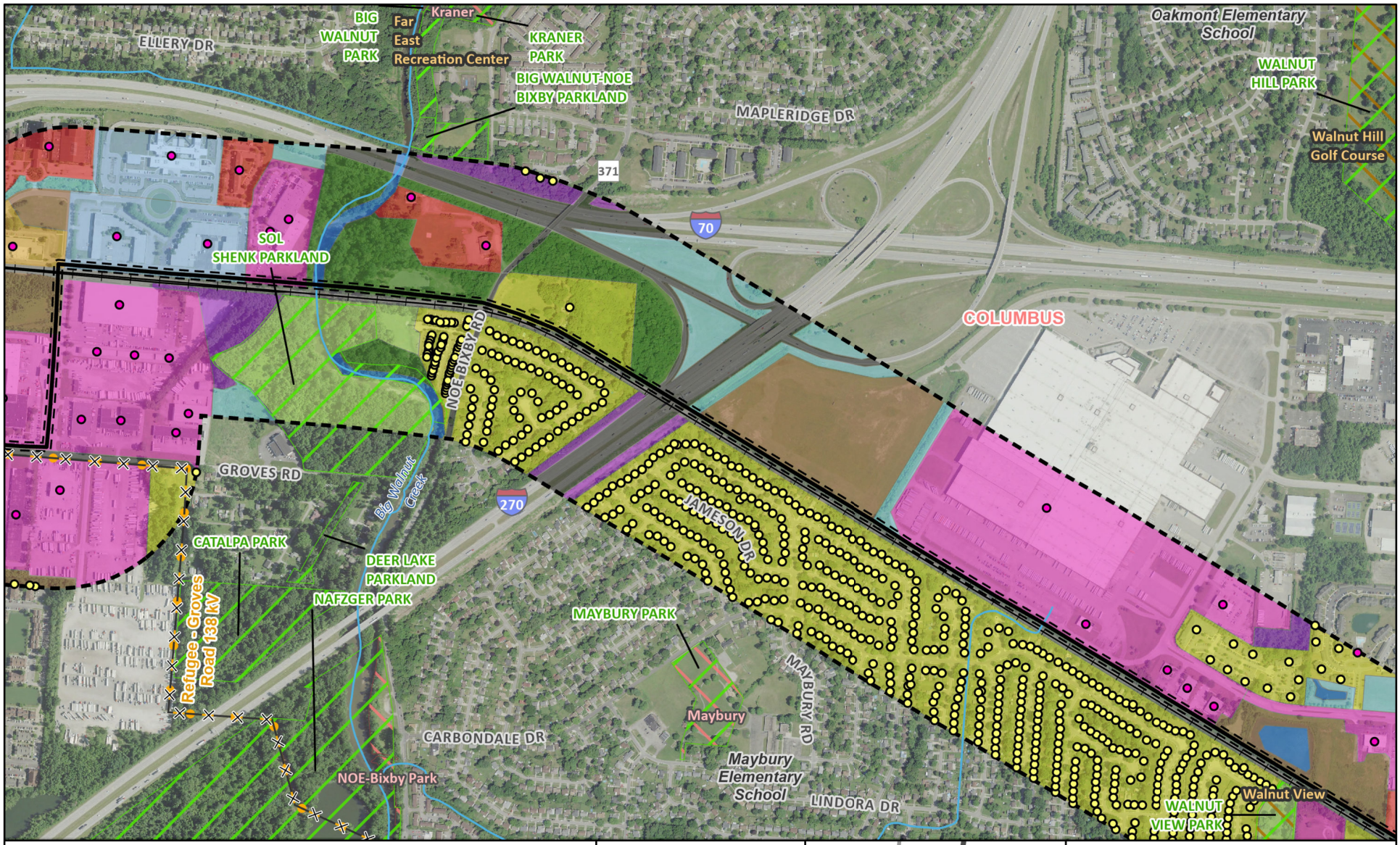


Figure 7-1A
Land Use

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY™

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet



- Residence
- Commercial/ Industrial Building
- Railroad
- Preferred Route
- Existing Transmission to be Retired

Existing Transmission Line

- 138 kV
- Railroad
- NHD Stream or River
- Proposed ROW
- 1,000 Foot Buffer

- City of Columbus Park or Easement Boundary

PADUS

- Local Government
- Private Land

Land Use

- Commercial
- County Road or Highway
- Forested
- Hospital/ Office
- Industrial/ Facility
- Institutional (School)
- Landscaped/ Maintained
- Old Field
- Open Space/ Recreational
- Residential (includes planned)
- Railroad
- Scrub-Shrub
- Surface Water
- Township Boundary
- Municipal Boundary

Data Sources:
AEP (2017), ESRI (2021), ODOT (2021), OSIP (2022), USGS (2021)

State Plane Ohio South
NAD 83

March 06, 2025

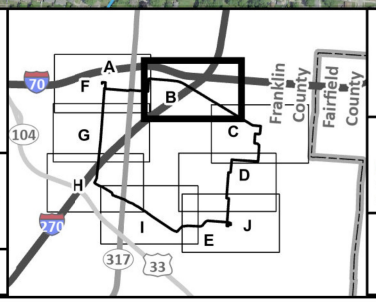
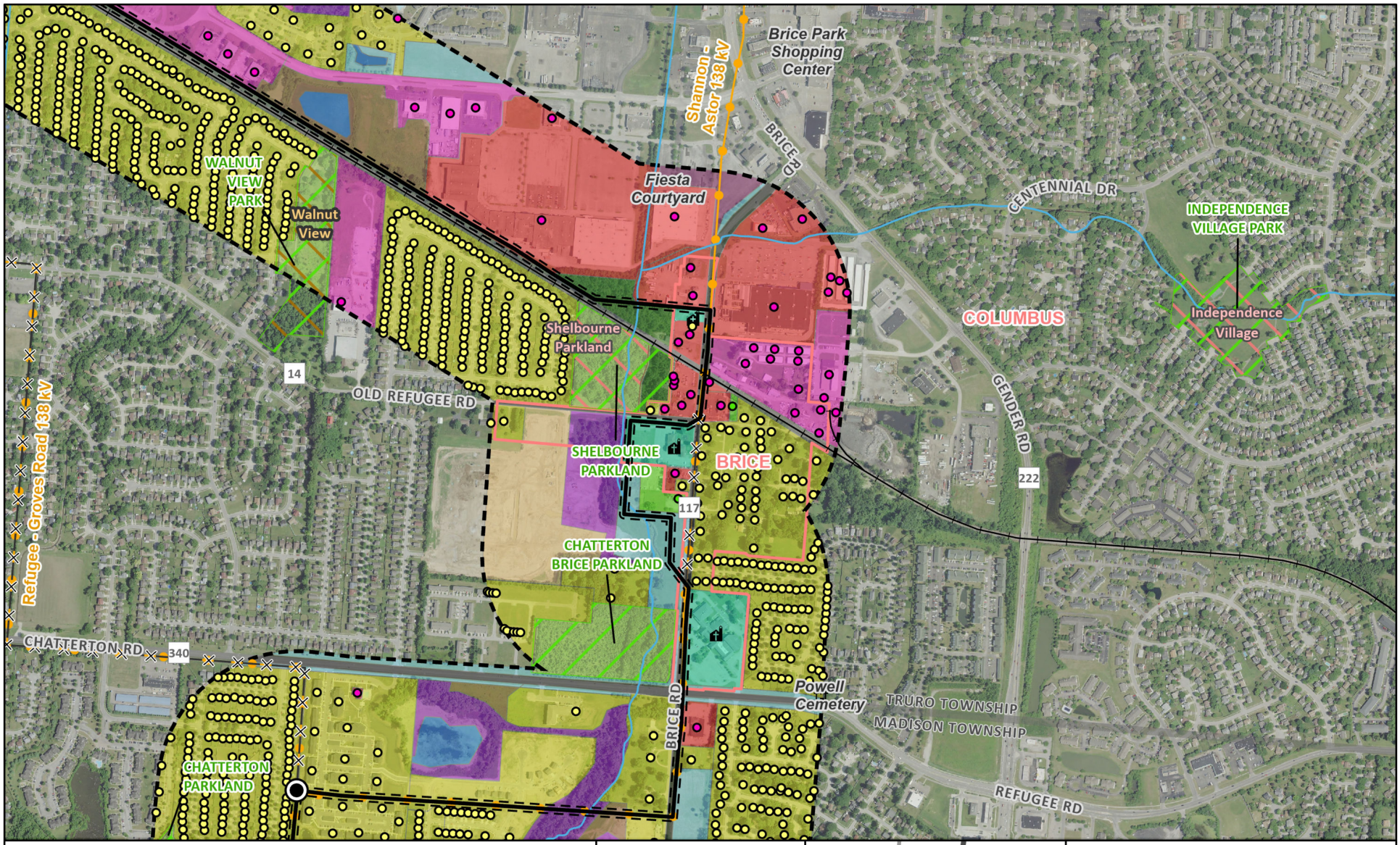


Figure 7-1B
Land Use

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet



Data Sources:
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State Plane Ohio South
NAD 83

March 06, 2025

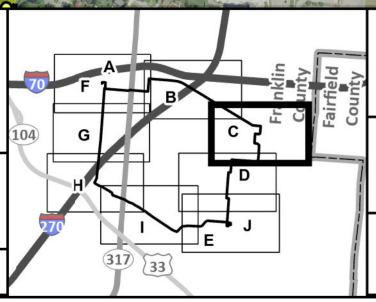
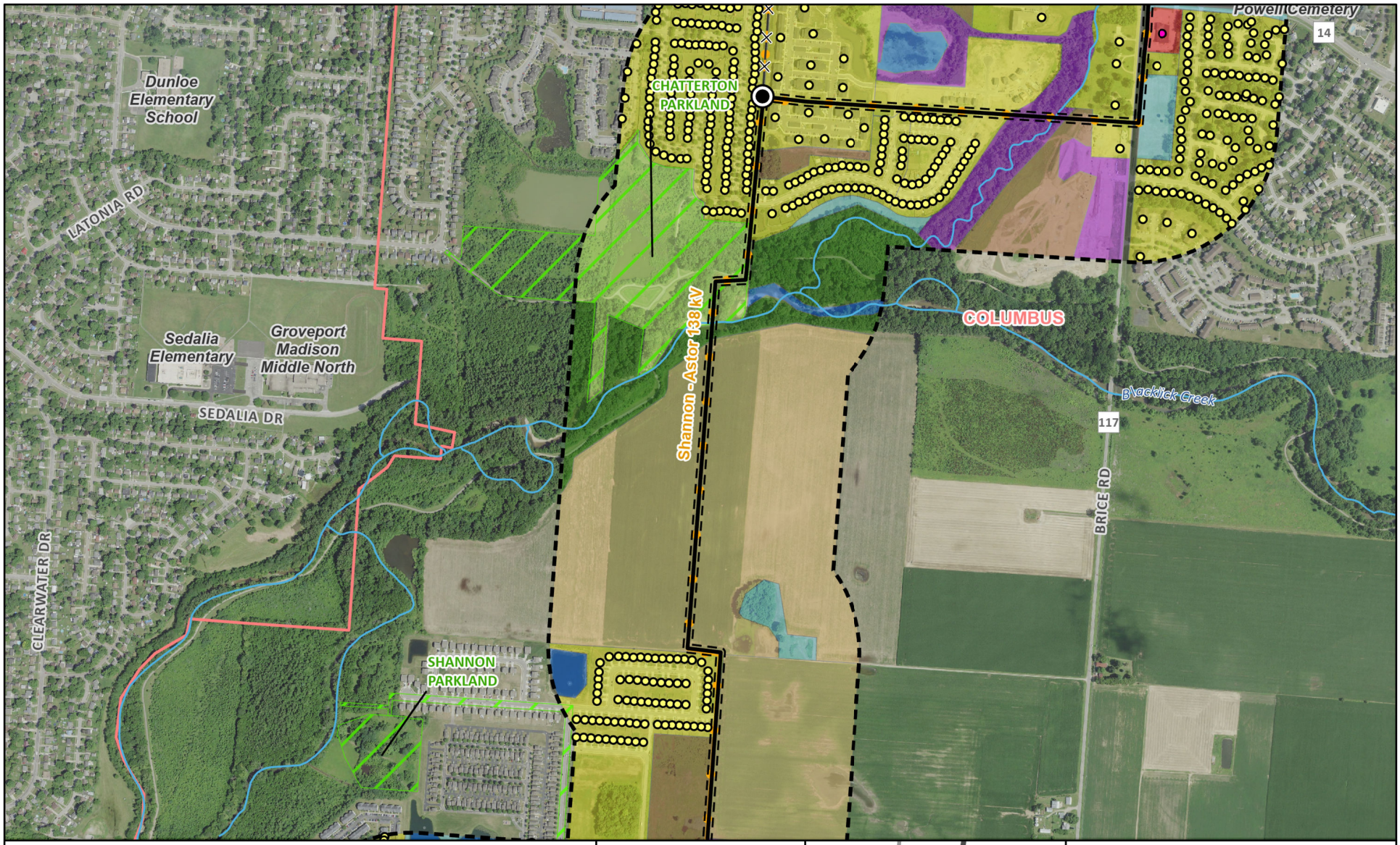


Figure 7-1C
Land Use

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY™

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet



Refugee Switch (to be removed)
Residence
Commercial/ Industrial Building
Preferred Route

Existing Transmission to be Retired

Existing Transmission Line
138 kV
NHD Stream or River
Proposed ROW

1,000 Foot Buffer
City of Columbus Park or Easement Boundary

Land Use
Agricultural
Commercial
County Road or Highway
Forested
Landscaped/ Maintained
Old Field
Open Space/ Recreational
Residential (includes planned)
Scrub-Shrub
Surface Water
Township Boundary
Municipal Boundary

Data Sources:
AEP (2017), ESRI (2021), ODOT (2021), OSIP (2022), USGS (2021)

State Plane Ohio South
NAD 83

March 06, 2025

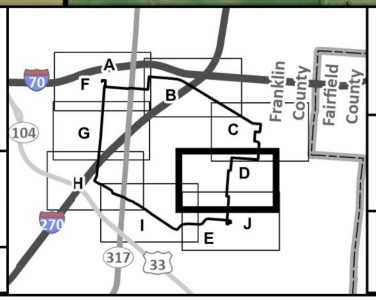
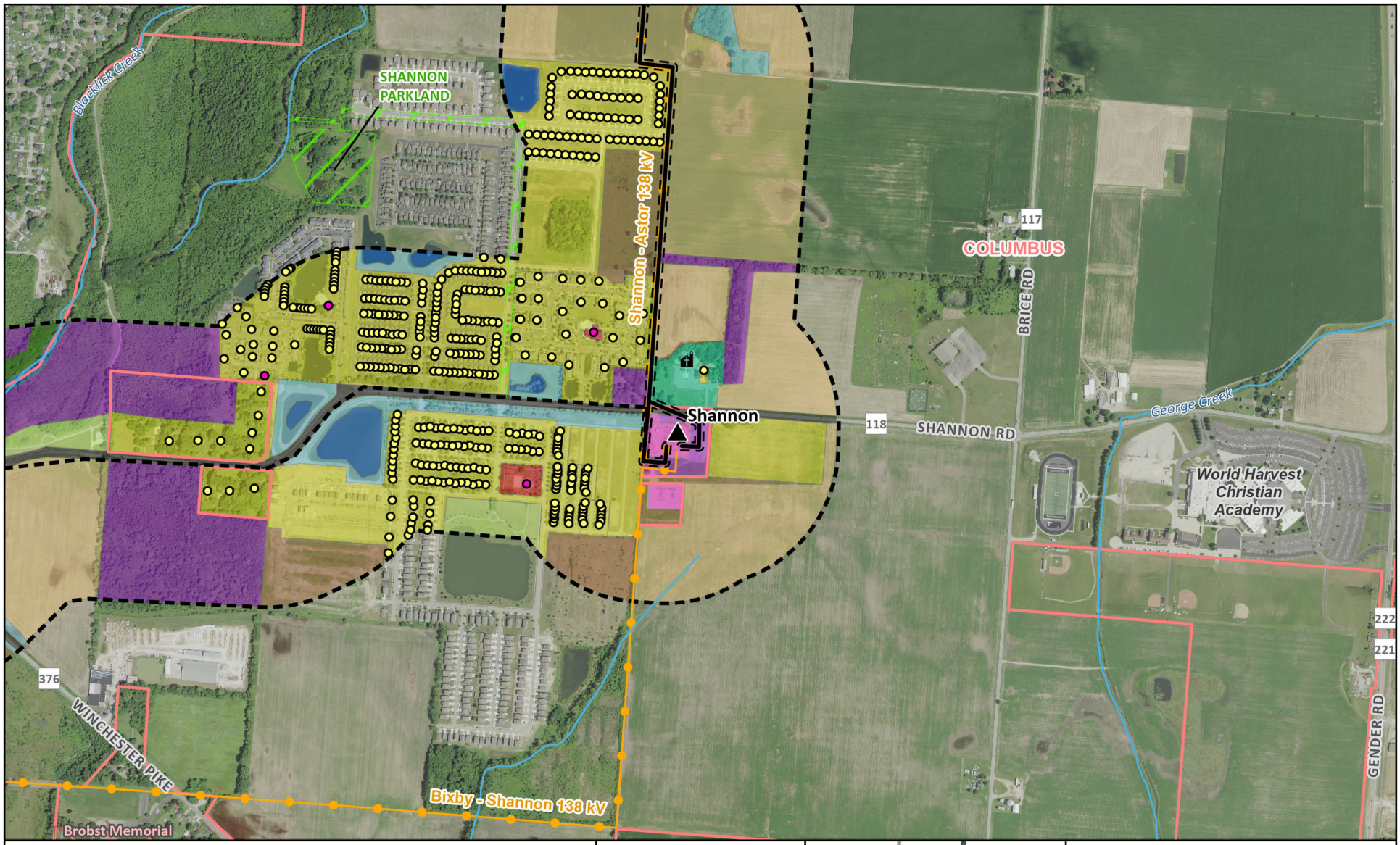


Figure 7-1D
Land Use

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY™

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet



Existing Station
Place of Worship
Residence
Commercial/ Industrial Building
Preferred Route
Alternate Route

Existing Transmission Line
138 kV
NHD Stream or River
Proposed ROW
1,000 Foot Buffer

City of Columbus Park or Easement Boundary

PADUS
Local Government

Land Use
Agricultural
Commercial
County Road or Highway
Forested
Industrial/ Facility
Landscaped/ Maintained
Old Field
Open Space/ Recreational
Place of Worship
Residential (includes planned)
Scrub-Shrub
Surface Water
Township Boundary
Municipal Boundary

Data Sources:
AEP (2017), ESRI (2021), ODOT (2021), OSIP (2022), USGS (2021)

State Plane Ohio South
NAD 83

March 06, 2025

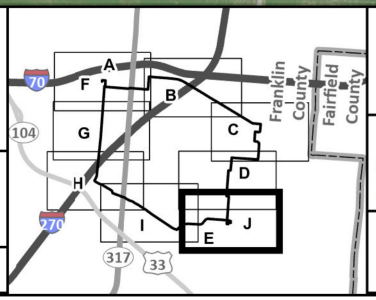
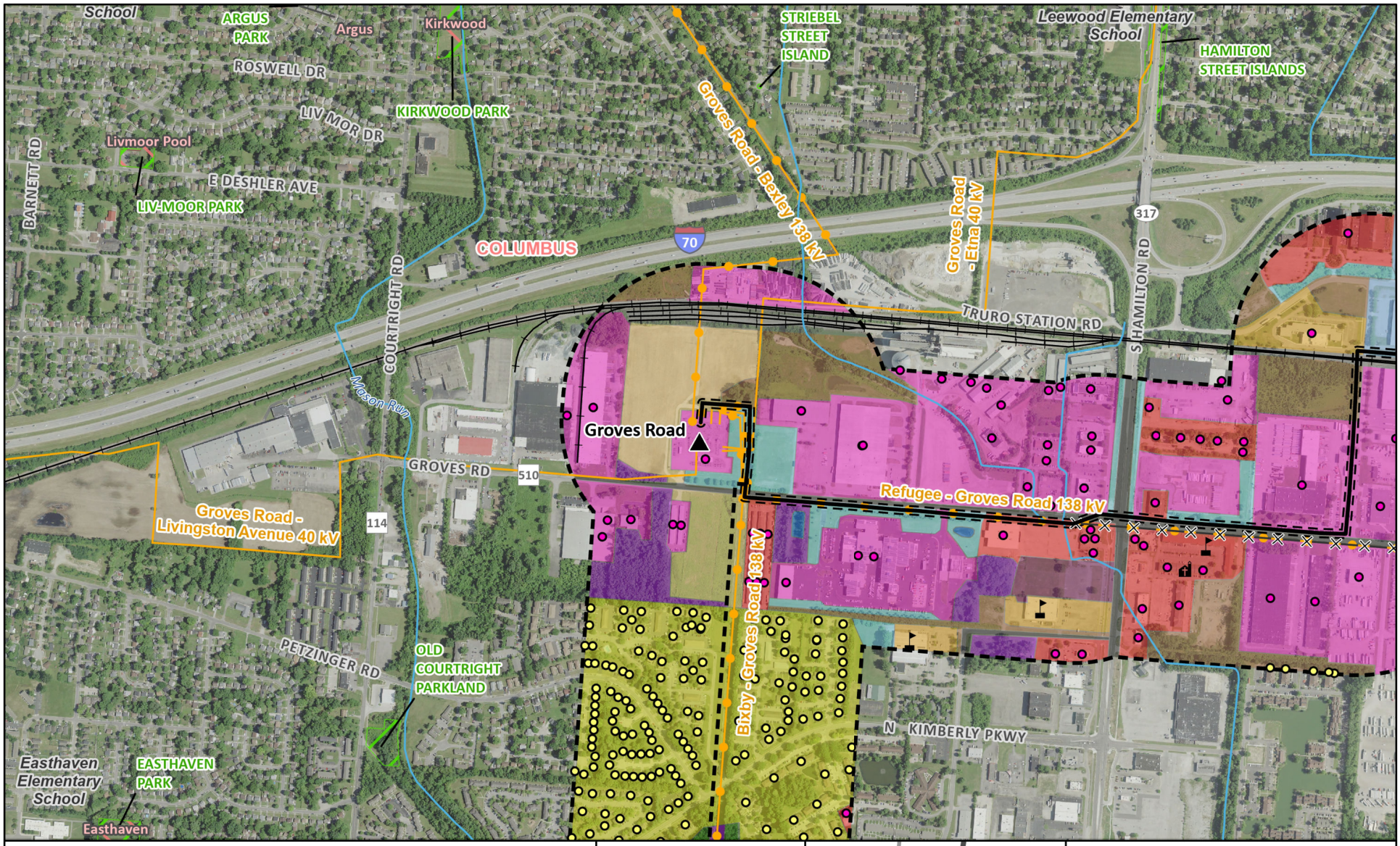


Figure 7-1E
Land Use

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet



Existing Station
Place of Worship
School/ Institution
Residence
Commercial/ Industrial Building
Railroad

Preferred Route
Alternate Route
Existing Transmission to be Retired

Existing Transmission Line

69 kV and below
138 kV
Railroad
NHD Stream or River
Proposed ROW
1,000 Foot Buffer

City of Columbus Park or Easement Boundary

PADUS

Local Government

Land Use

Agricultural
Commercial
County Road or Highway
Forested
Hospital/ Office
Industrial/ Facility
Institutional (School)
Landscaped/ Maintained
Old Field
Residential (includes planned)
Railroad
Scrub-Shrub
Surface Water
Vacant
Township Boundary
Municipal Boundary

Data Sources:
AEP (2017), ESRI (2021), ODOT (2021), OSIP (2022), USGS (2021)

