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June 21, 2019

Chairman Sam Randazzo
Ohio Power Siting Board
180 East Broad Street
Columbus, Ohio 43215

Ohio Power Siting Board
Docketing Division
180 East Broad Street
Columbus, Ohio 43215

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**Re: Case No. 19-1307-EL-BTA
In the Matter of the Amendment Application of AEP Ohio
Transmission Company, Inc. for a Certificate of
Environmental Compatibility and Public Need for the
Rouse-Bell Ridge 138 kV Transmission Line Project**

Dear Chairman Randazzo,

Attached please find a copy of the Amendment Application of AEP Ohio Transmission Company, Inc. for a Certificate of Environmental Compatibility and Public Need (“Application”) for the above-referenced project. This filing is made pursuant to O.A.C. 4906-5-01, *et seq.* and 4906-2-01, *et seq.*

Filing of this Application is effected electronically pursuant to O.A.C. 4906-2-02(A) and (D). Five printed copies and ten additional electronic copies (CDs) of this filing will also be submitted to the Staff of the Ohio Power Siting Board for its use.

The following information is included pursuant to O.A.C. 4906-2-04(A)(3):

- (a) Applicant:
AEP Ohio Transmission Company, Inc.
c/o American Electric Power
Energy Transmission
700 Morrison Road
Gahanna, Ohio 43220

- (b) Facilities to be Certified:
Rouse-Bell Ridge 138 kV Transmission Line Project
- (c) Applicant's Authorized Representative with respect to this Application:
Matthew Siefker
Project Manager
700 Morrison Road
Gahanna, Ohio 43220

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

/s/ Christen M. Blend

Christen M. Blend (0086881)

Counsel for AEP Ohio Transmission Company, Inc.

cc: Executive Director and Counsel, c/o Jon Pawley, OPSB Staff

BEFORE THE OHIO POWER SITING BOARD

Application for Amendment to the Rouse-Bell Ridge 138 kV Transmission Line Project

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Acronyms and Abbreviations

AEP	American Electric Power
AEP Ohio Transco	AEP Ohio Transmission Company, Inc.
BMP	best management practice
cm	centimeter
EMF	electric and magnetic field
Field Survey Area	150 feet on either side of the centerline for both the Preferred and Alternate Routes
GIS	geographic information system
HHEI	Headwater Habitat Evaluation Index
ID	identification
kV	kilovolt
kV/m	kilovolt per meter
mG	milligauss
NA	not applicable
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
O.A.C.	Ohio Administrative Code
OAI	Ohio Archaeological Inventory
ODNR	Ohio Department of Natural Resources
ODOT	Ohio Department of Transportation
OEPA	Ohio Environmental Protection Agency
OHI	Ohio Historic Inventory
OHPO	Ohio Historic Preservation Office
OPSB	Ohio Power Siting Board
ORAM	Ohio Rapid Assessment Method
PEM	palustrine emergent
PFO	palustrine forested
PHWH	Primary Headwater Habitat
Project	Rouse to Bell Ridge 138 kV Transmission Line Project
PSS	palustrine scrub/shrub
QHEI	Qualitative Habitat Evaluation Index
ROW	right-of-way
SWPPP	stormwater pollution prevention plan
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

AMENDMENT CHANGE SUMMARY