State Plane Ohio South
NAD 83

March 06, 2025

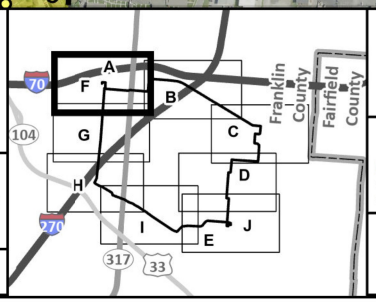
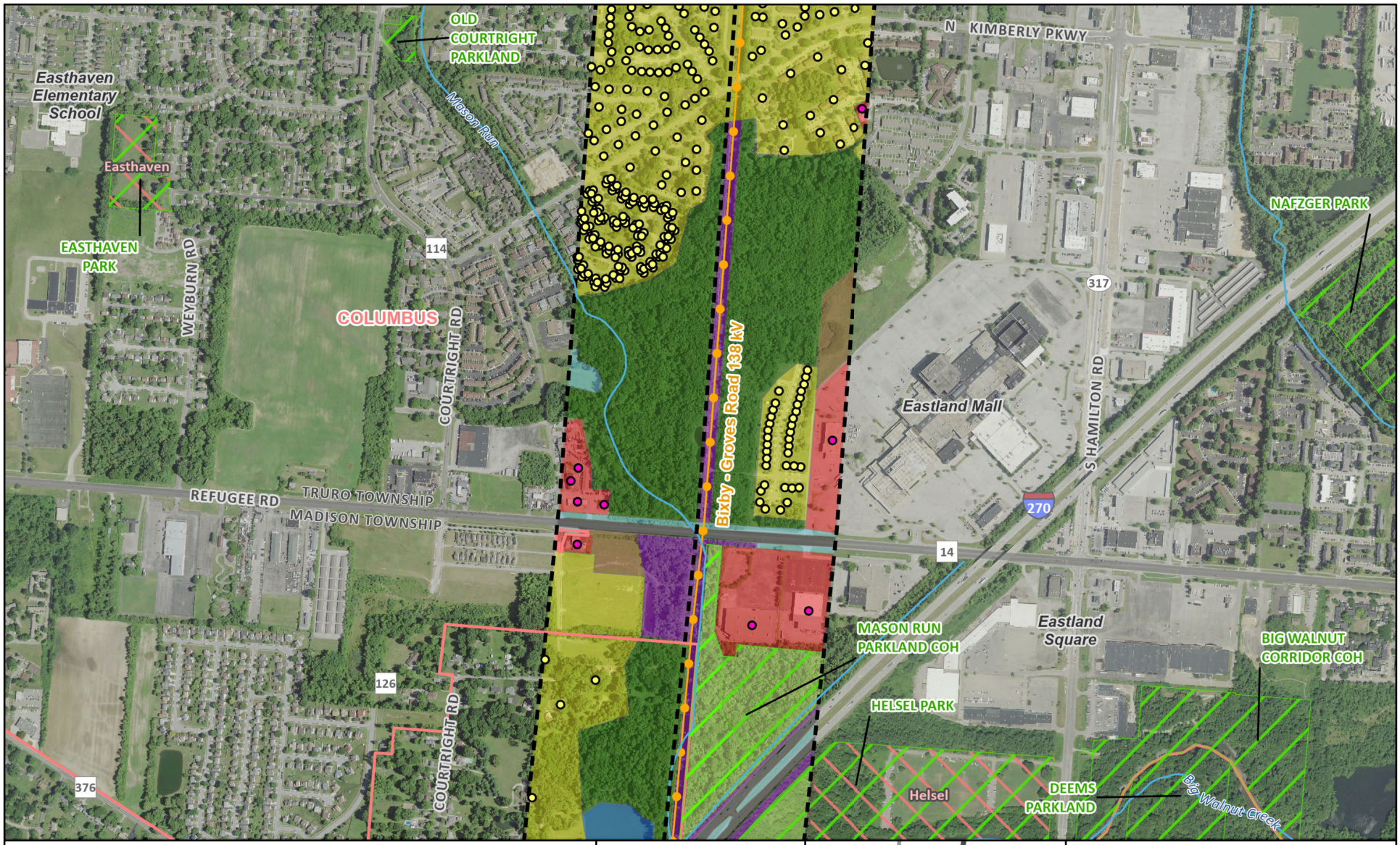


Figure 7-1F
Land Use

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY™

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet



Residence
Commercial/ Industrial Building
Alternate Route

Existing Transmission Line
138 kV
NHD Stream or River

1,000 Foot Buffer
City of Columbus Park or Easement Boundary

PADUS
Local Government

Land Use
Commercial
County Road or Highway
Forested
Landscaped/ Maintained
Old Field
Open Space/ Recreational
Residential (includes planned)
Scrub-Shrub
Surface Water
Township Boundary
Municipal Boundary

Data Sources:
AEP (2017), ESRI (2021), ODOT (2021), OSIP (2022), USGS (2021)

State Plane Ohio South
NAD 83

March 06, 2025

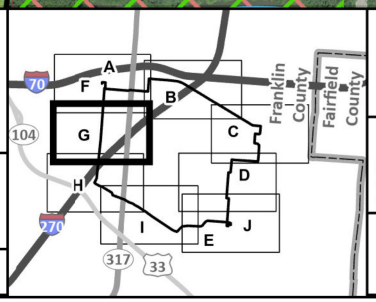
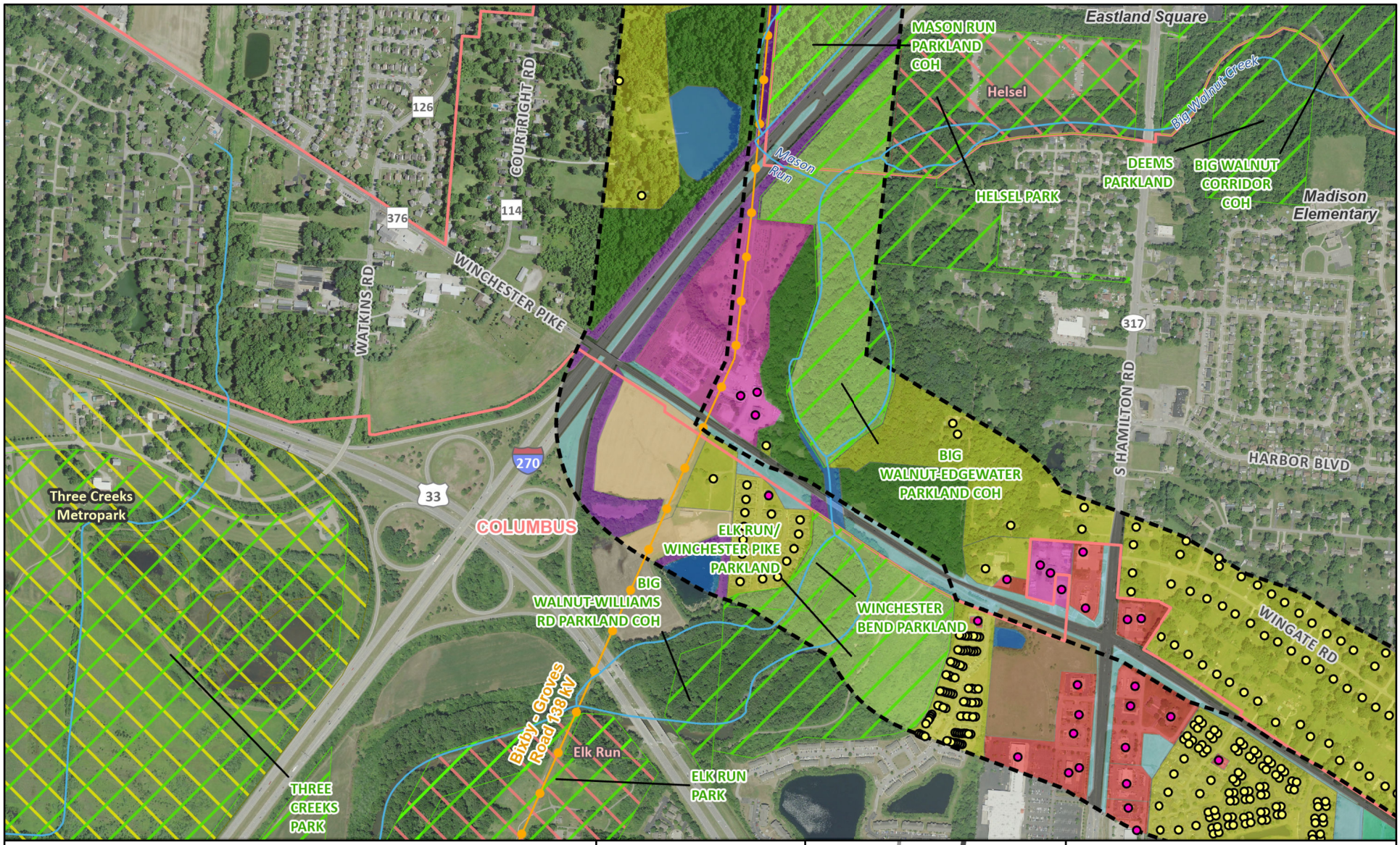


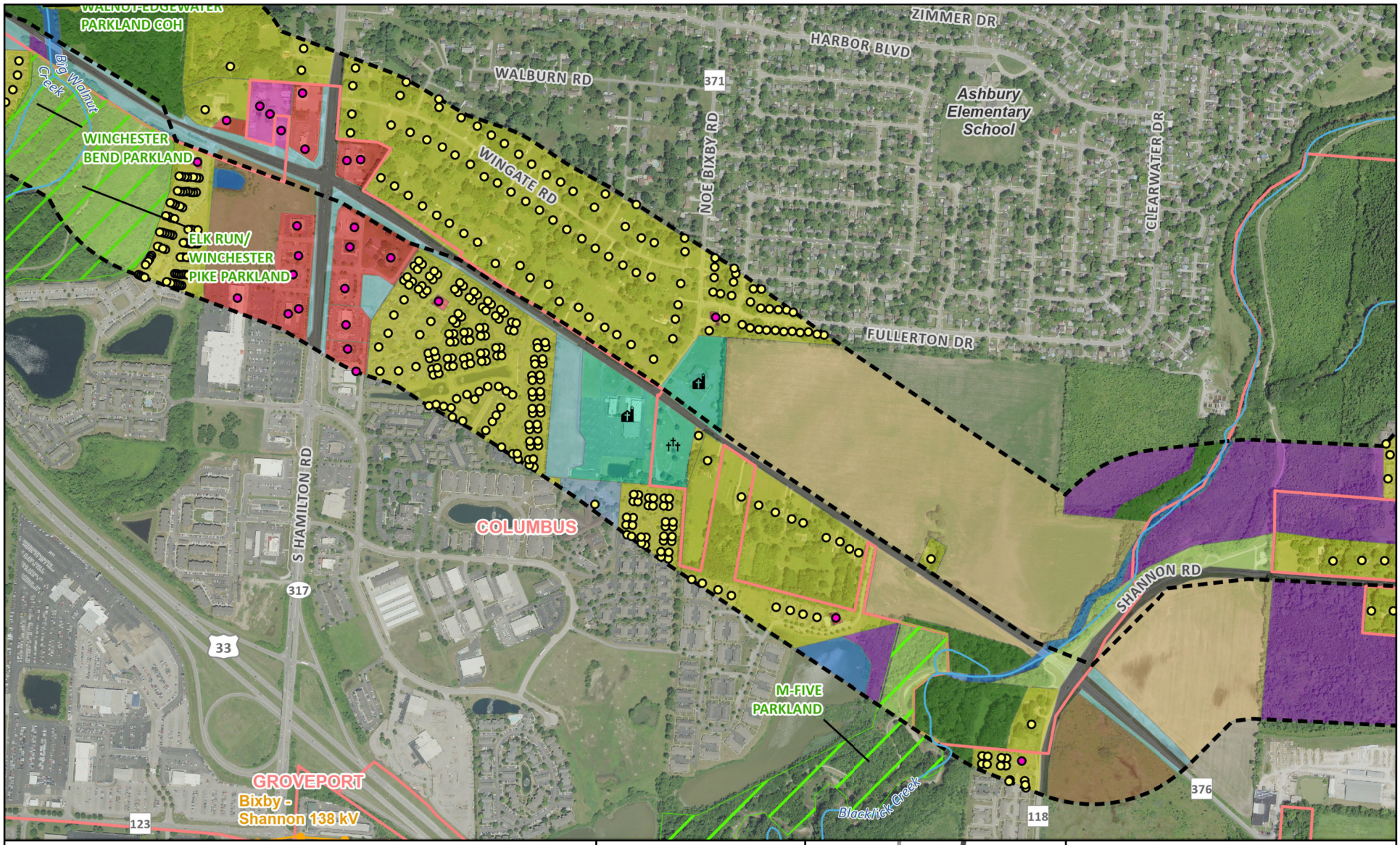
Figure 7-1G
Land Use

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY™

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet


MASON RUN PARKLAND COH
Eastland Square
Helsel
Big Walnut Creek
Mason Run
DEEMS PARKLAND
BIG WALNUT CORRIDOR COH
HELSEL PARK
Madison Elementary
COURTRIGHT RD
126
376
114
WATKINS RD
WINCHESTER PIKE
317
S HAMILTON RD
HARBOR BLVD
BIG WALNUT-EDGEWATER PARKLAND COH
270
33
Three Creeks Metropark
COLUMBUS
ELK RUN/ WINCHESTER PIKE PARKLAND
BIG WALNUT-WILLIAMS RD PARKLAND COH
WINCHESTER BEND PARKLAND
WINGATE RD
Elk Run
ELK RUN PARK
THREE CREEKS PARK
Residence
Commercial/ Industrial Building
Alternate Route
Existing Transmission Line
138 kV
NHD Stream or River
1,000 Foot Buffer
City of Columbus
Park or Easement Boundary
PADUS
Local Government
Regional Agency Special District
Land Use
Agricultural
Commercial
County Road or Highway
Forested
Industrial/ Facility
Landscaped/ Maintained
Old Field
Open Space/ Recreational
Place of Worship
Residential (includes planned)
Scrub-Shrub
Surface Water
Township Boundary
Municipal Boundary
Data Sources:
AEP (2017), ESRI (2021), ODOT (2021), OSIP (2022), USGS (2021)
State Plane Ohio South
NAD 83
March 06, 2025
A
B
C
D
E
F
G
H
I
J
70
104
270
317
33
Franklin County
Fairfield County
Figure 7-1H
Land Use
AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY
Groves Road - Shannon 138 kV
Transmission Line Project
0
1,000
2,000
Feet



Data Sources:
AEP (2017), ESRI (2021), ODOT (2021), OSIP (2022), USGS (2021)

State Plane Ohio South
NAD 83

March 06, 2025

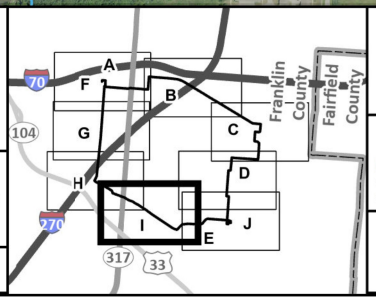
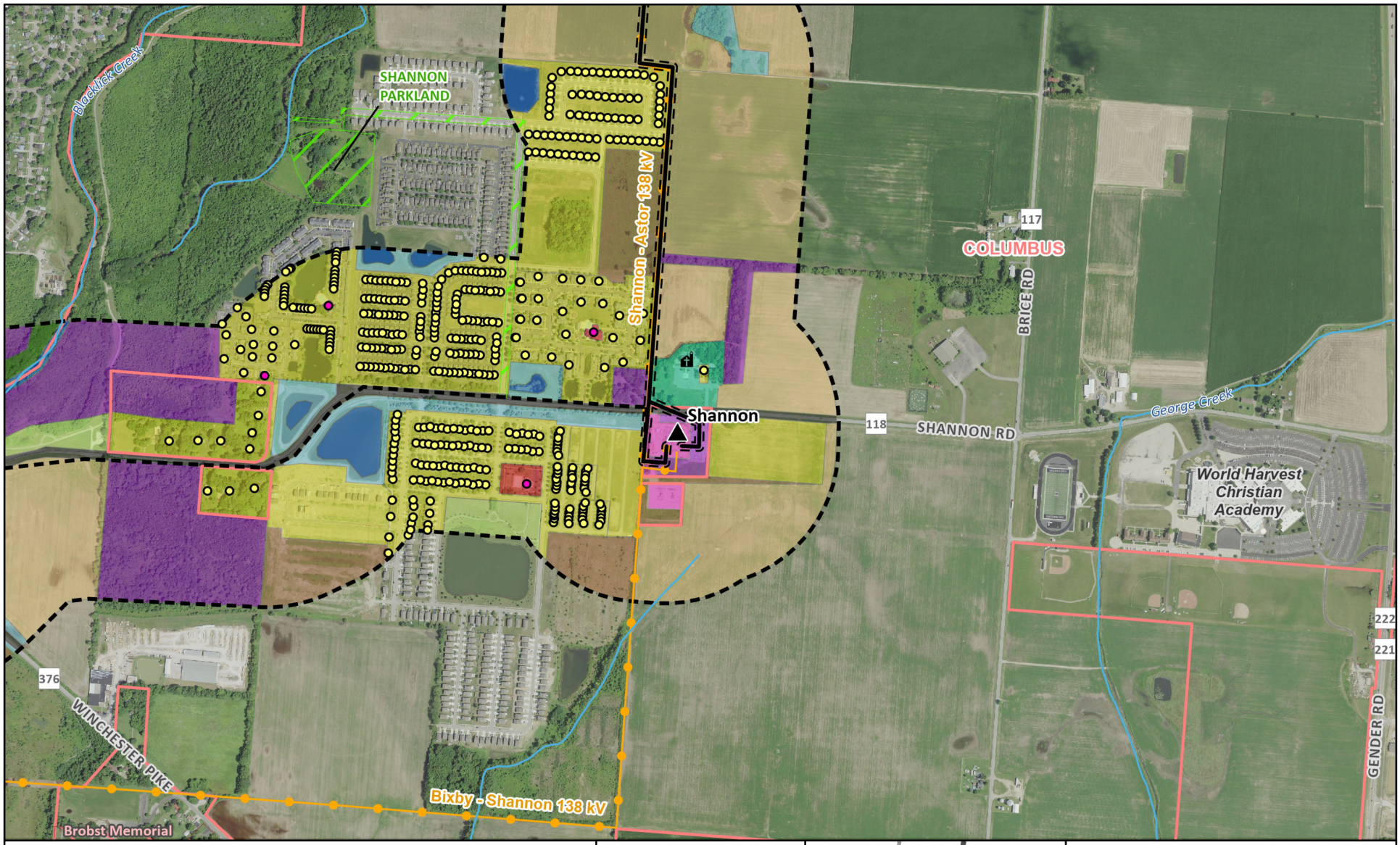


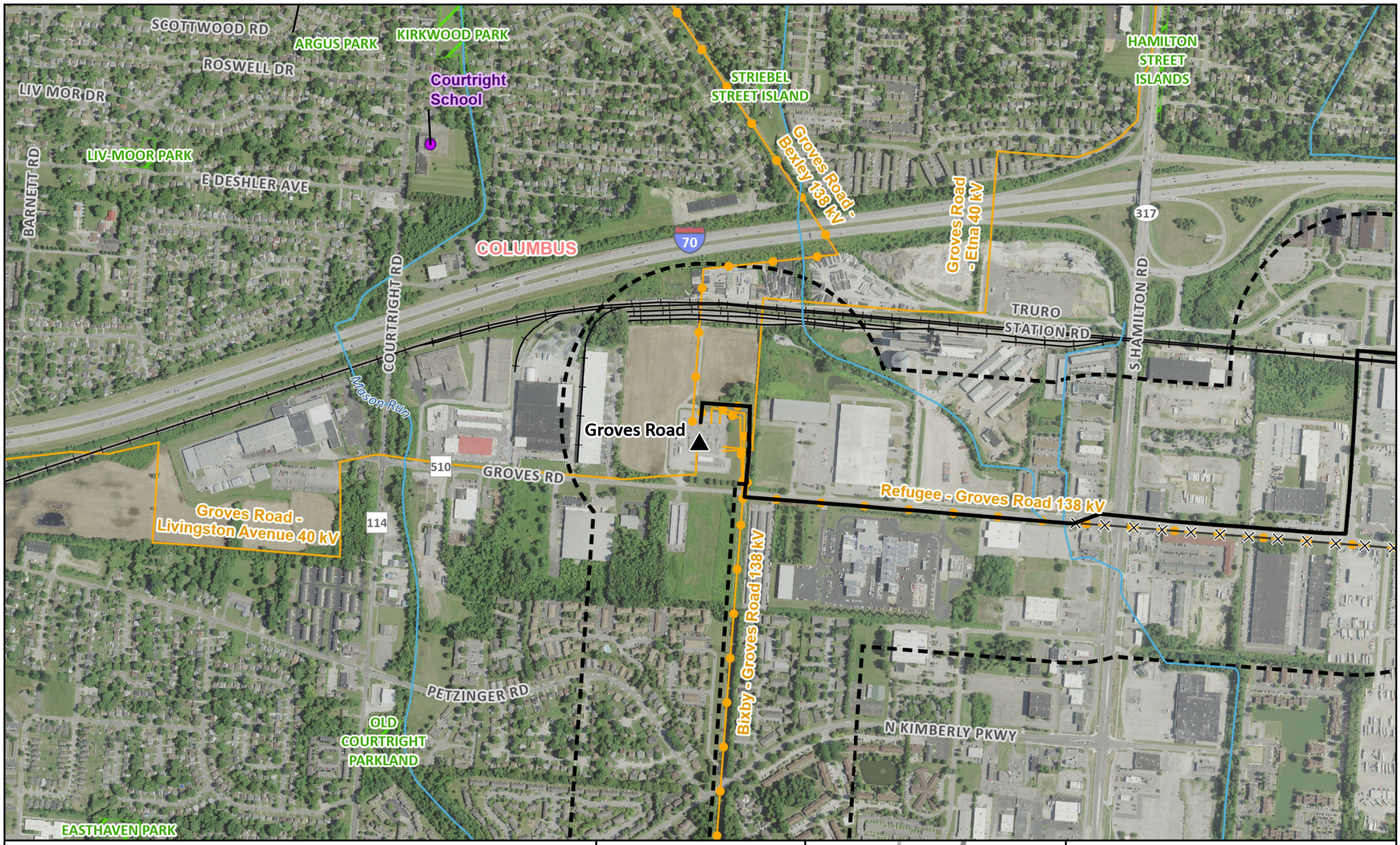
Figure 7-1l
Land Use

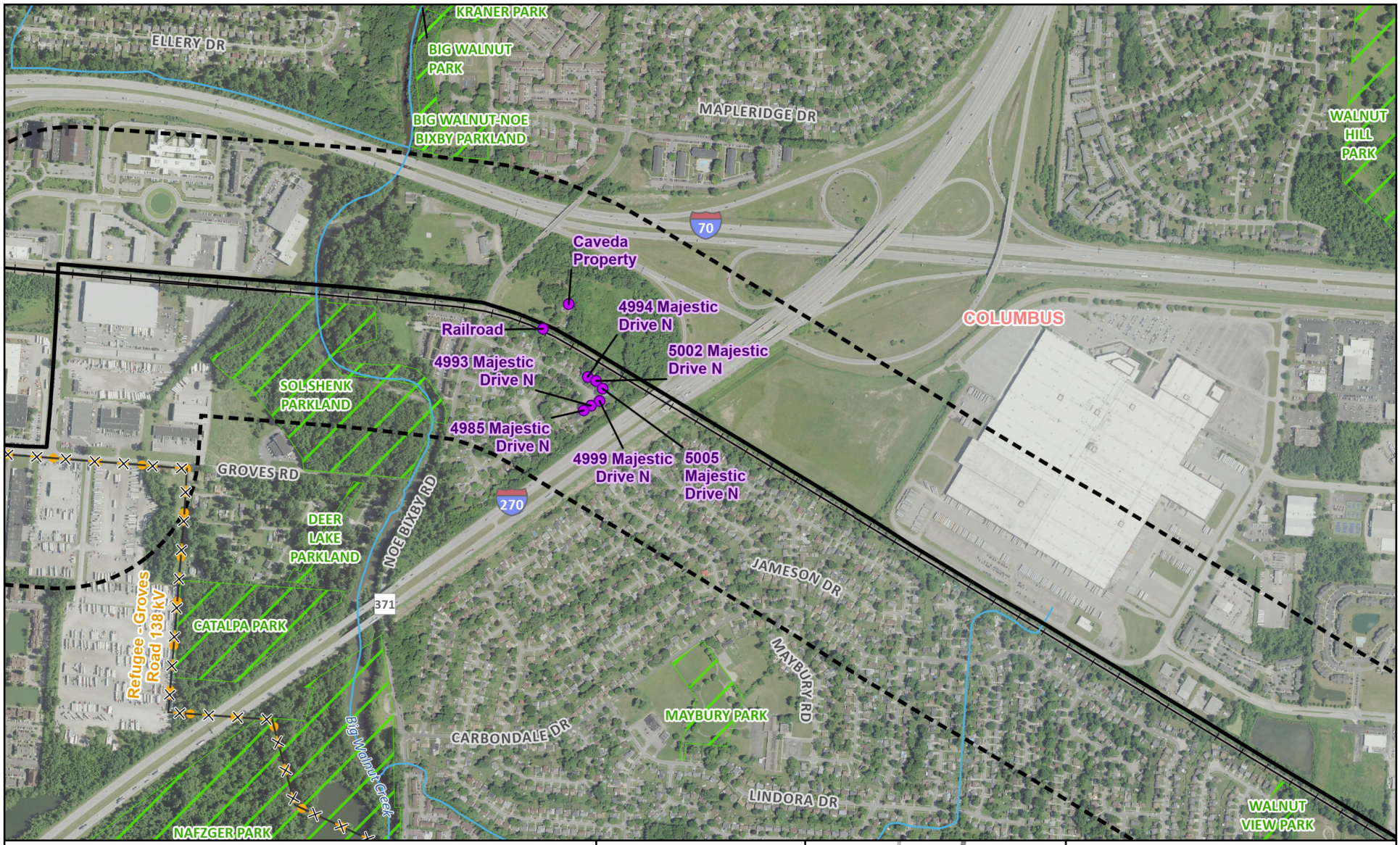
AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet


SHANNON PARKLAND
Blacklick Creek
Shannon - Astor 138 kV
COLUMBUS
117
BRICE RD
Shannon
118
SHANNON RD
George Creek
World Harvest Christian Academy
222
221
GENDER RD
376
WINCHESTER PIKE
Bixby - Shannon 138 kV
Brobst Memorial
Existing Station
Place of Worship
Residence
Commercial/ Industrial Building
Preferred Route
Alternate Route
Existing Transmission Line
138 kV
NHD Stream or River
Proposed ROW
1,000 Foot Buffer
City of Columbus Park or Easement Boundary
PADUS
Local Government
Land Use
Agricultural
Commercial
County Road or Highway
Forested
Industrial/ Facility
Landscaped/ Maintained
Old Field
Open Space/ Recreational
Place of Worship
Residential (includes planned)
Scrub-Shrub
Surface Water
Township Boundary
Municipal Boundary
Data Sources:
AEP (2017), ESRI (2021), ODOT (2021), OSIP (2022), USGS (2021)
State Plane Ohio South
NAD 83
March 06, 2025
A
B
C
D
E
F
G
H
I
J
70
104
270
317
33
Franklin County
Fairfield County
Figure 7-1J
Land Use
AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY
Groves Road - Shannon 138 kV
Transmission Line Project
0
1,000
2,000
Feet


SCOTTWOOD RD
ARGUS PARK
KIRKWOOD PARK
ROSWELL DR
LIV MOR DR
Courtright School
STRIEBEL STREET ISLAND
HAMILTON STREET ISLANDS
LIV-MOOR PARK
E DESHLER AVE
BARNETT RD
Groves Road - Bexley 138 kV
Groves Road - Etna 40 kV
COLUMBUS
70
317
COURTRIGHT RD
TRURO STATION RD
S HAMILTON RD
Meson Run
Groves Road
510
GROVES RD
Refugee - Groves Road 138 kV
Groves Road - Livingston Avenue 40 kV
114
Bixby - Groves Road 138 kV
PETZINGER RD
OLD COURTRIGHT PARKLAND
N KIMBERLY PKWY
EASTHAVEN PARK
Known Architectural Site
Existing Station
Railroad
Preferred Route
Alternate Route
Existing Transmission to be Retired
Existing Transmission Line
69 kV and below
138 kV
Railroad
NHD Stream or River
1,000 Foot Buffer
City of Columbus Park or Easement Boundary
Township Boundary
Municipal Boundary
Data Sources:
AEP (2017), ESRI (2021), ODOT (2021), OSIP (2022), SHPO (2021), USGS (2021)
State Plane Ohio South
NAD 83
March 06, 2025
A
B
C
D
E
F
G
H
I
J
104
270
33
Franklin County
Fairfield County
Figure 7-2A
Recreational and Cultural Resources
AEP OHIO TRANSMISSION COMPANY
Groves Road - Shannon 138 kV
Transmission Line Project
0
1,000
2,000
Feet



Known Architectural Site
Railroad
Preferred Route
Existing Transmission to be Retired

Existing Transmission Line
138 kV
Railroad
NHD Stream or River
1,000 Foot Buffer

City of Columbus Park or Easement Boundary
Township Boundary
Municipal Boundary

Data Sources:
AEP (2017), ESRI (2021), ODOT (2021), OSIP (2022), SHPO (2021), USGS (2021)

State Plane Ohio South
NAD 83

March 06, 2025

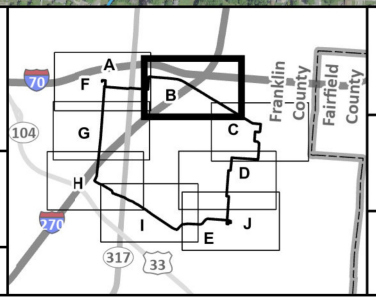
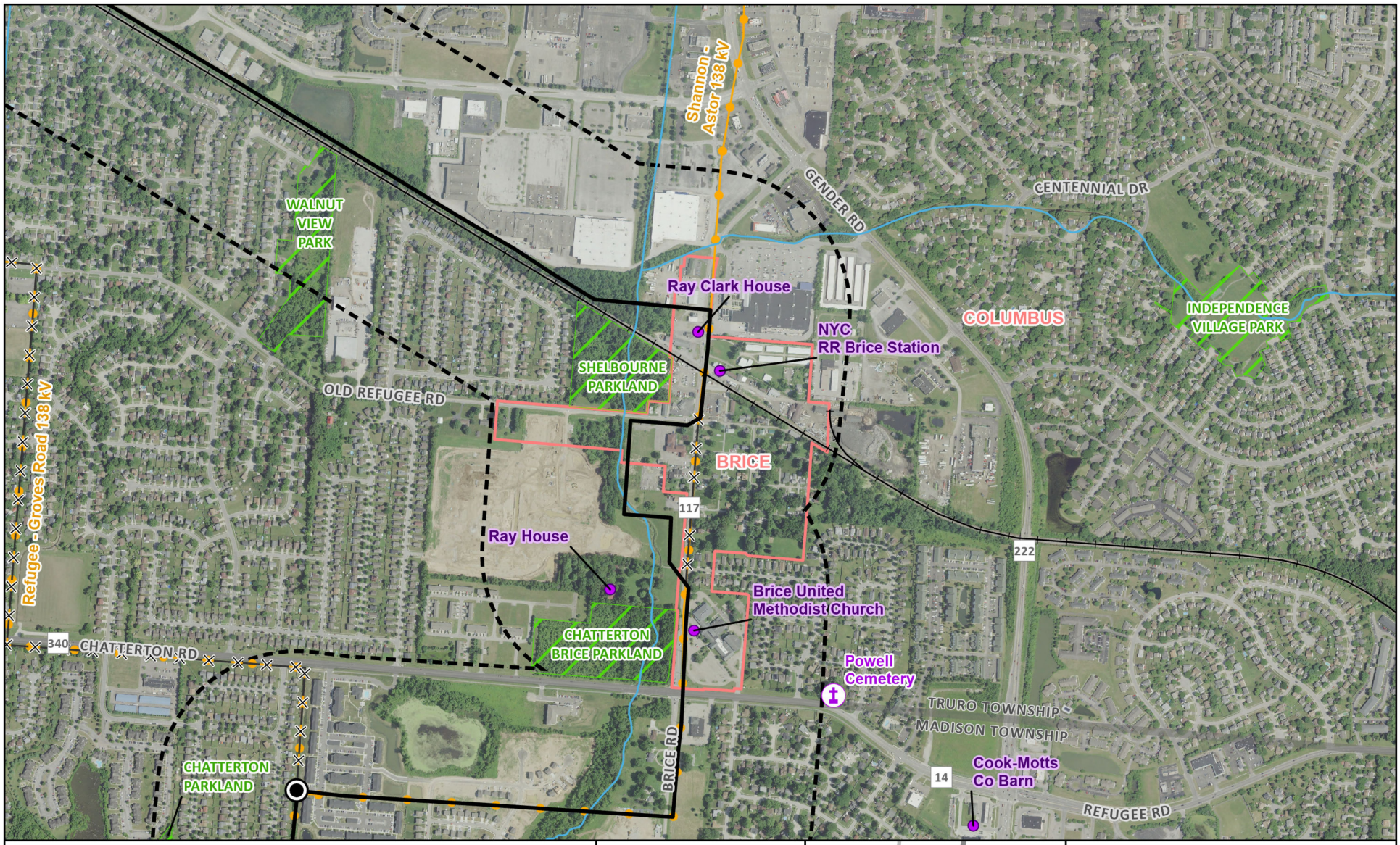


Figure 7-2B
Recreational and Cultural Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet



- Known Architectural Site
- Cemetery
- Refugee Switch (to be removed)
- Railroad
- Preferred Route
- Existing Transmission to be Retired

Existing Transmission Line

- 138 kV
- Railroad
- NHD Stream or River
- 1,000 Foot Buffer
- City of Columbus Park or Easement Boundary
- Township Boundary
- Municipal Boundary

Data Sources:
AEP (2017), ESRI (2021), ODOT (2021), OSIP (2022), SHPO (2021), USGS (2021)

State Plane Ohio South
NAD 83

March 06, 2025

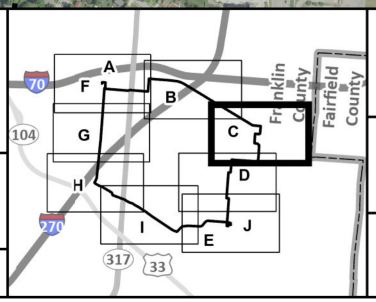
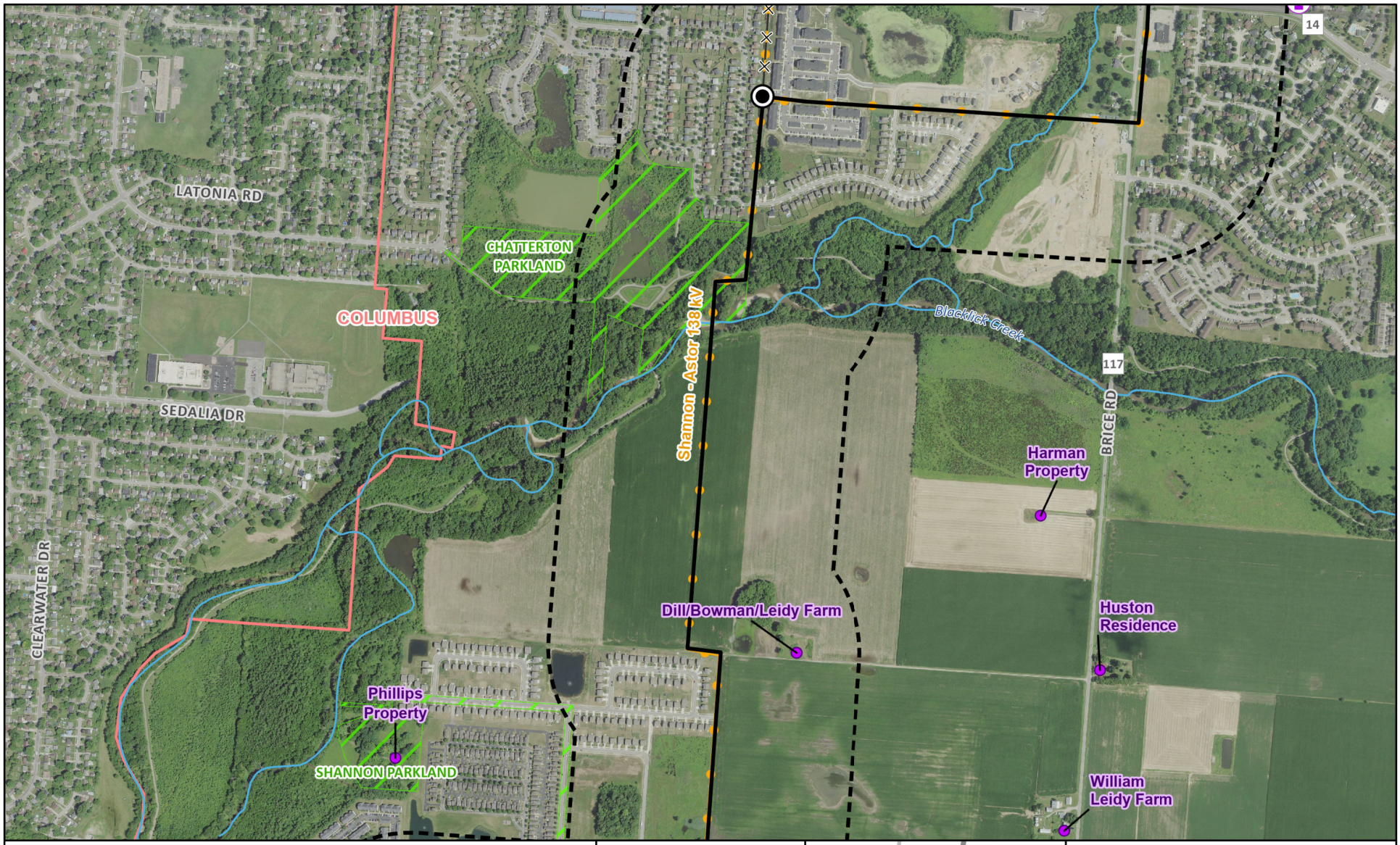


Figure 7-2C
Recreational and Cultural Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet



Known Architectural Site
Cemetery
Refugee Switch (to be removed)
Preferred Route
Existing Transmission to be Retired
Existing Transmission Line
138 kV
NHD Stream or River
1,000 Foot Buffer
City of Columbus Park or Easement Boundary
Township Boundary
Municipal Boundary

Data Sources:
AEP (2017), ESRI (2021), ODOT (2021), OSIP (2022), SHPO (2021), USGS (2021)

State Plane Ohio South
NAD 83

March 06, 2025

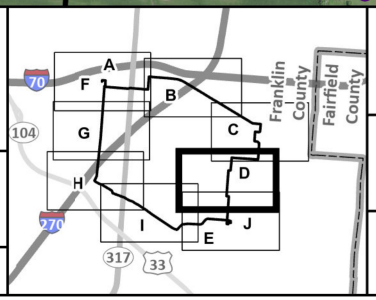


Figure 7-2D
Recreational and Cultural Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet



Known Architectural Site
Existing Station
Preferred Route
Alternate Route

Existing Transmission Line
138 kV
NHD Stream or River
1,000 Foot Buffer

City of Columbus Park or Easement Boundary
Township Boundary
Municipal Boundary

Data Sources:
AEP (2017), ESRI (2021), ODOT (2021), OSIP (2022), SHPO (2021), USGS (2021)

State Plane Ohio South
NAD 83

March 06, 2025

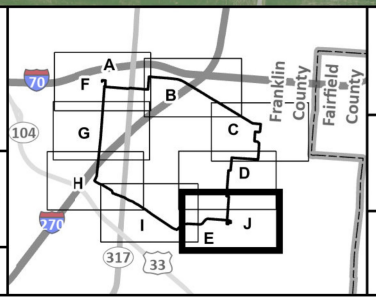
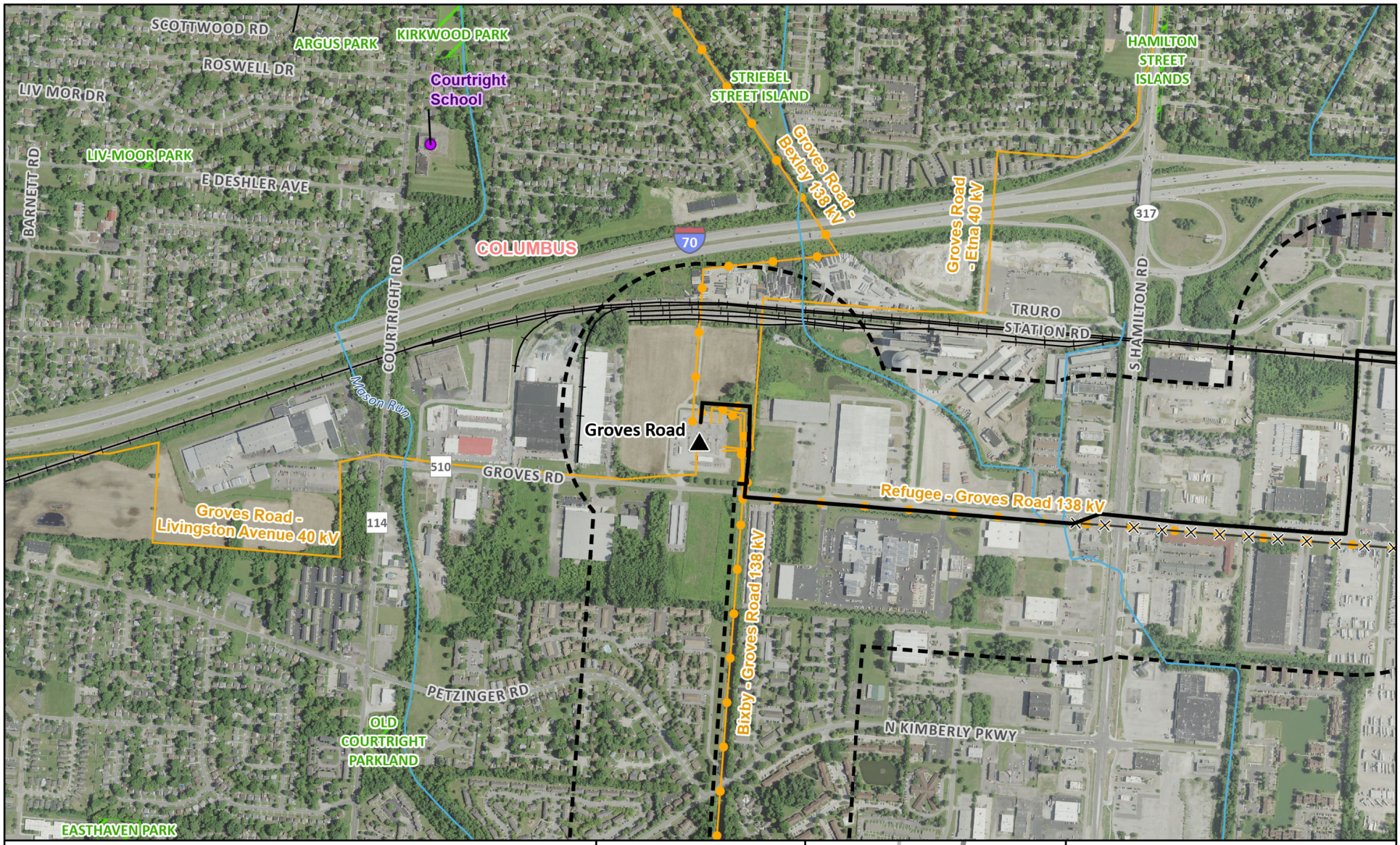


Figure 7-2E
Recreational and Cultural Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet


SCOTTWOOD RD
ARGUS PARK
KIRKWOOD PARK
ROSWELL DR
LIV MOR DR
Courtright School
STRIEBEL STREET ISLAND
HAMILTON STREET ISLANDS
LIV-MOOR PARK
E DESHLER AVE
BARNETT RD
Groves Road - Bexley 138 kV
Groves Road - Etna 40 kV
317
70
COLUMBUS
COURTRIGHT RD
TRURO STATION RD
S HAMILTON RD
Meson Run
Groves Road
510
GROVES RD
Refugee - Groves Road 138 kV
Groves Road - Livingston Avenue 40 kV
114
Bixby - Groves Road 138 kV
PETZINGER RD
OLD COURTRIGHT PARKLAND
N KIMBERLY PKWY
EASTHAVEN PARK
Known Architectural Site
Existing Station
Railroad
Preferred Route
Alternate Route
Existing Transmission to be Retired
Existing Transmission Line
69 kV and below
138 kV
Railroad
NHD Stream or River
1,000 Foot Buffer
City of Columbus Park or Easement Boundary
Township Boundary
Municipal Boundary
Data Sources:
AEP (2017), ESRI (2021), ODOT (2021), OSIP (2022), SHPO (2021), USGS (2021)
State Plane Ohio South
NAD 83
March 06, 2025
A
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G
H
I
J
104
270
33
Franklin County
Fairfield County
Figure 7-2F
Recreational and Cultural Resources
AEP OHIO TRANSMISSION COMPANY
Groves Road - Shannon 138 kV
Transmission Line Project
0
1,000
2,000
Feet



Known Architectural Site
Preferred Route
Alternate Route

Existing Transmission Line
138 kV

NHD Stream or River
1,000 Foot Buffer
City of Columbus Park or Easement Boundary
Township Boundary
Municipal Boundary

Data Sources:
AEP (2017), ESRI (2021), ODOT (2021), OSIP (2022), SHPO (2021), USGS (2021)

State Plane Ohio South
NAD 83

March 06, 2025

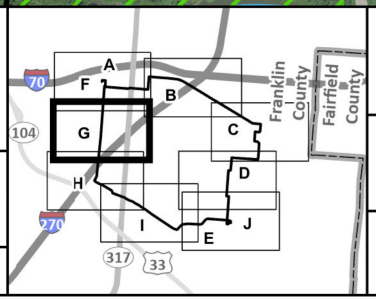
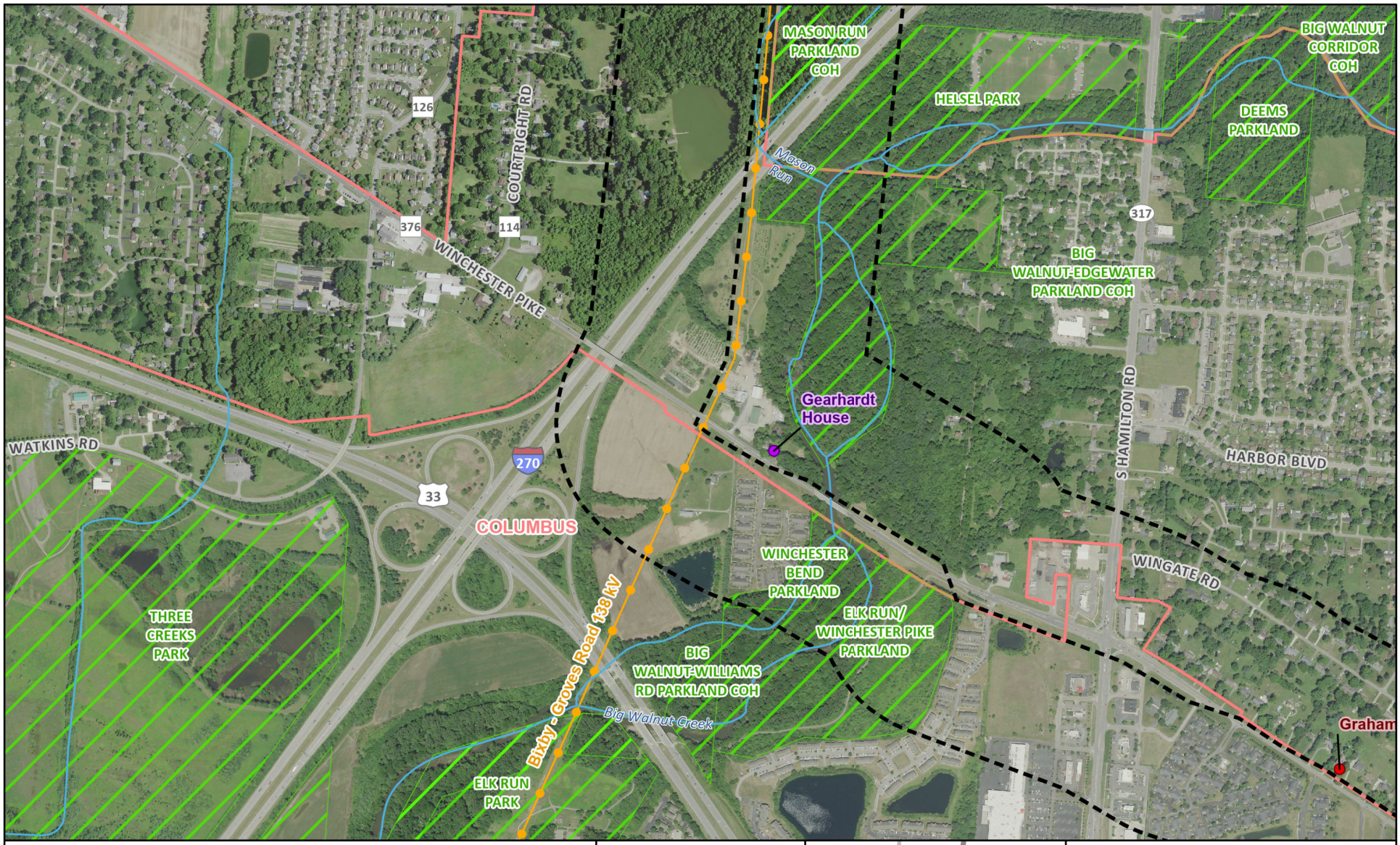


Figure 7-2G
Recreational and Cultural Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet



NRHP Eligible Architectural Site
Known Architectural Site
Preferred Route
Alternate Route

Existing Transmission Line
138 kV
NHD Stream or River
1,000 Foot Buffer

City of Columbus Park or Easement Boundary
Township Boundary
Municipal Boundary

Data Sources:
AEP (2017), ESRI (2021), ODOT (2021), OSIP (2022), SHPO (2021), USGS (2021)

State Plane Ohio South
NAD 83

March 06, 2025

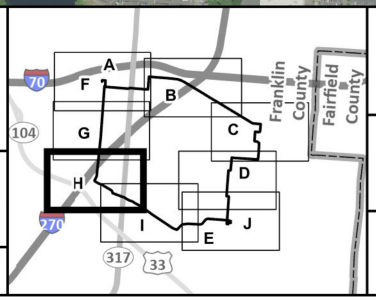
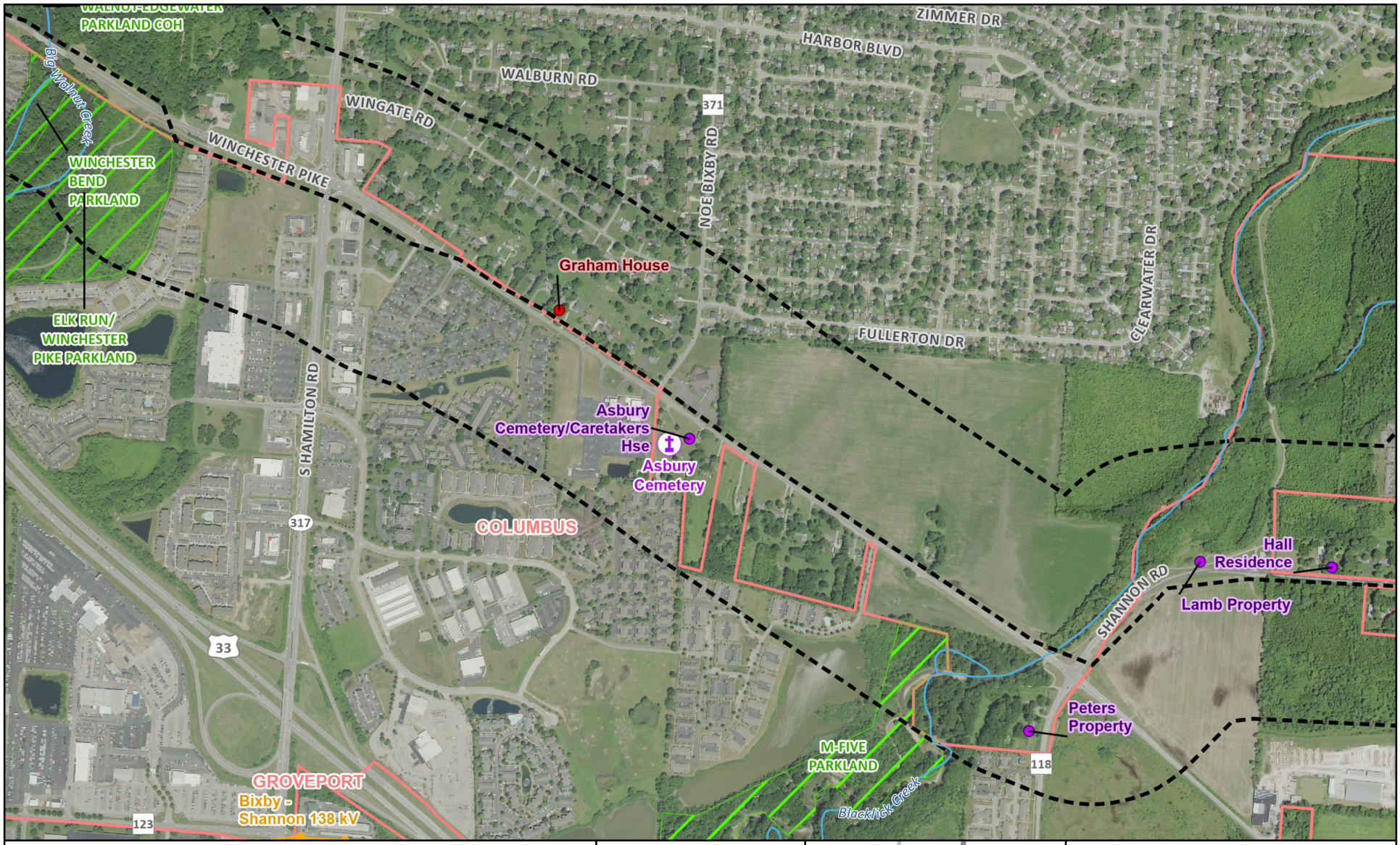


Figure 7-2H
Recreational and Cultural Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet



NRHP Eligible Architectural Site
Known Architectural Site
Cemetery
Preferred Route
Alternate Route
Existing Transmission Line
138 kV
NHD Stream or River
1,000 Foot Buffer
City of Columbus Park or Easement Boundary
Township Boundary
Municipal Boundary

Data Sources:
AEP (2017), ESRI (2021), ODOT (2021), OSIP (2022), SHPO (2021), USGS (2021)

State Plane Ohio South
NAD 83

March 06, 2025

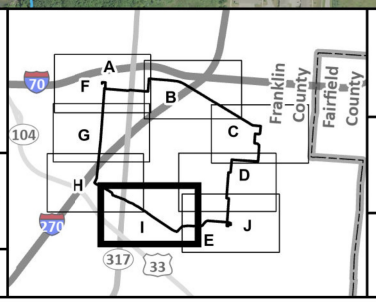


Figure 7-2I
Recreational and Cultural Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet



Known Architectural Site
Existing Station
Preferred Route
Alternate Route

Existing Transmission Line
138 kV
NHD Stream or River
1,000 Foot Buffer

City of Columbus Park or Easement Boundary
Township Boundary
Municipal Boundary

Data Sources:
AEP (2017), ESRI (2021), ODOT (2021), OSIP (2022), SHPO (2021), USGS (2021)

State Plane Ohio South
NAD 83

March 06, 2025

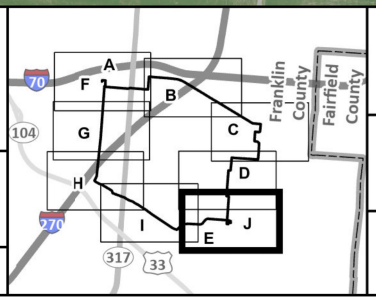
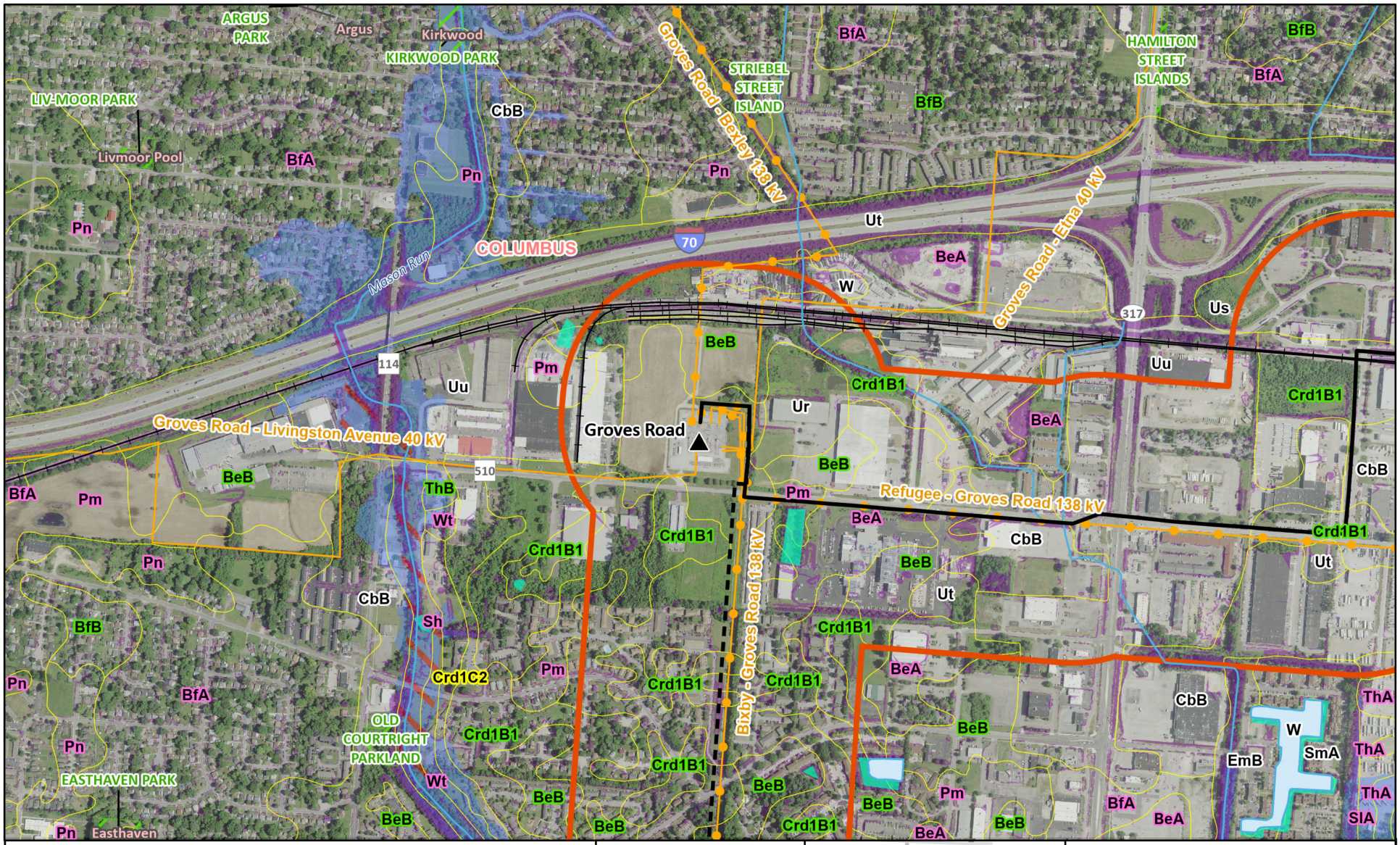


Figure 7-2J
Recreational and Cultural Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet



Existing Station
Church
School
Preferred Route
Alternate Route
Railroad
NHD Stream or River
1,000 Foot Buffer
NHD Waterbody
NWI Wetland
Slopes >= 12%
City of Columbus Park or Easement Boundary
Protected Areas - Ownership Type
Local Government
FEMA Regulatory Floodway
FEMA 100-Year Floodplain
Township Boundary
Municipal Boundary

Soil Map Unit
Erosion Hazard
Ab Moderate
Ab Not rated
Ab Severe
Ab Slight

Data Sources:
AEP (2017), ESRI (2021), FEMA (2018), ODOT (2021), OSIP (2022), NRCS (2019), USFWS (2020), USGS (2021)

State Plane Ohio South
NAD 83

March 06, 2025

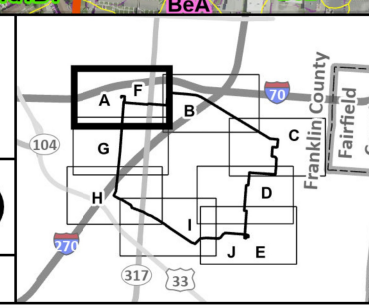
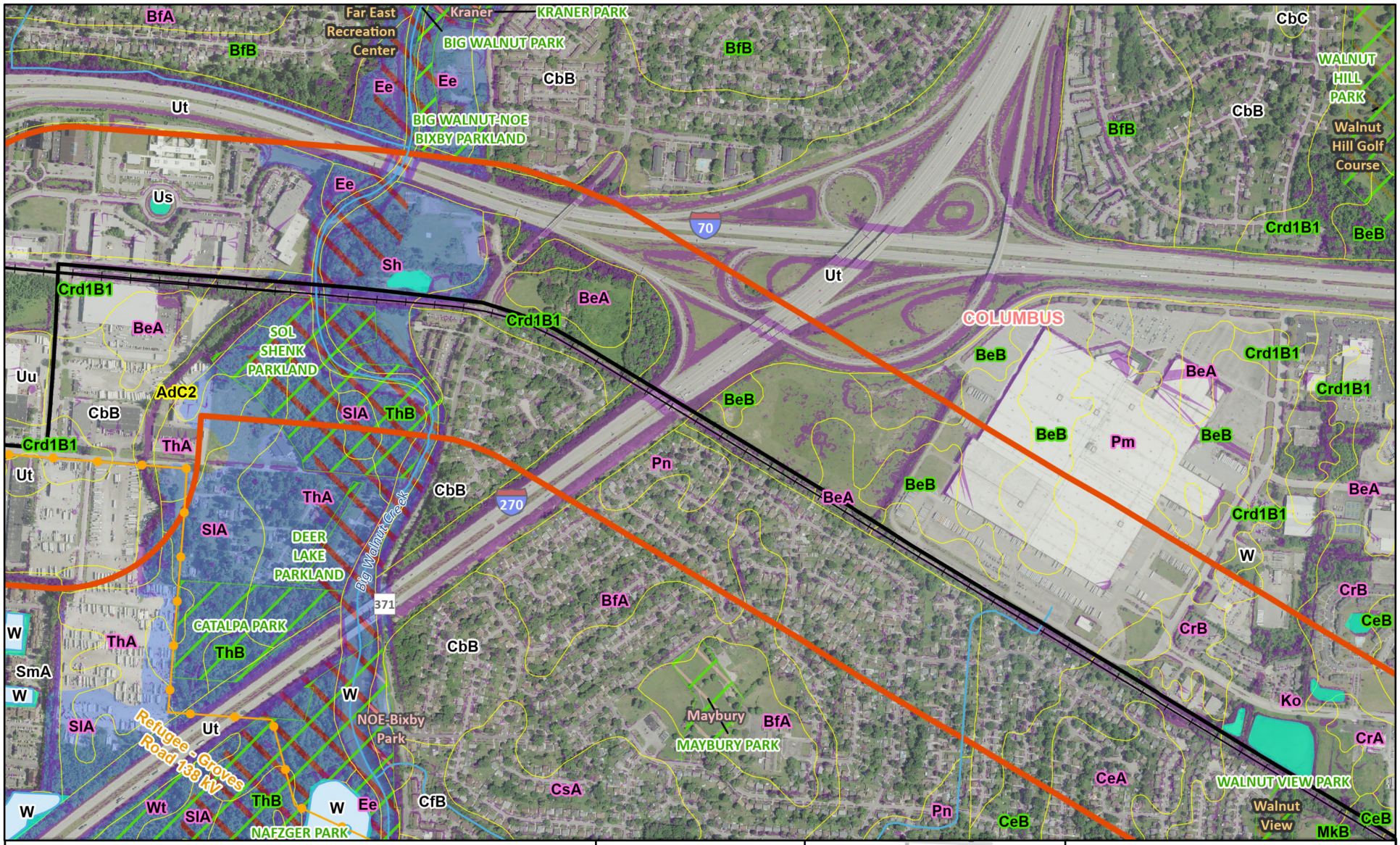


Figure 8-1A
Ecological Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet



School
Preferred Route
Railroad
NHD Stream or River
1,000 Foot Buffer
NHD Waterbody
NWI Wetland
Slopes >= 12%
City of Columbus Park or Easement Boundary
Protected Areas - Ownership Type
Local Government
Private Land
FEMA Regulatory Floodway
FEMA 100-Year Floodplain
Township Boundary
Municipal Boundary

Soil Map Unit
Erosion Hazard
Ab Moderate
Ab Not rated
Ab Severe
Ab Slight

Data Sources:
AEP (2017), ESRI (2021), FEMA (2018), ODOT (2021), OSIP (2022), NRCS (2019), USFWS (2020), USGS (2021)

State Plane Ohio South
NAD 83

March 06, 2025

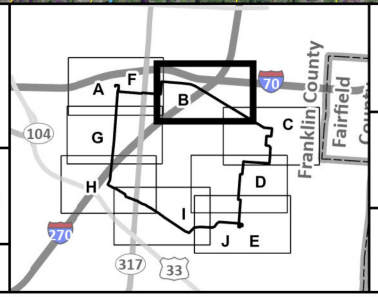
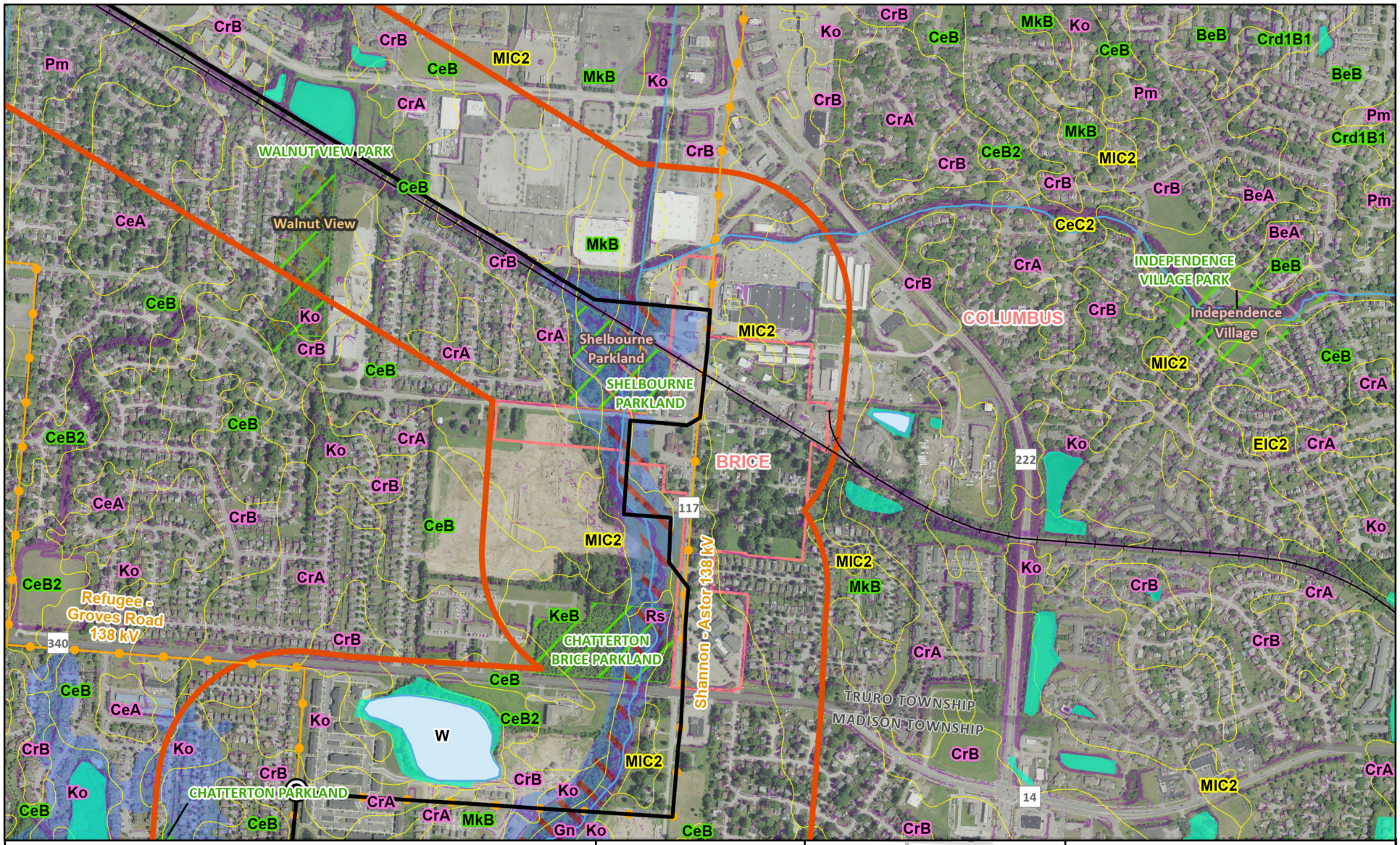


Figure 8-1B
Ecological Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet



Refugee Switch (to be removed)
Cemetery
Church
Preferred Route
Railroad
NHD Stream or River
1,000 Foot Buffer
NHD Waterbody
NWI Wetland
Slopes >= 12%
City of Columbus Park or Easement Boundary
Protected Areas - Ownership Type
Local Government
Private Land
FEMA Regulatory Floodway
FEMA 100-Year Floodplain
Township Boundary
Municipal Boundary

Soil Map Unit
Erosion Hazard
Ab Moderate
Ab Not rated
Ab Severe
Ab Slight

Data Sources:
AEP (2017), ESRI (2021), FEMA (2018), ODOT (2021), OSIP (2022), NRCS (2019), USFWS (2020), USGS (2021)

State Plane Ohio South
NAD 83

March 06, 2025

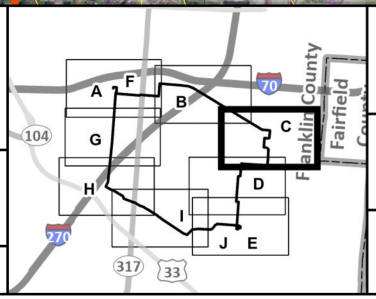
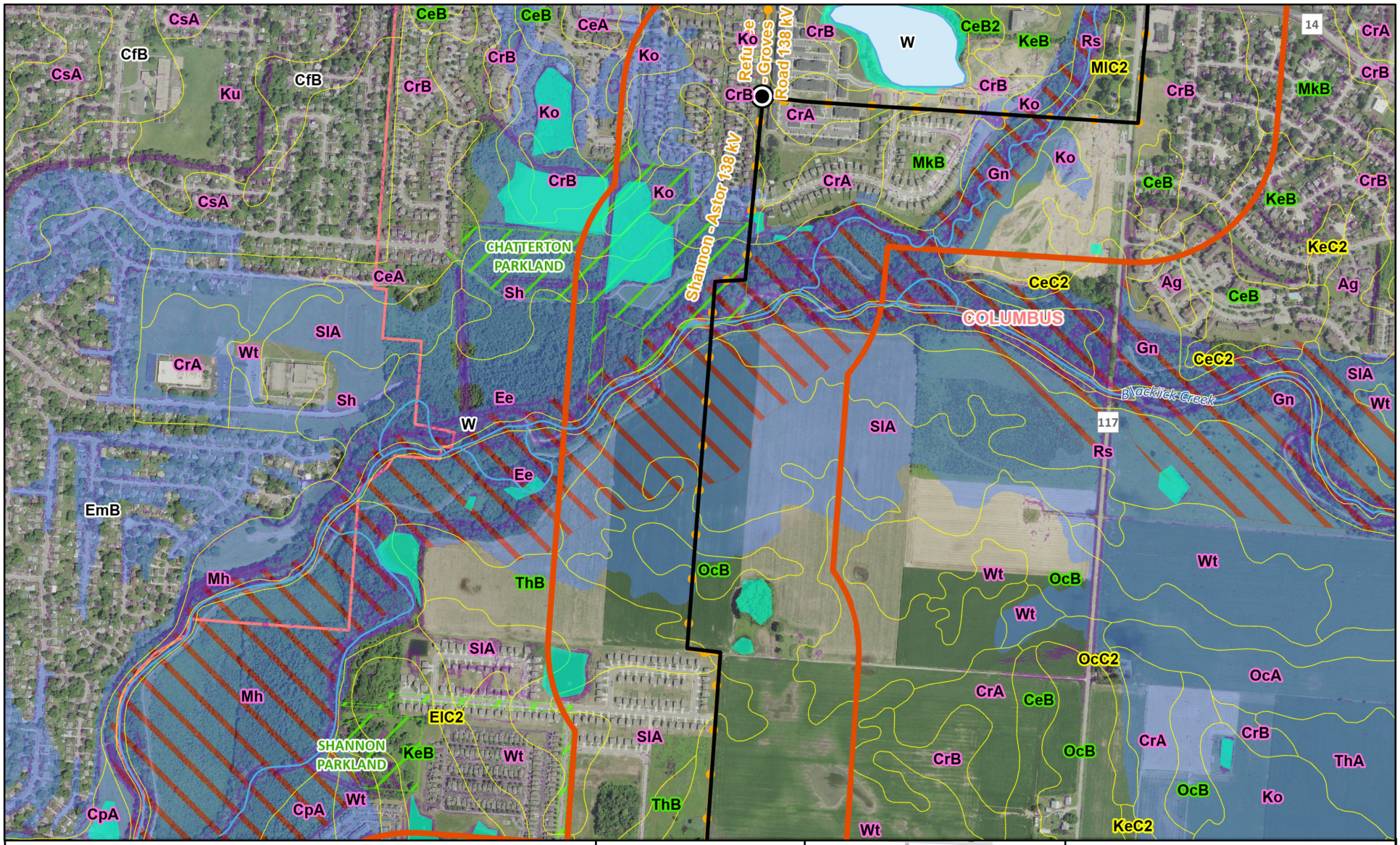


Figure 8-1C
Ecological Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet



Refugee Switch (to be removed)
Cemetery
School
Preferred Route
NHD Stream or River
1,000 Foot Buffer
NHD Waterbody
NWI Wetland
Slopes >= 12%
City of Columbus Park or Easement Boundary
FEMA Regulatory Floodway
FEMA 100-Year Floodplain
Township Boundary
Municipal Boundary

Soil Map Unit
Erosion Hazard
Ab Moderate
Ab Not rated
Ab Severe
Ab Slight

Data Sources:
AEP (2017), ESRI (2021), FEMA (2018), ODOT (2021), OSIP (2022), NRCS (2019), USFWS (2020), USGS (2021)

State Plane Ohio South
NAD 83

March 06, 2025

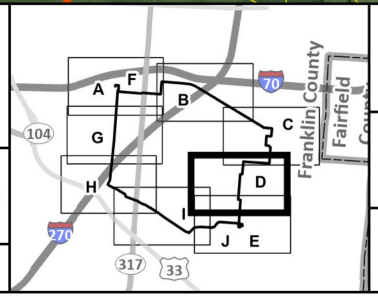
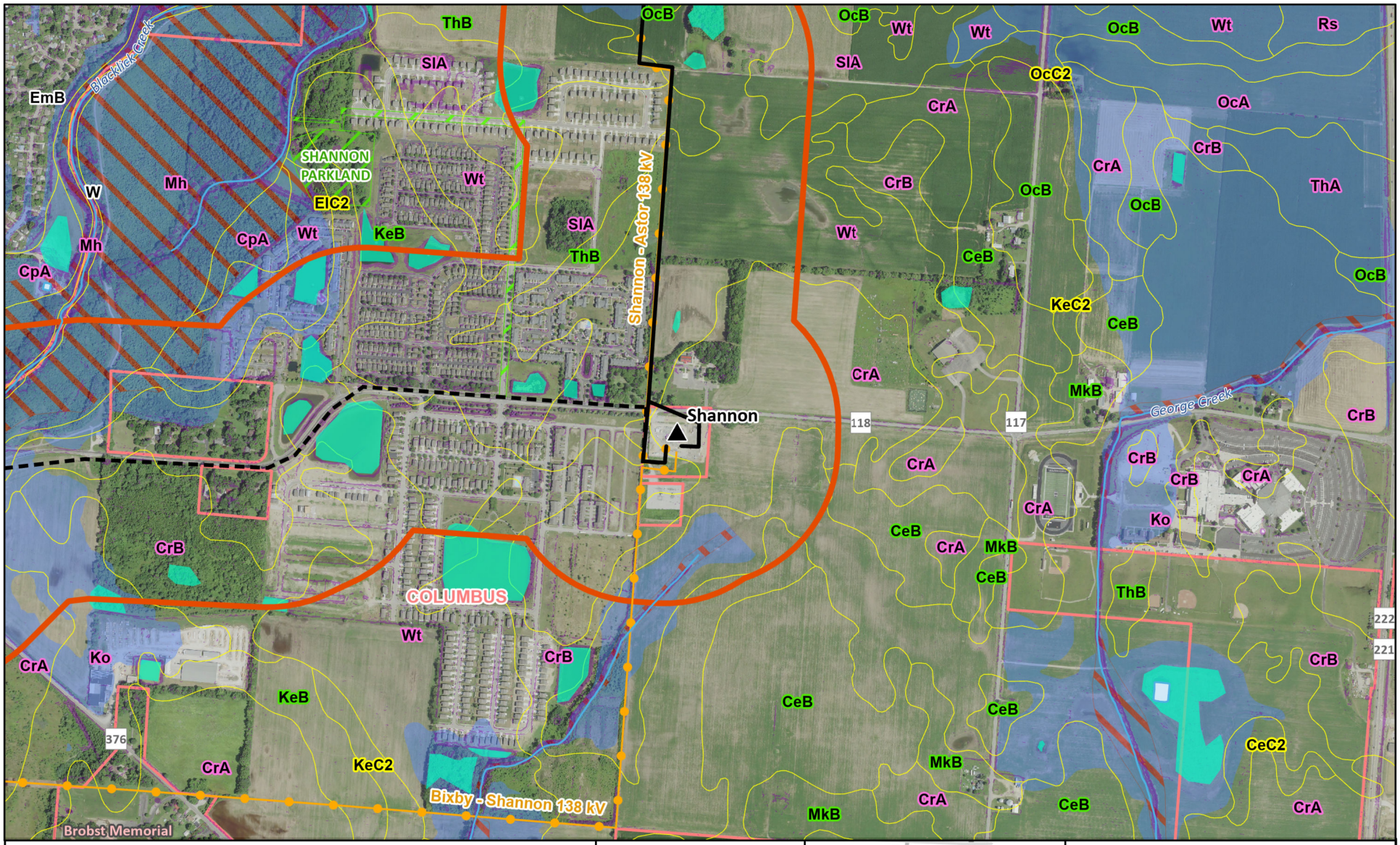


Figure 8-1D
Ecological Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet



Existing Station
Preferred Route
Alternate Route
NHD Stream or River
1,000 Foot Buffer
NHD Waterbody
NWI Wetland
Slopes >= 12%
City of Columbus Park or Easement Boundary
Protected Areas - Ownership Type
Local Government
FEMA Regulatory Floodway
FEMA 100-Year Floodplain
Township Boundary
Municipal Boundary

Soil Map Unit
Erosion Hazard
Ab Moderate
Ab Not rated
Ab Severe
Ab Slight

Data Sources:
AEP (2017), ESRI (2021), FEMA (2018), ODOT (2021), OSIP (2022), NRCS (2019), USFWS (2020), USGS (2021)

State Plane Ohio South
NAD 83

March 06, 2025

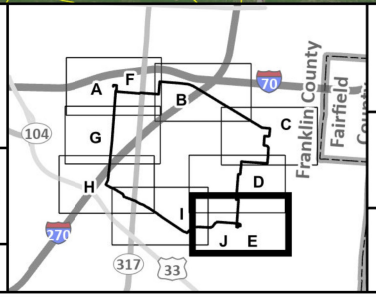
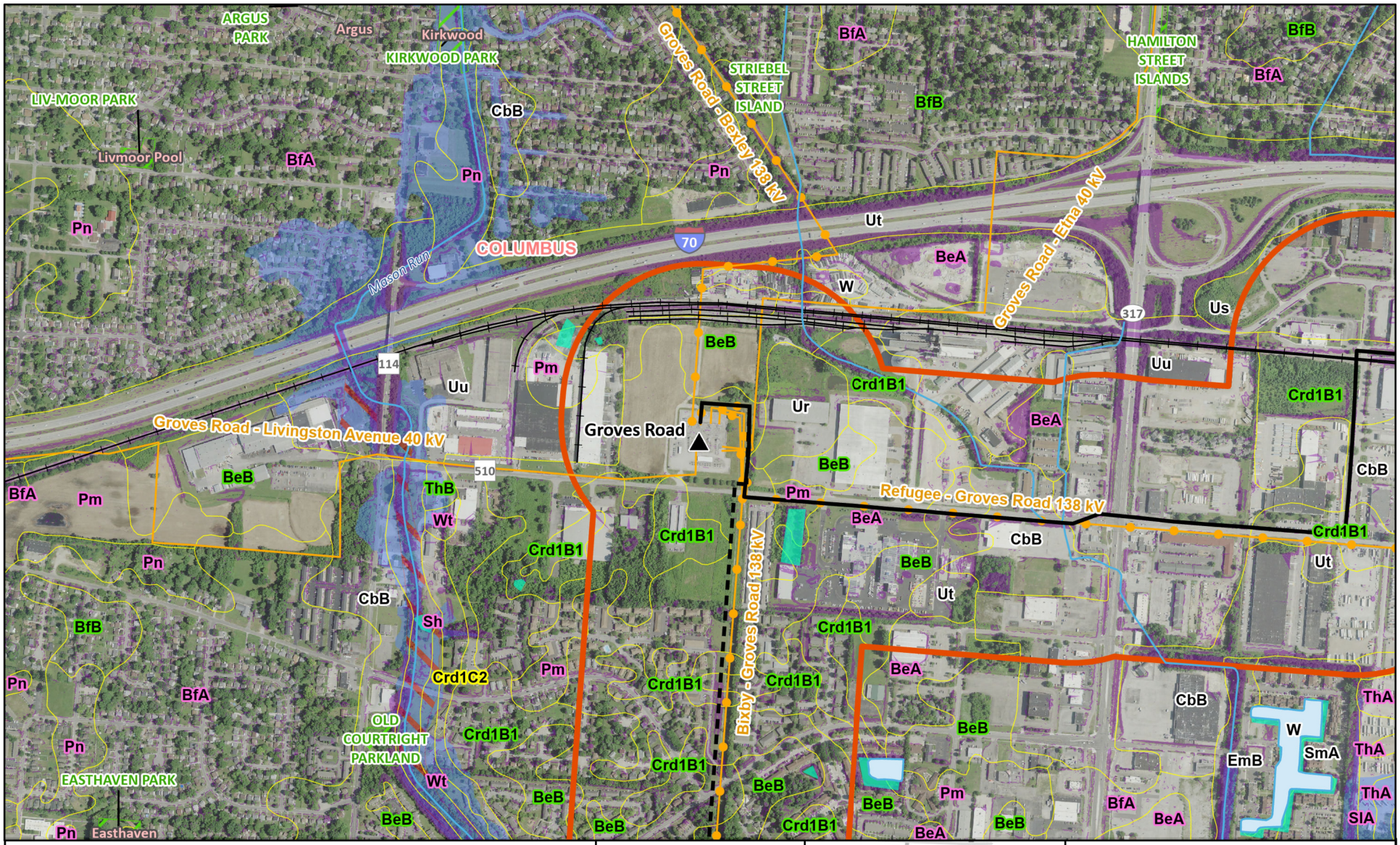


Figure 8-1E
Ecological Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet



Existing Station
Church
School
Preferred Route
Alternate Route
Railroad
NHD Stream or River
1,000 Foot Buffer
NHD Waterbody
NWI Wetland
Slopes >= 12%
City of Columbus Park or Easement Boundary
Protected Areas - Ownership Type
Local Government
FEMA Regulatory Floodway
FEMA 100-Year Floodplain
Township Boundary
Municipal Boundary

Soil Map Unit
Erosion Hazard
Ab Moderate
Ab Not rated
Ab Severe
Ab Slight

Data Sources:
AEP (2017), ESRI (2021), FEMA (2018), ODOT (2021), OSIP (2022), NRCS (2019), USFWS (2020), USGS (2021)

State Plane Ohio South
NAD 83

March 06, 2025

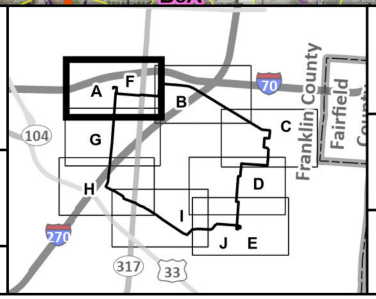


Figure 8-1F
Ecological Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet



Church
School
Preferred Route
Alternate Route
NHD Stream or River
1,000 Foot Buffer

NHD Waterbody
NWI Wetland
Slopes >= 12%
City of Columbus Park or Easement Boundary

Protected Areas - Ownership Type
Local Government

FEMA Regulatory Floodway
FEMA 100-Year Floodplain
Township Boundary
Municipal Boundary

Soil Map Unit
Erosion Hazard
Ab Moderate
Ab Not rated
Ab Severe
Ab Slight

Data Sources:
AEP (2017), ESRI (2021), FEMA (2018), ODOT (2021), OSIP (2022), NRCS (2019), USFWS (2020), USGS (2021)

State Plane Ohio South
NAD 83

March 06, 2025

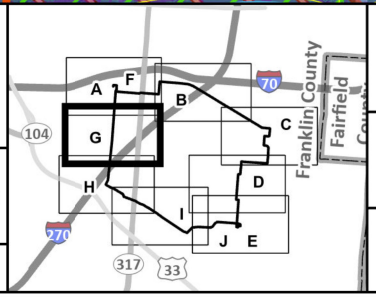
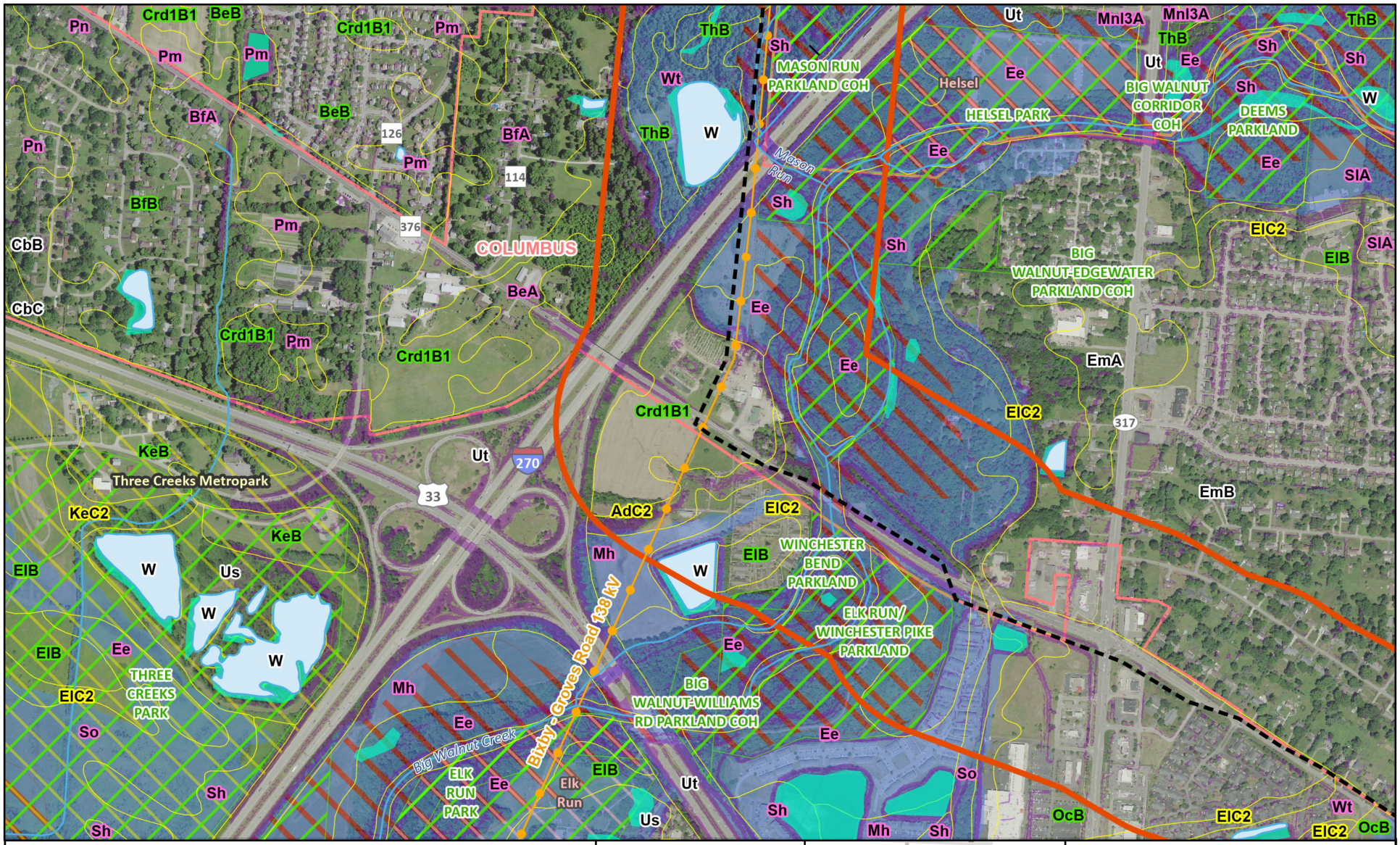


Figure 8-1G
Ecological Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet



Church
School
Preferred Route
Alternate Route
NHD Stream or River

1,000 Foot Buffer
NHD Waterbody
NWI Wetland
Slopes >= 12%

City of Columbus Park or Easement Boundary

Protected Areas - Ownership Type

Local Government
Regional Agency Special District

FEMA Regulatory Floodway
FEMA 100-Year Floodplain
Township Boundary
Municipal Boundary

Soil Map Unit

Erosion Hazard

Ab Moderate
Ab Not rated
Ab Severe
Ab Slight

Data Sources:
AEP (2017), ESRI (2021), FEMA (2018), ODOT (2021), OSIP (2022), NRCS (2019), USFWS (2020), USGS (2021)

State Plane Ohio South
NAD 83

March 06, 2025

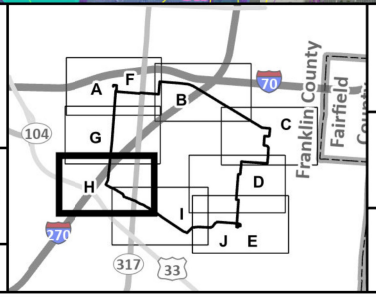
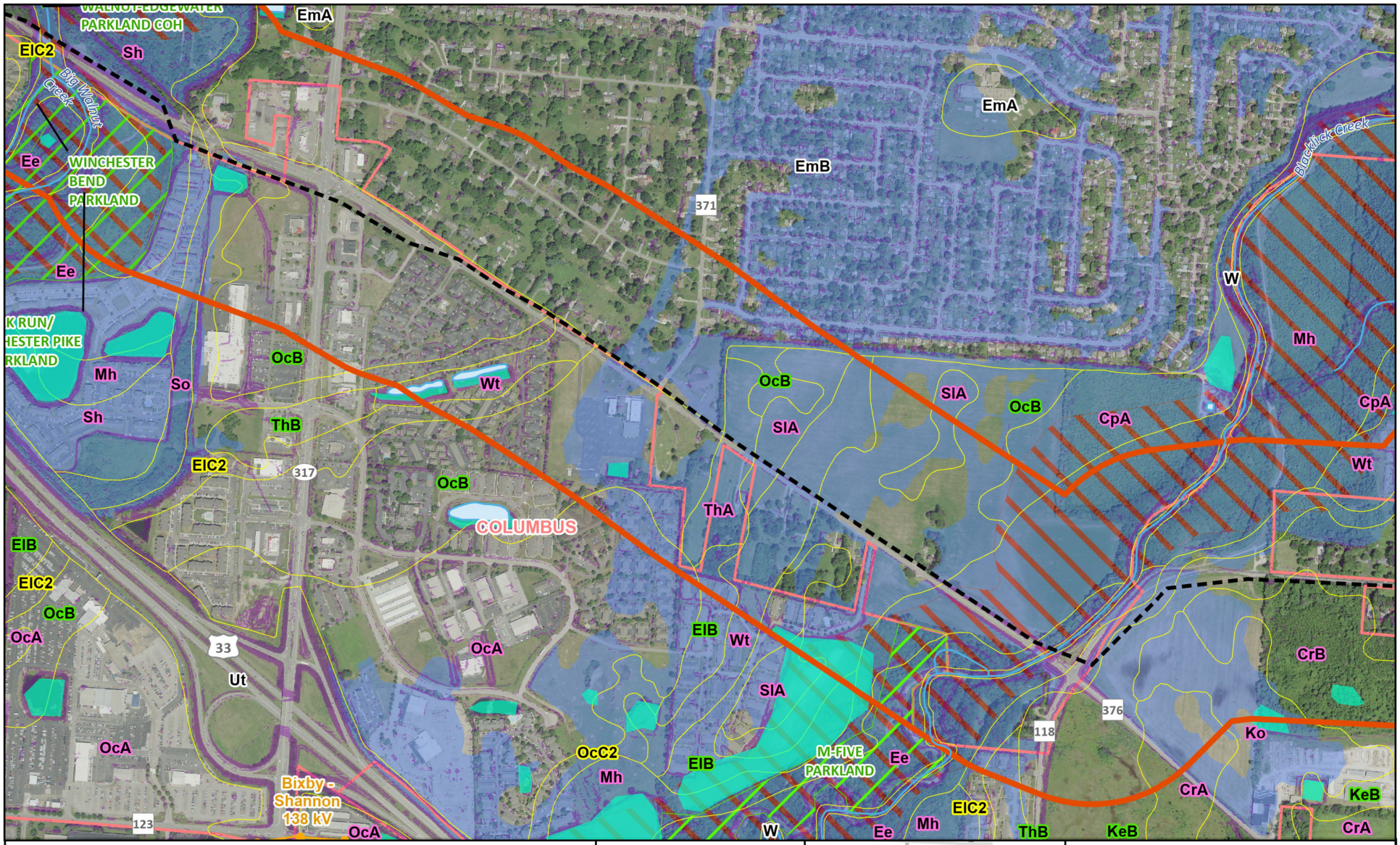


Figure 8-1H
Ecological Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet



Data Sources:
AEP (2017), ESRI (2021), FEMA (2018), ODOT (2021), OSIP (2022), NRCS (2019), USFWS (2020), USGS (2021)

State Plane Ohio South
NAD 83

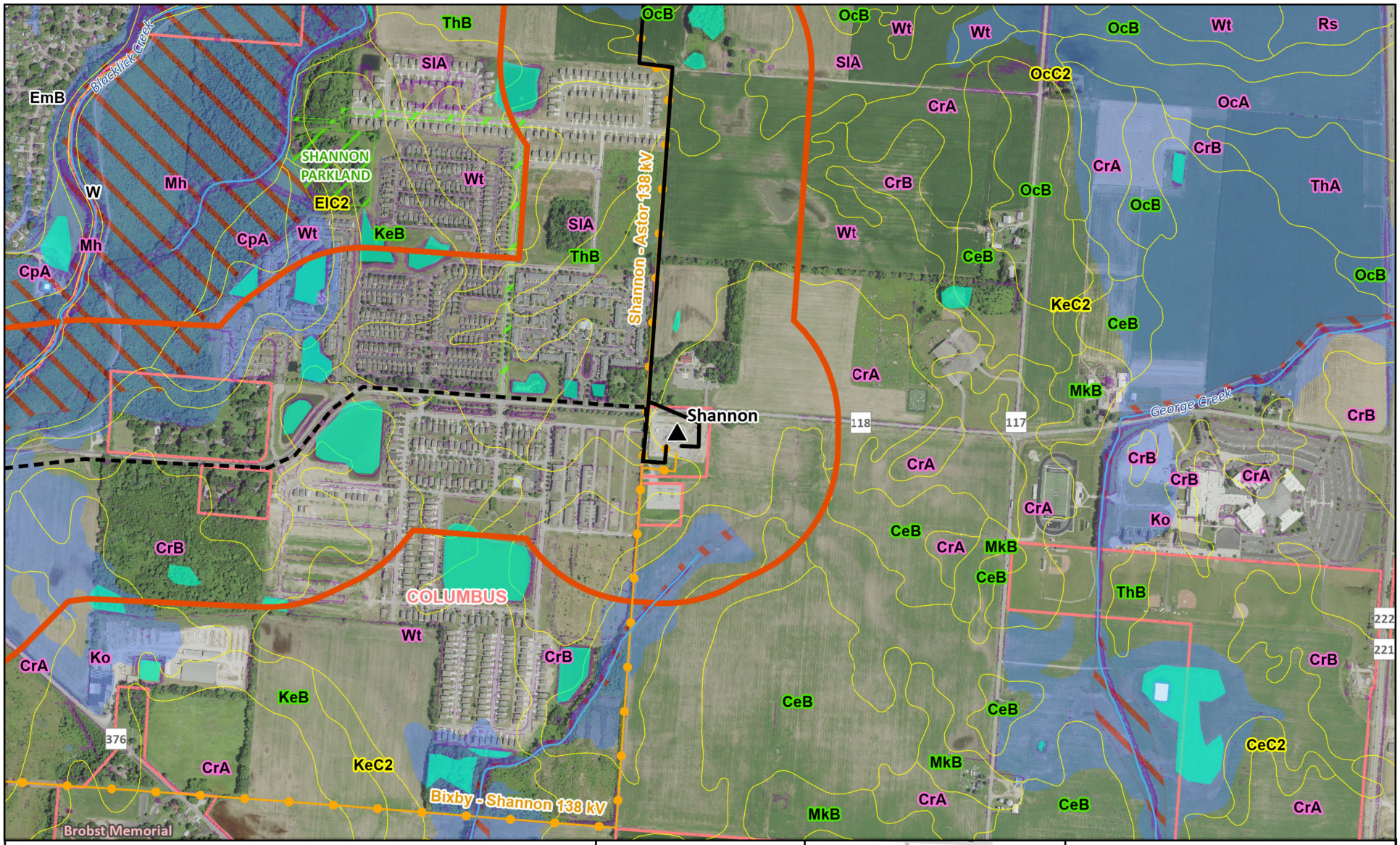
March 06, 2025

Figure 8-1l
Ecological Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet



Existing Station
Preferred Route
Alternate Route
NHD Stream or River
1,000 Foot Buffer
NHD Waterbody
NWI Wetland
Slopes >= 12%
City of Columbus Park or Easement Boundary
Protected Areas - Ownership Type
Local Government
FEMA Regulatory Floodway
FEMA 100-Year Floodplain
Township Boundary
Municipal Boundary

Soil Map Unit
Erosion Hazard
Ab Moderate
Ab Not rated
Ab Severe
Ab Slight

Data Sources:
AEP (2017), ESRI (2021), FEMA (2018), ODOT (2021), OSIP (2022), NRCS (2019), USFWS (2020), USGS (2021)

State Plane Ohio South
NAD 83

March 06, 2025

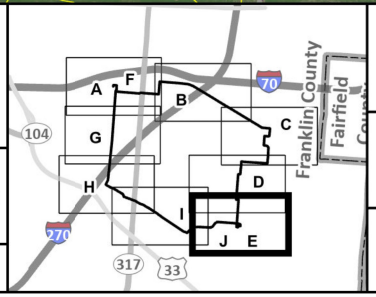


Figure 8-1J
Ecological Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 1,000 2,000
Feet



Proposed Structure Location
Existing Station
Refugee Switch (to be removed)
Culvert
Alternate Route
Proposed ROW

Preliminary Access Roads
Existing
Proposed

Existing Transmission Line
69 kV and below
138 kV
345 kV
Railroad

Upland Drainage Feature
Delineated Stream
Ecological Survey Corridor
Delineated Stream
Delineated Pond
Delineated Wetland
Township Boundary
Municipal Boundary

Data Sources:
AEP (2017)
ESRI (2021)
ODOT (2021)
OSIP (2022)

State Plane Ohio South
NAD 83

March 19, 2025

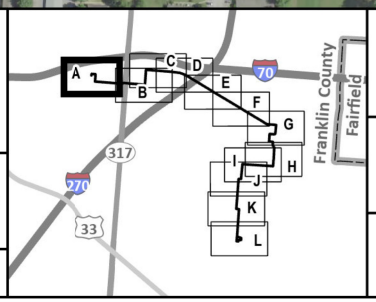
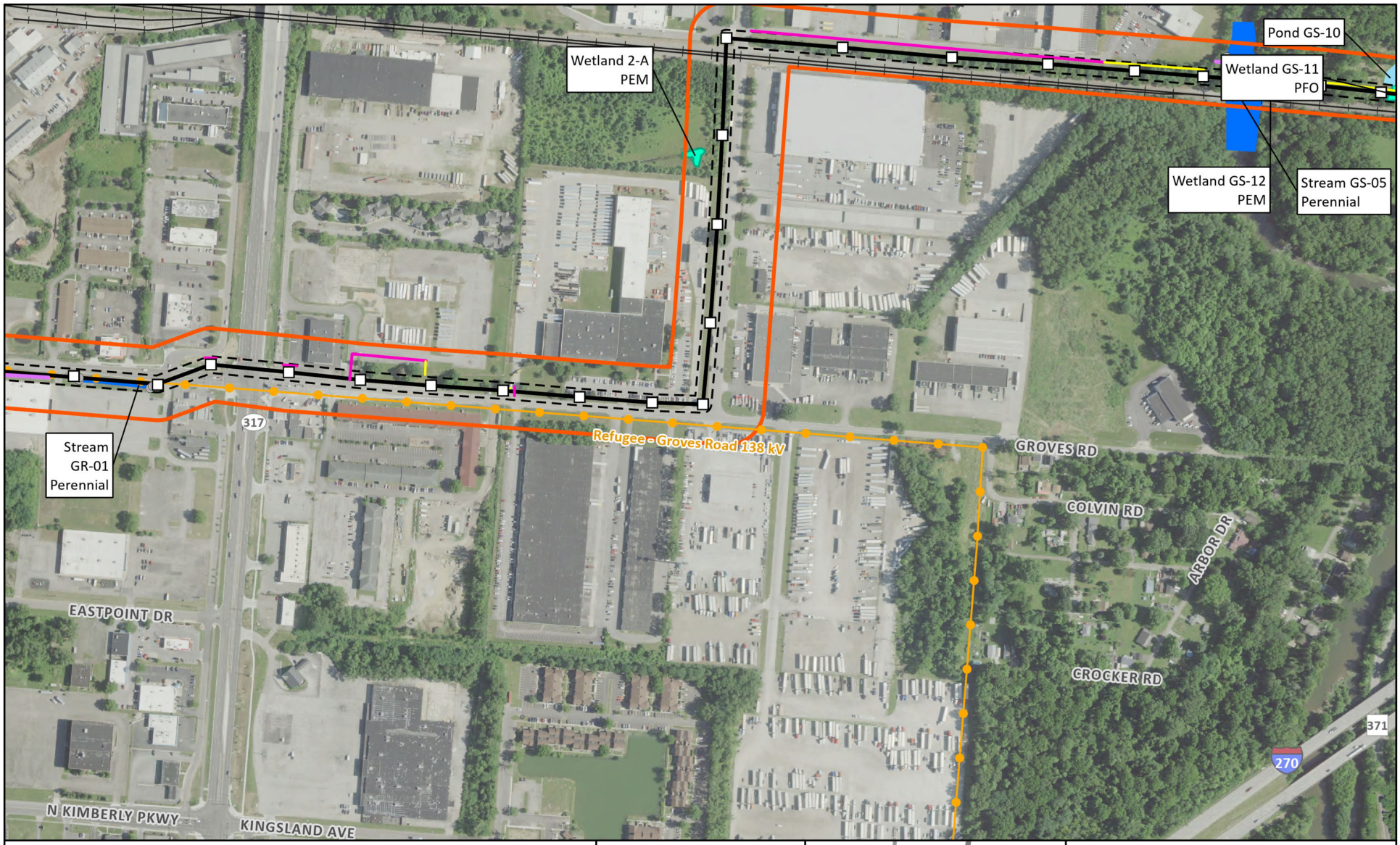


Figure 8-2A
Delineated Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 500 1,000
Feet



Proposed Structure Location
Existing Station
Refugee Switch (to be removed)
Culvert
Alternate Route
Proposed ROW

Preliminary Access Roads
Existing
Proposed

Existing Transmission Line
69 kV and below
138 kV
345 kV
Railroad

Upland Drainage Feature
Delineated Stream
Ecological Survey Corridor
Delineated Stream
Delineated Pond
Delineated Wetland
Township Boundary
Municipal Boundary

Data Sources:
AEP (2017)
ESRI (2021)
ODOT (2021)
OSIP (2022)

State Plane Ohio South
NAD 83

March 19, 2025

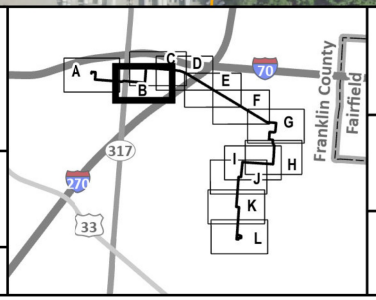
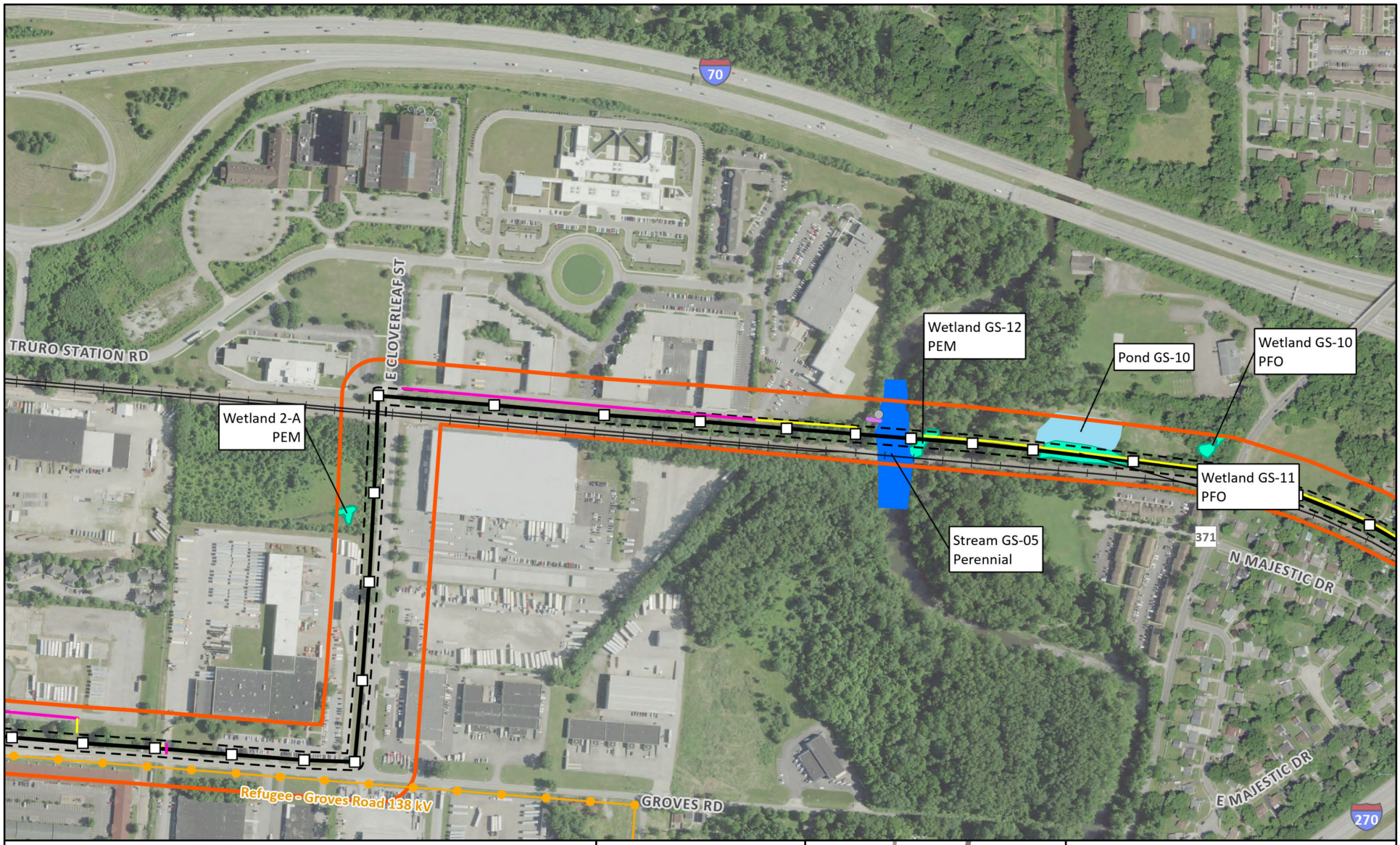


Figure 8-2B
Delineated Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 500 1,000
Feet



Proposed Structure Location
Existing Station
Refugee Switch (to be removed)
Culvert
Alternate Route
Proposed ROW

Preliminary Access Roads
Existing
Proposed

Existing Transmission Line
69 kV and below
138 kV
345 kV
Railroad

Upland Drainage Feature
Delineated Stream
Ecological Survey Corridor
Delineated Stream
Delineated Pond
Delineated Wetland
Township Boundary
Municipal Boundary

Data Sources:
AEP (2017)
ESRI (2021)
ODOT (2021)
OSIP (2022)

State Plane Ohio South
NAD 83

March 19, 2025

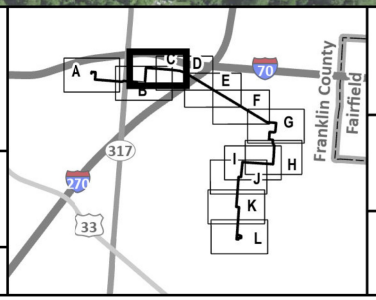
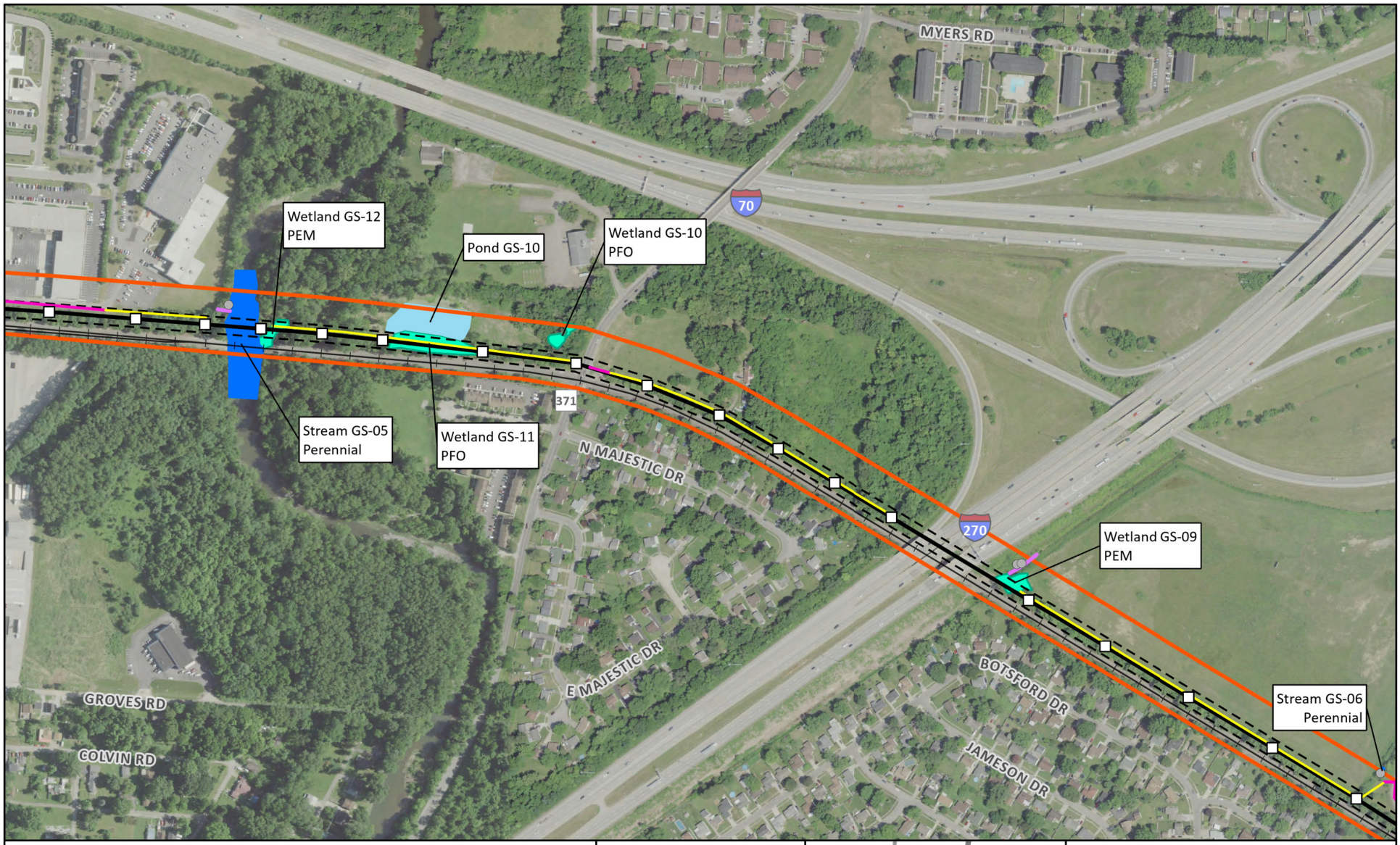


Figure 8-2C
Delineated Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 500 1,000
Feet



Proposed Structure Location
Existing Station
Refugee Switch (to be removed)
Culvert
Alternate Route
Proposed ROW

Preliminary Access Roads
Existing
Proposed

Existing Transmission Line
69 kV and below
138 kV
345 kV
Railroad

Upland Drainage Feature
Delineated Stream
Ecological Survey Corridor
Delineated Stream
Delineated Pond
Delineated Wetland
Township Boundary
Municipal Boundary

Data Sources:
AEP (2017)
ESRI (2021)
ODOT (2021)
OSIP (2022)

State Plane Ohio South
NAD 83

March 19, 2025

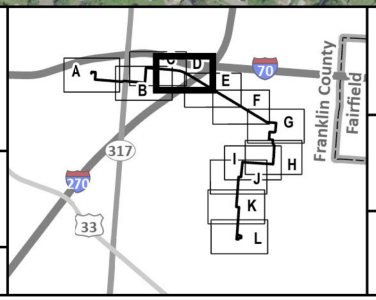
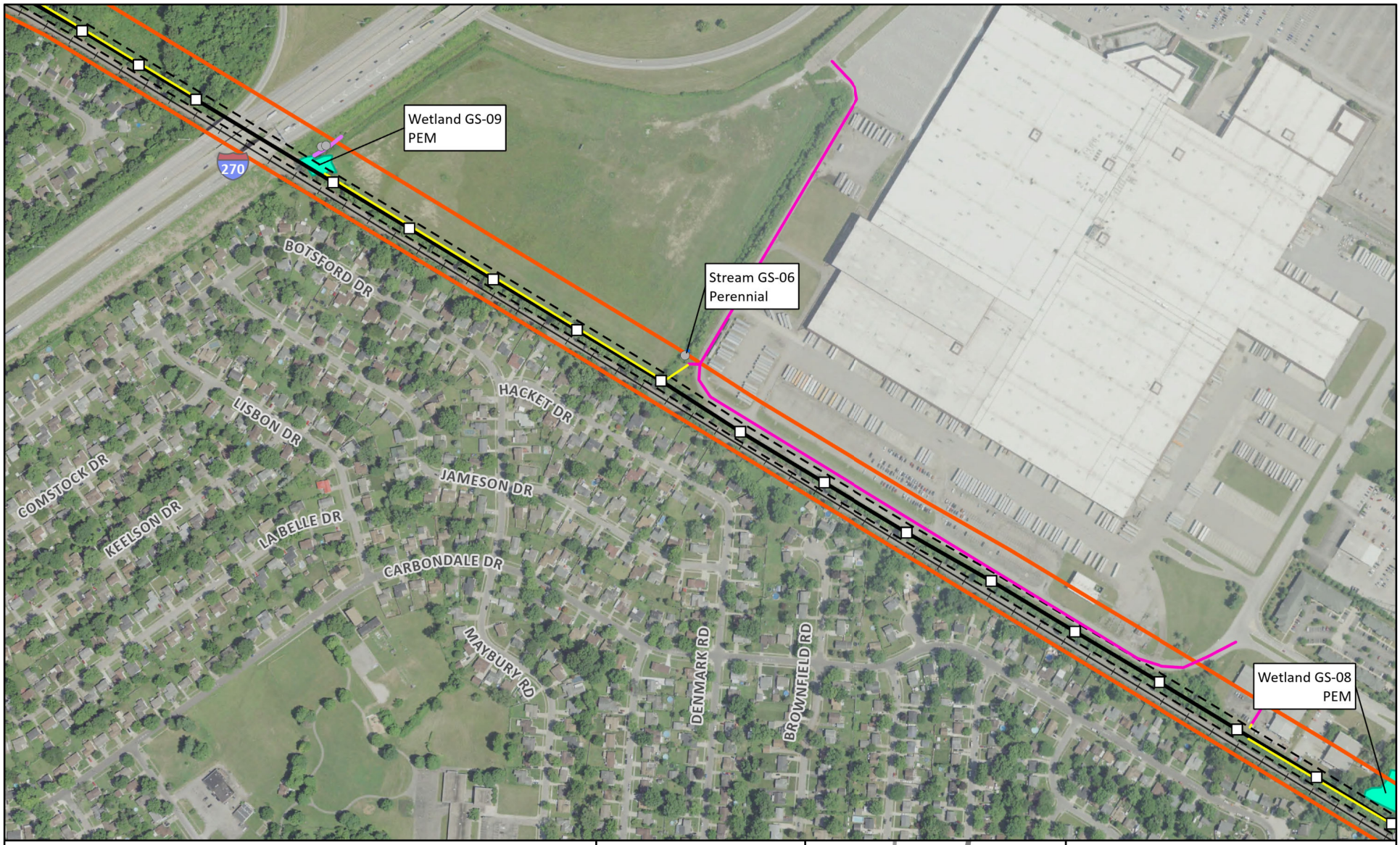


Figure 8-2D
Delineated Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 500 1,000
Feet



Proposed Structure Location
Existing Station
Refugee Switch (to be removed)
Culvert
Alternate Route
Proposed ROW

Preliminary Access Roads
Existing
Proposed

Existing Transmission Line
69 kV and below
138 kV
345 kV
Railroad

Upland Drainage Feature
Delineated Stream
Ecological Survey Corridor
Delineated Stream
Delineated Pond
Delineated Wetland
Township Boundary
Municipal Boundary

Data Sources:
AEP (2017)
ESRI (2021)
ODOT (2021)
OSIP (2022)

State Plane Ohio South
NAD 83

March 19, 2025

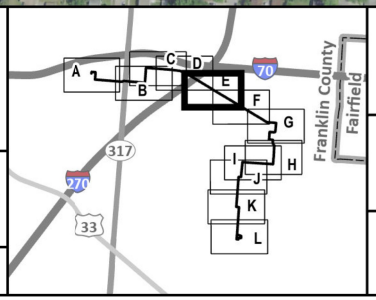
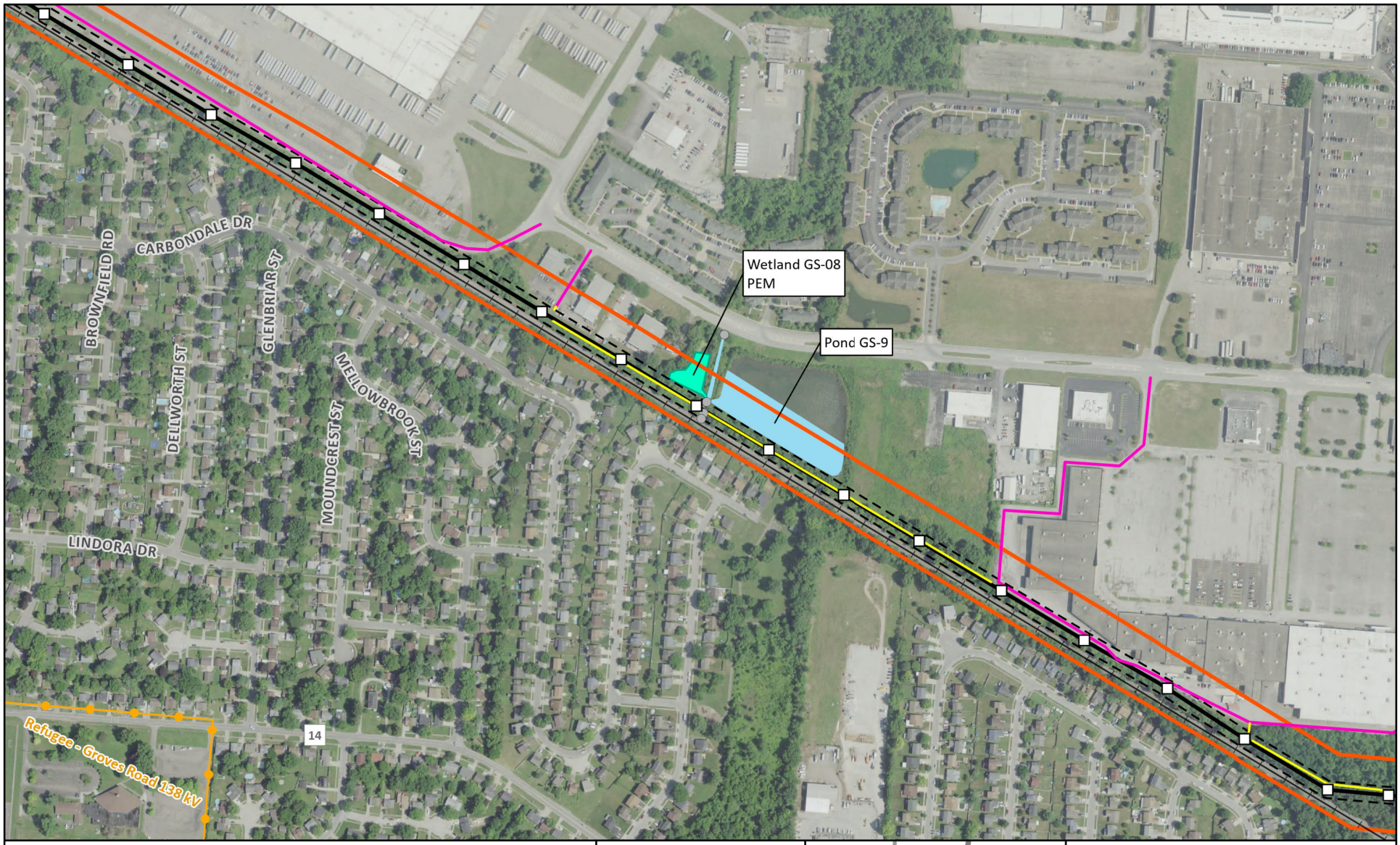


Figure 8-2E
Delineated Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 500 1,000
Feet



Proposed Structure Location
Existing Station
Refugee Switch (to be removed)
Culvert
Alternate Route
Proposed ROW

Preliminary Access Roads
Existing
Proposed

Existing Transmission Line
69 kV and below
138 kV
345 kV
Railroad

Upland Drainage Feature
Delineated Stream
Ecological Survey Corridor
Delineated Stream
Delineated Pond
Delineated Wetland
Township Boundary
Municipal Boundary

Data Sources:
AEP (2017)
ESRI (2021)
ODOT (2021)
OSIP (2022)

State Plane Ohio South
NAD 83

March 19, 2025

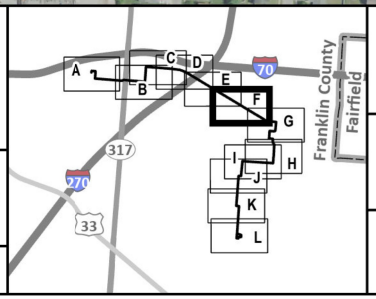
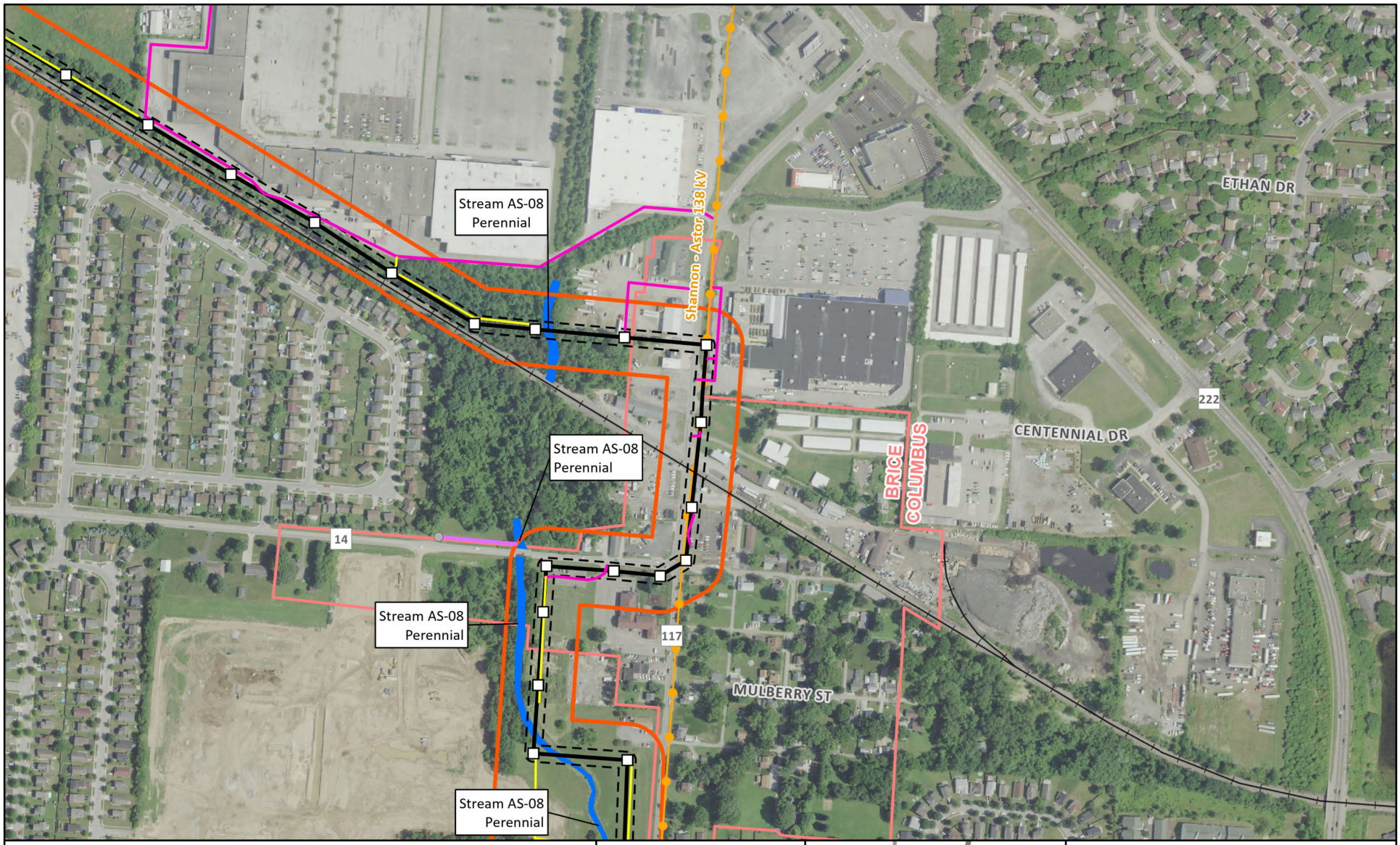


Figure 8-2F
Delineated Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 500 1,000
Feet



Proposed Structure Location
Existing Station
Refugee Switch (to be removed)
Culvert
Alternate Route
Proposed ROW

Preliminary Access Roads
Existing
Proposed

Existing Transmission Line
69 kV and below
138 kV
345 kV
Railroad

Upland Drainage Feature
Delineated Stream
Ecological Survey Corridor
Delineated Stream
Delineated Pond
Delineated Wetland
Township Boundary
Municipal Boundary

Data Sources:
AEP (2017)
ESRI (2021)
ODOT (2021)
OSIP (2022)

State Plane Ohio South
NAD 83

March 19, 2025

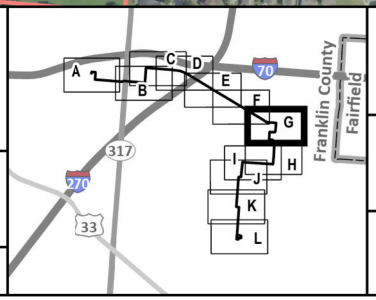
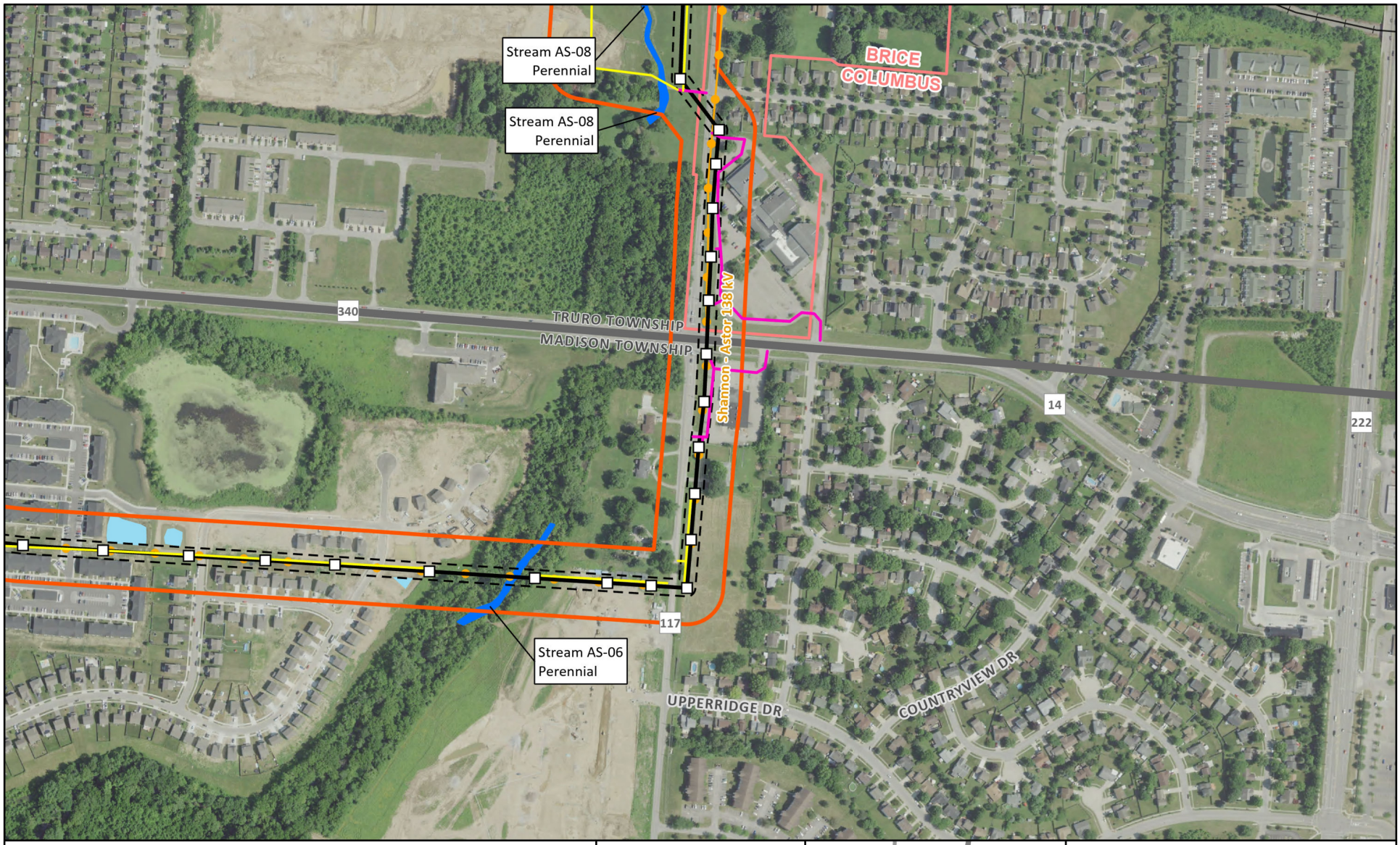


Figure 8-2G
Delineated Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 500 1,000
Feet



Proposed Structure Location
Existing Station
Refugee Switch (to be removed)
Culvert
Alternate Route
Proposed ROW

Preliminary Access Roads
Existing
Proposed

Existing Transmission Line
69 kV and below
138 kV
345 kV
Railroad

Upland Drainage Feature
Delineated Stream
Ecological Survey Corridor
Delineated Stream
Delineated Pond
Delineated Wetland
Township Boundary
Municipal Boundary

Data Sources:
AEP (2017)
ESRI (2021)
ODOT (2021)
OSIP (2022)

State Plane Ohio South
NAD 83

March 19, 2025

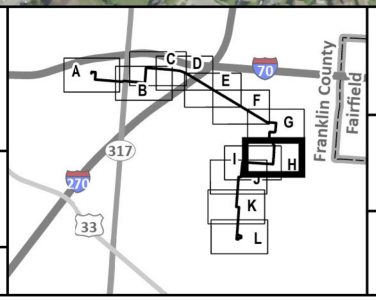
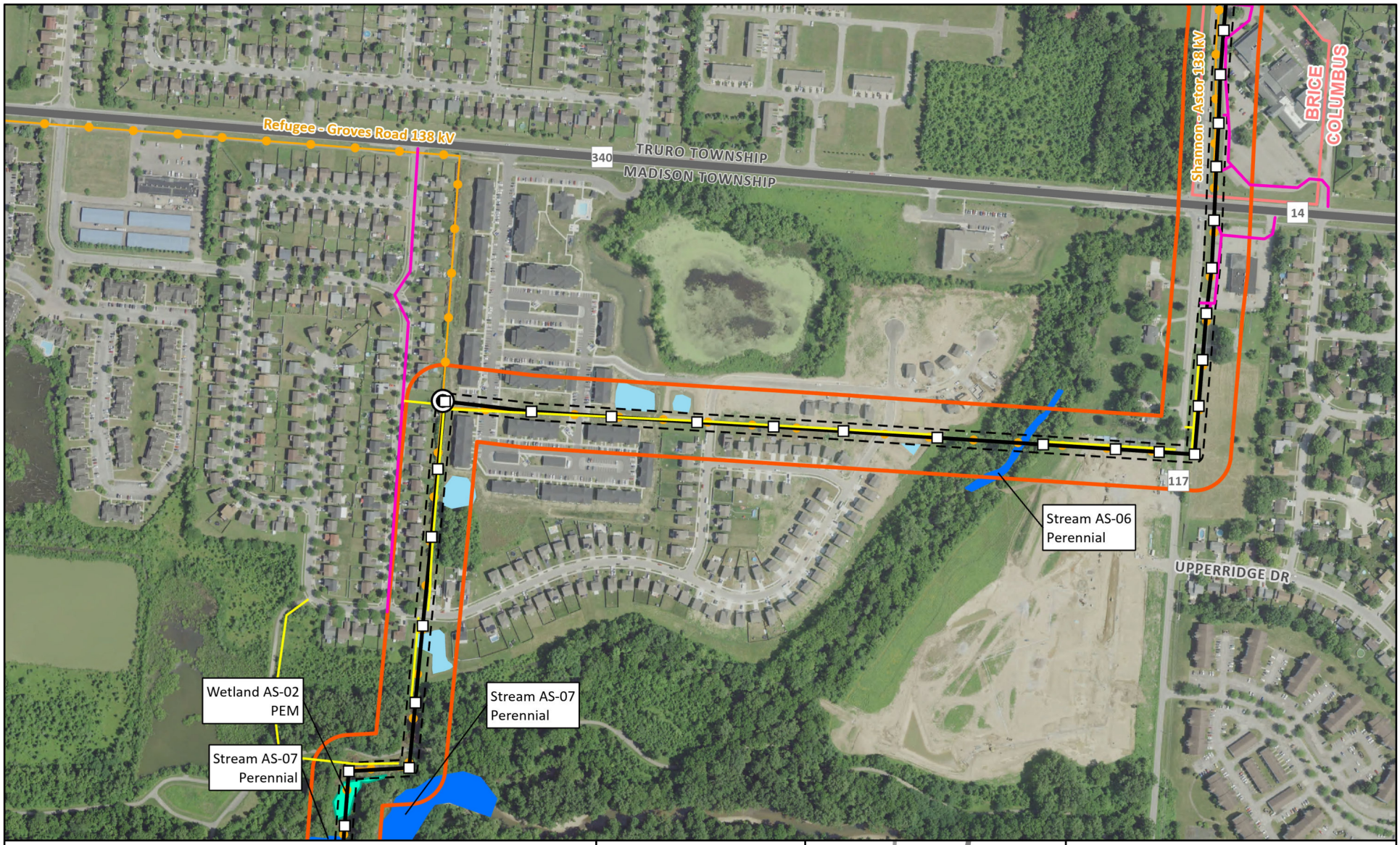


Figure 8-2H
Delineated Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 500 1,000
Feet



Proposed Structure Location
Existing Station
Refugee Switch (to be removed)
Culvert
Alternate Route
Proposed ROW

Preliminary Access Roads
Existing
Proposed

Existing Transmission Line
69 kV and below
138 kV
345 kV
Railroad

Upland Drainage Feature
Delineated Stream
Ecological Survey Corridor
Delineated Stream
Delineated Pond
Delineated Wetland
Township Boundary
Municipal Boundary

Data Sources:
AEP (2017)
ESRI (2021)
ODOT (2021)
OSIP (2022)

State Plane Ohio South
NAD 83

March 19, 2025

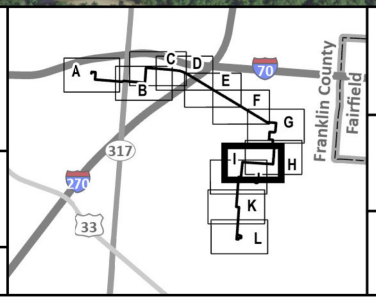
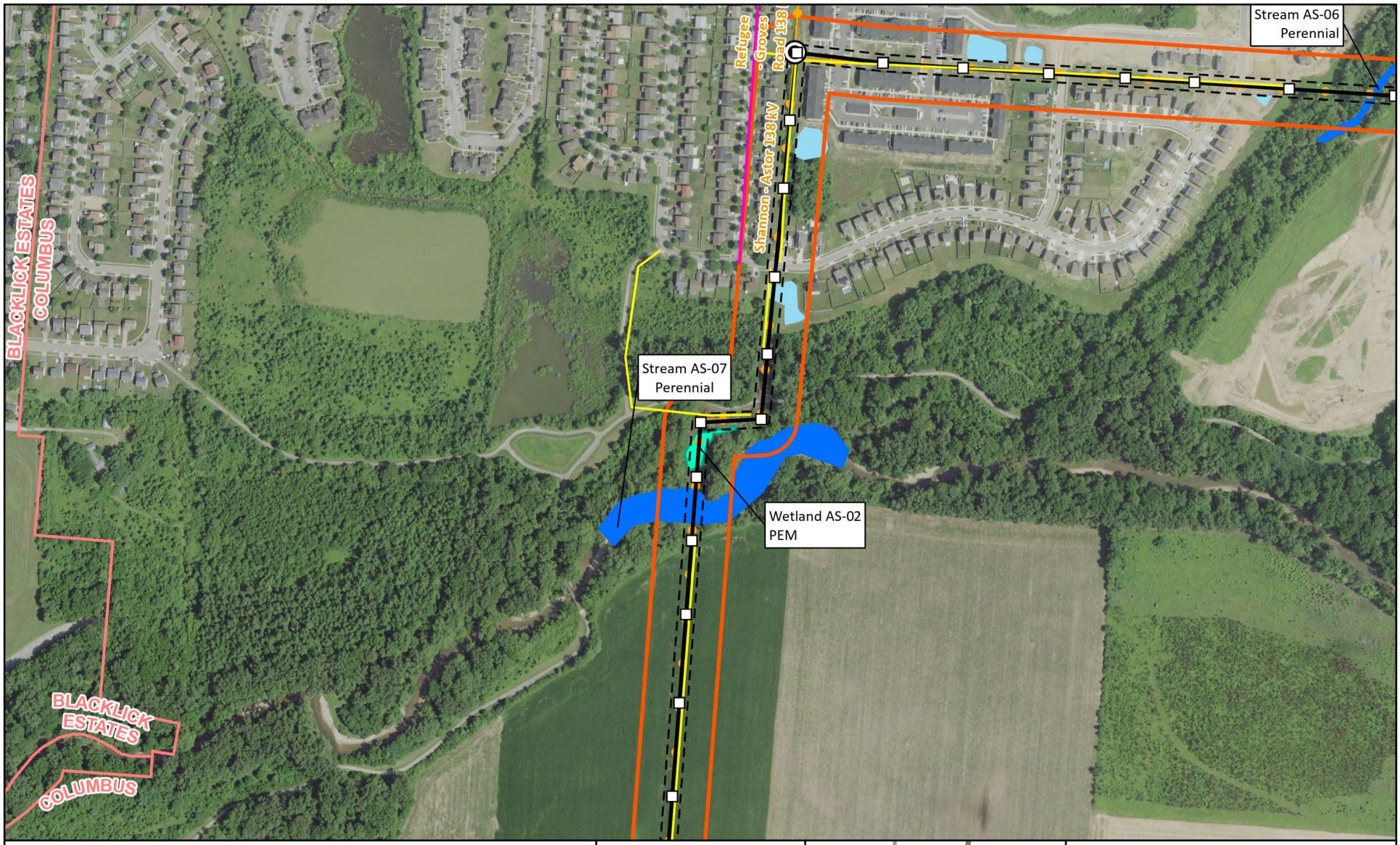


Figure 8-2I
Delineated Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 500 1,000
Feet



Proposed Structure Location
Existing Station
Refugee Switch (to be removed)
Culvert
Alternate Route
Proposed ROW

Preliminary Access Roads
Existing
Proposed

Existing Transmission Line
69 kV and below
138 kV
345 kV
Railroad

Upland Drainage Feature
Delineated Stream
Ecological Survey Corridor
Delineated Stream
Delineated Pond
Delineated Wetland
Township Boundary
Municipal Boundary

Data Sources:
AEP (2017)
ESRI (2021)
ODOT (2021)
OSIP (2022)

State Plane Ohio South
NAD 83

March 19, 2025

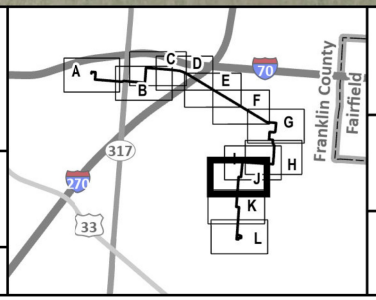
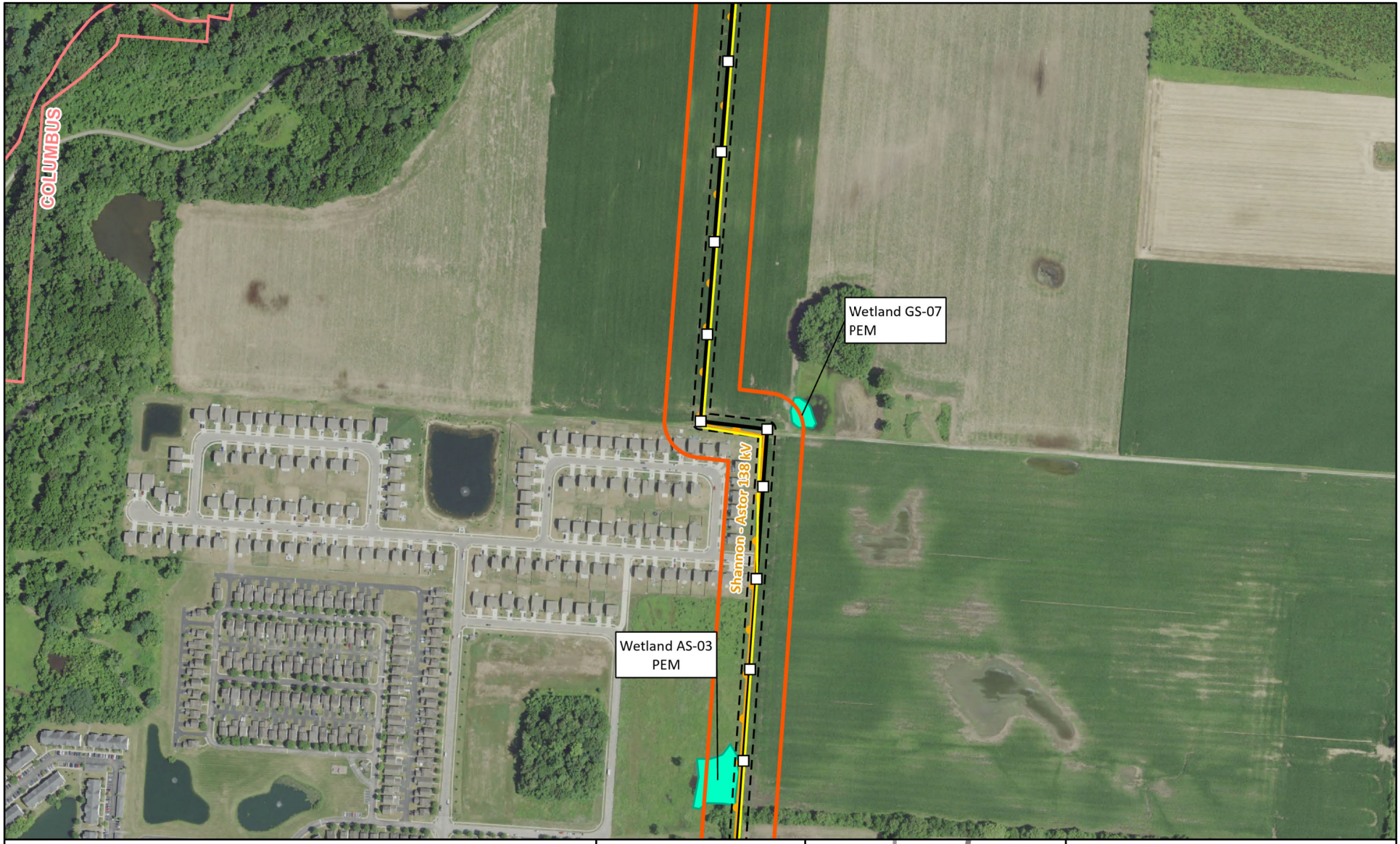


Figure 8-2J
Delineated Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 500 1,000
Feet



Proposed Structure Location
Existing Station
Refugee Switch (to be removed)
Culvert
Alternate Route
Proposed ROW

Preliminary Access Roads
Existing
Proposed

Existing Transmission Line
69 kV and below
138 kV
345 kV
Railroad

Upland Drainage Feature
Delineated Stream
Ecological Survey Corridor
Delineated Stream
Delineated Pond
Delineated Wetland
Township Boundary
Municipal Boundary

Data Sources:
AEP (2017)
ESRI (2021)
ODOT (2021)
OSIP (2022)

State Plane Ohio South
NAD 83

March 19, 2025

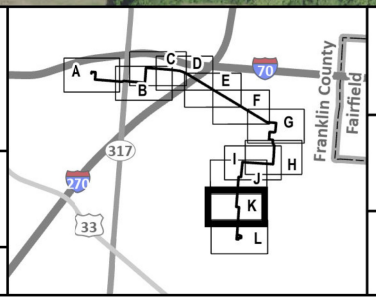
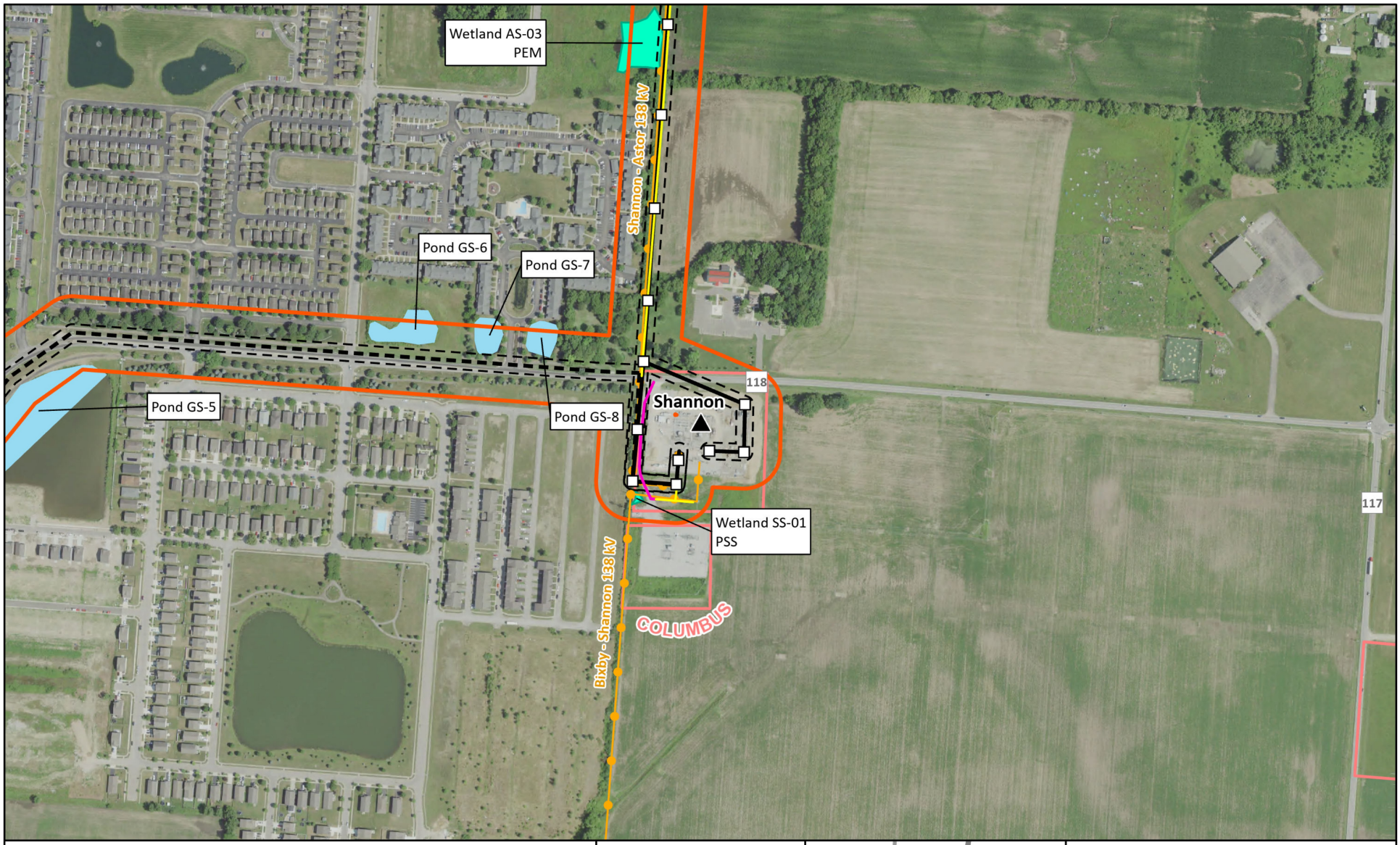


Figure 8-2K
Delineated Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 500 1,000
Feet



Proposed Structure Location
Existing Station
Refugee Switch (to be removed)
Culvert
Alternate Route
Proposed ROW

Preliminary Access Roads
Existing
Proposed

Existing Transmission Line
69 kV and below
138 kV
345 kV
Railroad

Upland Drainage Feature
Delineated Stream
Ecological Survey Corridor
Delineated Stream
Delineated Pond
Delineated Wetland
Township Boundary
Municipal Boundary

Data Sources:
AEP (2017)
ESRI (2021)
ODOT (2021)
OSIP (2022)

State Plane Ohio South
NAD 83

March 19, 2025

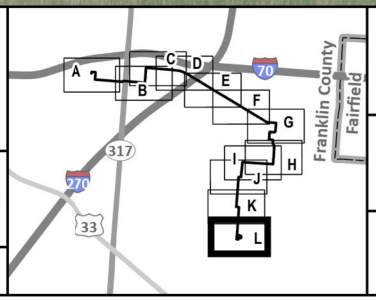


Figure 8-2L
Delineated Resources

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

Groves Road - Shannon 138 kV
Transmission Line Project

0 500 1,000
Feet

ATTACHMENTS

ESI

ENVIRONMENTAL SOLUTIONS & INNOVATIONS, INC.

4300 Lynn Road, Suite 205
Ravenna, OH 44266
Phone: 513-451-1777 Fax: 513-451-3321

Pesi 1769.02 18 February 2025

American Electric Power
8500 Smith's Mill Road
New Albany, OH 43054

To Whom it May Concern:

RE: Addendum #2 to the Groves Road – Shannon 138kV Transmission Line Project in Truro Township, Franklin County, Ohio

American Electric Power (AEP) retained Environmental Solutions & Innovations, Inc. (ESI) to perform an ecological survey for the Groves Road – Shannon 138kV Transmission Line Project in Truro Township, Franklin County, Ohio (Attachment 1, Figure 1).

On 5 February 2025, ESI re-visited the site to complete an ecological survey in one additional workspace within the Area of Investigation (AOI). Although no NWI-mapped resources were identified within the AOI, during current 2025 investigations, one wetland was identified and delineated within the AOI. The aquatic resource delineation map depicting the wetland and sample points is provided in Attachment 1, Figure 2. The Natural Resources Conservation Service (NRCS) maps three soil series considered hydric or partially hydric within the AOI. The NRCS soil map and hydric soils list is provided in Attachment 2. Representative photographs of wetland and upland sample points are provided in Attachment 3. Field data sheets for sample points are provided in Attachment 4. Temporary or permanent impacts to these resources may require permits from the USACE and or OEPA.

Please contact me with any questions or requests for additional information.

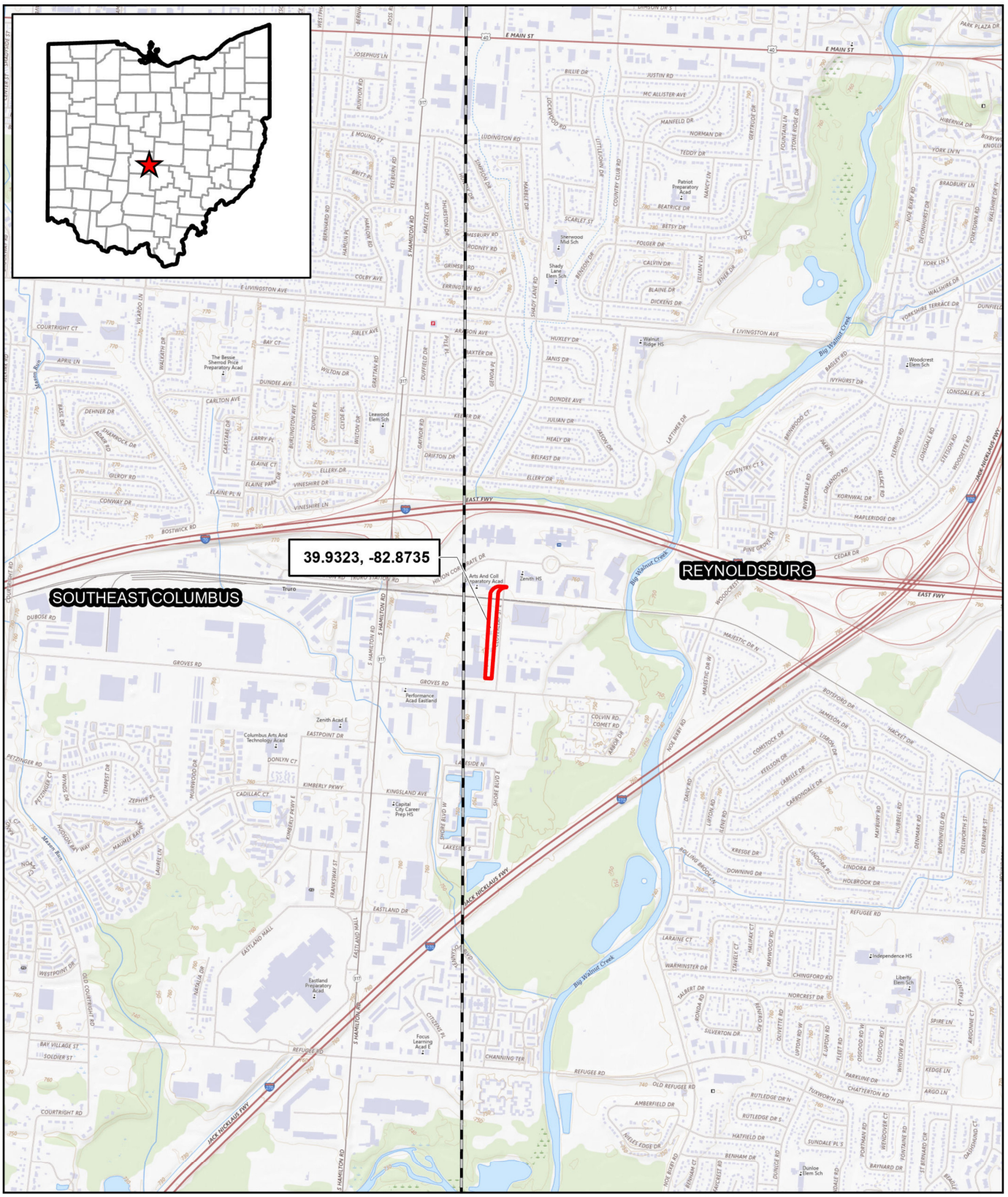
Sincerely,

Ethan D. Wilson

Ethan Wilson, Scientist
Email: ewilson@envsi.com
Mobile: (724) 591-0686

Attachments
Attachment 1: Figures
Attachment 2: Soil Report
Attachment 3: Site Photos
Attachment 4: Datasheets

ATTACHMENT 1
FIGURES



USGS 7.5-minute Quad Boundary

Current Area of Investigation (AOI; 2025)

N

W E

S

Figure 1. Location of AEP's Groves Road - Shannon 138 kV Transmission Line Project in Franklin County, Ohio.

Project No. 1769.02

0 0.25 0.5 Mile

Base Map: USGS Topographic Map

ESI ENVIRONMENTAL SOLUTIONS & INNOVATIONS, INC.

G:\Current\1769_AEP_ShannonRebuildsProject\Maps\Delineation\Report_Figures\Addendum_2\Addendum_2.aprx; creator: mamey



Project Center
Resource Cor
Limits of Distu
Current Area
Previously De
FEMA 100-Ye

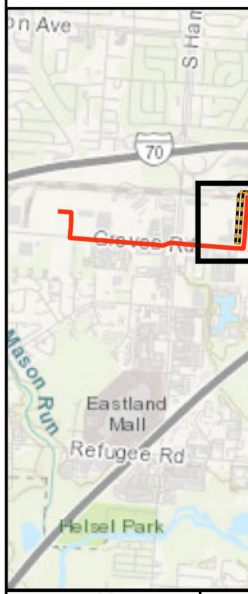
Field-Delineated W

PEM

Sample Point

Upland

Wetland

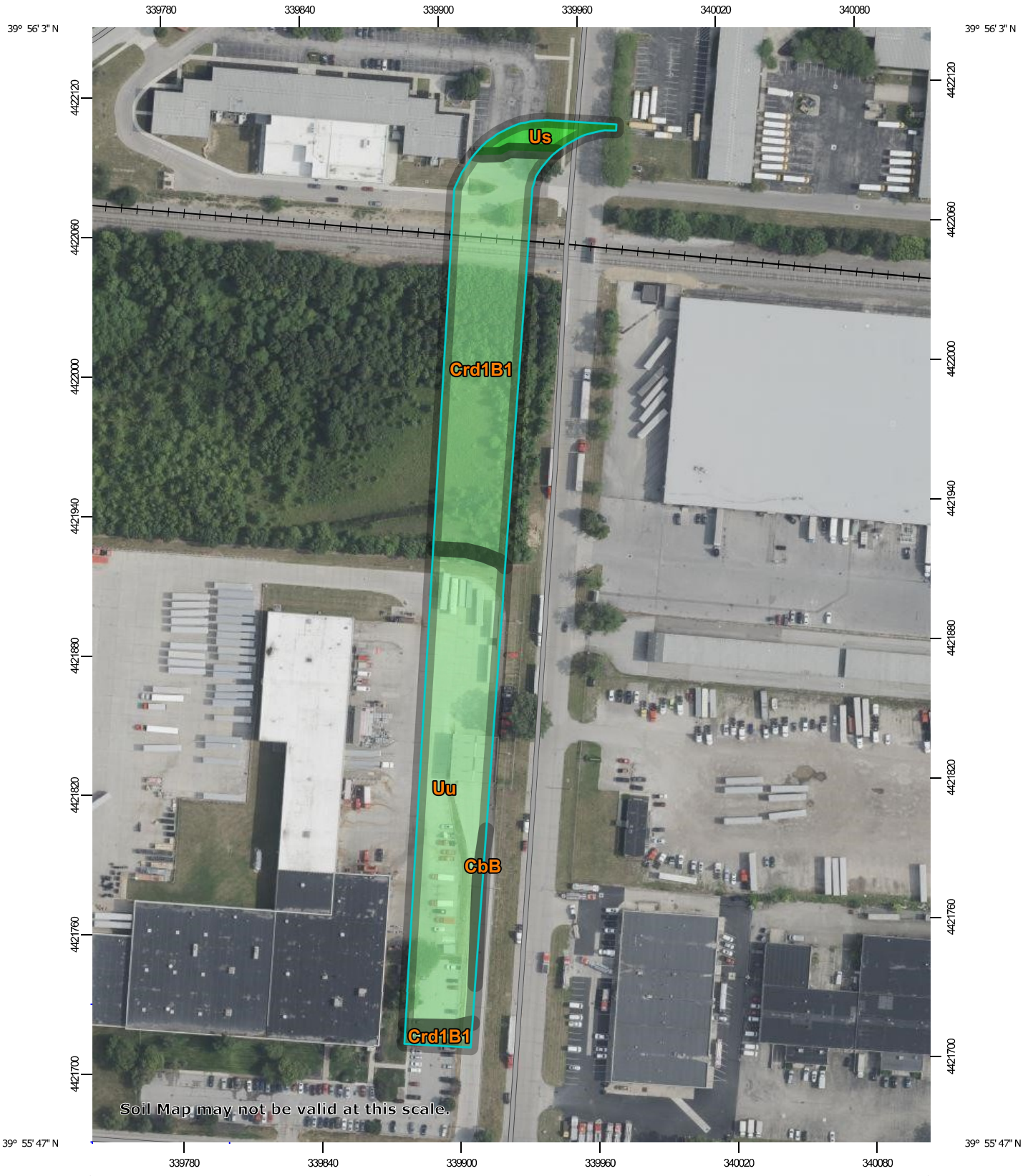


N
W
E
S

Service Layer Credits: Worl
World Topographic Map: Fr
Garmin, INCREMENT P, US
World Imagery: Maxar, Micr

ATTACHMENT 2
SOIL REPORT

Hydric Rating by Map Unit—Franklin County, Ohio
(AEP Groves Road - Shannon 138kV Transmission Line Project)



Map Scale: 1:2,340 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 30 60 120 180

Feet
0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Franklin County, Ohio
Survey Area Data: Version 23, Aug 27, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 1, 2024—Jul 1, 2024

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CbB	Cardington-Urban land complex, 2 to 6 percent slopes	10	0.0	0.4%
Crd1B1	Cardington silt loam, 2 to 6 percent slopes	7	1.5	46.9%
Us	Udorthents, loamy, steep	0	0.1	4.0%
Uu	Urban land-Bennington complex, 0 to 6 percent slopes	6	1.5	48.6%
Totals for Area of Interest			**3.1**	**100.0%**

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

ATTACHMENT 3
SITE PHOTOS

Environmental Solutions & Innovations, Inc.
Photo Documentation

Client/Site Name:
American Electric Power (AEP)
Groves Road - Shannon 138kV
Transmission Line Project

Site Location:
Franklin County, OH

Project #:
1769.02



Wetland 2-A (North)



Wetland 2-A (East)



Wetland 2-A (South)



Wetland 2-A (West)

Environmental Solutions & Innovations, Inc.
Photo Documentation

Client/Site Name:
American Electric Power (AEP)
Groves Road - Shannon 138kV
Transmission Line Project

Site Location:
Franklin County, OH

Project #:
1769.02



Wetland 2-A (Soil)



Upland 2-A UPL (North)



Upland 2-A UPL (East)



Upland 2-A UPL (South)

Environmental Solutions & Innovations, Inc.
Photo Documentation

Client/Site Name:
American Electric Power (AEP)
Groves Road - Shannon 138kV
Transmission Line Project

Site Location:
Franklin County, OH

Project #:
1769.02



Upland 2-A UPL (West)



Upland 2-A UPL (Soil)

ATTACHMENT 4
DATASHEETS

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Groves Road-Shannon 138kV Line City/County: Columbus/Franklin County Sampling Date: 2025-02-05

Applicant/Owner: AEP State: Ohio Sampling Point: 2-A

Investigator(s): E. Wilson, A. Krahling Section, Township, Range: S21 T12N R21W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave

Slope (%): 0 Lat: 39.932461 Long: -82.873576 Datum: WGS 84

Soil Map Unit Name: Crd1B1 - Cardington silt loam, 2 to 6 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

PEM wetland within depression. Wetland is influenced from concrete culvert.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus deltoides ssp. deltoides	5	✔	
2.			
3.			
4.			
5.			
	5 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Typha angustifolia	55	✔	OBL
2. Phragmites australis	30	✔	FACW
3. Scirpus atrovirens	5		OBL
4. Solidago rugosa ssp. aspera	5		
5.			
6.			
7.			
8.			
9.			
10.			
	95 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		120 (B)

Prevalence Index = B/A = 1.33

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

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

Hydrophytic vegetation is present.

SOIL

Sampling Point: 2-A

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 2	10YR 2/1						Muck	
2 - 12	10YR 2/1		5YR 4/4	10	C	M	Mucky Loam/Clay	
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ✔ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 12

Hydric Soil Present? Yes ✔ No ___

Remarks:

Hydric soils are present.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ✔ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✔ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✔ No ___ Depth (inches): 1

Water Table Present? Yes ✔ No ___ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Groves Road-Shannon 138kV Line City/County: Columbus/Franklin County Sampling Date: 2025-02-05

Applicant/Owner: AEP State: Ohio Sampling Point: 2-A UPL

Investigator(s): E. Wilson, A. Krahling Section, Township, Range: S21 T12N R21W

Landform (hillslope, terrace, etc.): Upland Local relief (concave, convex, none): Convex

Slope (%): 1 Lat: 39.932363 Long: -82.873679 Datum: WGS 84

Soil Map Unit Name: Crd1B1 - Cardington silt loam, 2 to 6 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland sample point for wetland 2-A. Sample point was taken on hill slope between fence and wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Juniperus virginiana	10	✔	FACU
2.			
3.			
4.			
5.			
	10	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1. Malus pumila	20	✔	
2.			
3.			
4.			
5.			
	20	= Total Cover	
Herb Stratum (Plot size: 5 ft r)			
1. Poa pratensis	20	✔	FAC
2. Andropogon gyrans	15	✔	FACU
3. Solidago nemoralis	15	✔	
4. Daucus carota	10		UPL
5. Solidago canadensis	10		FACU
6.			
7.			
8.			
9.			
10.			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	35	x 4 =	140
UPL species	10	x 5 =	50
Column Totals:	65 (A)		250 (B)

Prevalence Index = B/A = 3.84

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

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

No hydrophytic vegetation present.

SOIL

Sampling Point: 2-A UPL

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 12	10YR 4/3	100					Sandy Loam	
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 12

Hydric Soil Present? Yes _____ No ✔

Remarks:

No hydric soils present.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No hydrology indicators present.

Version 5.0	**Ohio Rapid Assessment Method for Wetlands** **10 Page Form for Wetland Categorization**	
	Background Information **Scoring Boundary Worksheet** **Narrative Rating** **Field Form Quantitative Rating** **ORAM Summary Worksheet** **Wetland Categorization Worksheet**	Ohio EPA, Division of Surface Water Final: February 1, 2001

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

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Background Information

Name:	Ethan Wilson
Date:	5 February 2025
Affiliation:	ESI
Address:	4300 Lynn Road, Suite 205 Ravenna, Ohio 442666
Phone Number:	(724) 591-0686
e-mail address:	ewilson@envsi.com
Name of Wetland:	2-A
Vegetation Communit(ies):	Emergent
HGM Class(es):	PEM

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.

See Appendix A

Lat/Long or UTM Coordinate	39.932401, -82.873576
USGS Quad Name	Reynoldsburg
County	Franklin
Township	Truro
Section and Subsection	S21 T12N R21W
Hydrologic Unit Code (HUC8)	05060001
Site Visit	5 Feb 2025
National Wetland Inventory Map	N/A
Ohio Wetland Inventory Map	N/A
Soil Survey	CrdlB1
Delineation report/map	See Attached

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Name of Wetland:	2-A PEM
Wetland Size (acres, hectares):	0.06

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

See Appendix A

Comments, Narrative Discussion, Justification of Category Changes:

N/A

Final score : 19	Category:	CAT 1

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Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	✓	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	✓	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	✓	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		✓
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	✓	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

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Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap . The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	NO Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

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8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

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Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	*Zygadenus elegans var. glaucus*	*Calla palustris*	*Carex cryptolepis*	*Calamagrostis canadensis*
Myriophyllum spicatum	*Cacalia plantaginea*	*Carex atlantica var. capillacea*	*Carex lasiocarpa*	*Calamogrostis stricta*
Najas minor	*Carex flava*	*Carex echinata*	*Carex stricta*	*Carex atherodes*
Phalaris arundinacea	*Carex sterilis*	*Carex oligosperma*	*Cladium mariscoides*	*Carex buxbaumii*
Phragmites australis	*Carex stricta*	*Carex trisperma*	*Calamagrostis stricta*	*Carex pellita*
Potamogeton crispus	*Deschampsia caespitosa*	*Chamaedaphne calyculata*	*Calamagrostis canadensis*	*Carex sartwellii*
Ranunculus ficaria	*Eleocharis rostellata*	*Decodon verticillatus*	*Quercus palustris*	*Gentiana andrewsii*
Rhamnus frangula	*Eriophorum viridicarinatum*	*Eriophorum virginicum*		*Helianthus grosseserratus*
Typha angustifolia	*Gentianopsis spp.*	*Larix laricina*		*Liatris spicata*
Typha xglauca	*Lobelia kalmii*	*Nemopanthus mucronatus*		*Lysimachia quadriflora*
	Parnassia glauca	*Schechzeria palustris*		*Lythrum alatum*
	Potentilla fruticosa	*Sphagnum spp.*		*Pycnanthemum virginianum*
	Rhamnus alnifolia	*Vaccinium macrocarpon*		*Silphium terebinthinaceum*
	Rhynchospora capillacea	*Vaccinium corymbosum*		*Sorghastrum nutans*
	Salix candida	*Vaccinium oxycoccos*		*Spartina pectinata*
	Salix myricoides	*Woodwardia virginica*		*Solidago riddellii*
	Salix serissima	*Xyris difformis*		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

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ORAM v. 5.0 Field Form Quantitative Rating

Site: 1709.02	Rater(s): E. Wilson	Date: 5 Feb 25

Metric 1. Wetland Area (size).

0 (max 6 pts.) | 0 (subtotal)

CAT I

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [ ] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [x] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

7 (max 14 pts.) | 7 (subtotal)

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- [ ] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [x] MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- [ ] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [ ] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

4

2b. Intensity of surrounding land use. Select one or double check and average.

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [x] LOW. Old field (>10 years), shrub land, young second growth forest. (5)
- [ ] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [x] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

3

Metric 3. Hydrology.

9 (max 30 pts.) | 10 (subtotal)

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

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [x] Precipitation (1)
- [ ] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

1

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [x] Between stream/lake and other human use (4)
- [ ] Part of wetland/upland (e.g. forest), complex (1)
- [x] Part of riparian or upland corridor (1)

2

3c. Maximum water depth. Select only one and assign score.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

1

3d. Duration inundation/saturation. Score one or dbl check.

- [ ] Semi- to permanently inundated/saturated (4)
- [ ] Regularly inundated/saturated (3)
- [x] Seasonally inundated (2)
- [ ] Seasonally saturated in upper 30cm (12in) (1)

2

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- [ ] None or none apparent (12)
- [ ] Recovered (7)
- [x] Recovering (3)
- [ ] Recent or no recovery (1)

3

Check all disturbances observed

- [x] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [x] point source (nonstormwater)
- [ ] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [x] other culvert

Metric 4. Habitat Alteration and Development.

6 (max 20 pts.) | 22 (subtotal)

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

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [x] Recovering (2)
- [ ] Recent or no recovery (1)

2

4b. Habitat development. Select only one and assign score.

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4)
- [ ] Fair (3)
- [ ] Poor to fair (2)
- [x] Poor (1)

1

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

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [x] Recovering (3)
- [ ] Recent or no recovery (1)

3

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [x] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

22 subtotal this page

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- oil sheen present

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ORAM v. 5.0 Field Form Quantitative Rating

Site: 1769.02	Rater(s): E. Wilson	Date: 5 Feb 25

22
subtotal first page

Metric 5. Special Wetlands.

0 (max 10 pts.) | 22 (subtotal)

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Prairies (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

Metric 6. Plant communities, interspersion, microtopography.

-3 (max 20 pts.) | 19 (subtotal)

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

1

6b. horizontal (plan view) Interspersion.
Select only one.

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

0

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- [X] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

85% Typha/phrag

6d. Microtopography.
Score all present using 0 to 3 scale.

- [0] Vegetated hummucks/tussucks
- [0] Coarse woody debris >15cm (6in)
- [0] Standing dead >25cm (10in) dbh
- [1] Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

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

19

End of Quantitative Rating. Complete Categorization Worksheets.

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ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES (NO)	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES (NO)	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES (NO)	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO)	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES (NO)	If yes, Category 1.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 8a. Old Growth Forest	YES (NO)	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES (NO)	If yes, Category 3
	Question 11. Relict Wet Prairies	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	7	
	Metric 3. Hydrology	9	
2-A PEM	Metric 4. Habitat	6	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-3	
	TOTAL SCORE	19	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

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Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	(NO)	Is quantitative rating score *less* than the Category 2 scoring threshold (*excluding* gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	(NO)	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	(NO)	Is quantitative rating score *greater* than the Category 2 scoring threshold *(including* any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	(YES) Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the *"gray zone"* for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	(NO)	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit *moderate OR superior* hydrologic OR habitat, OR recreational functions AND the wetland was *not* categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	(NO) Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category			
Choose one	(Category 1)	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

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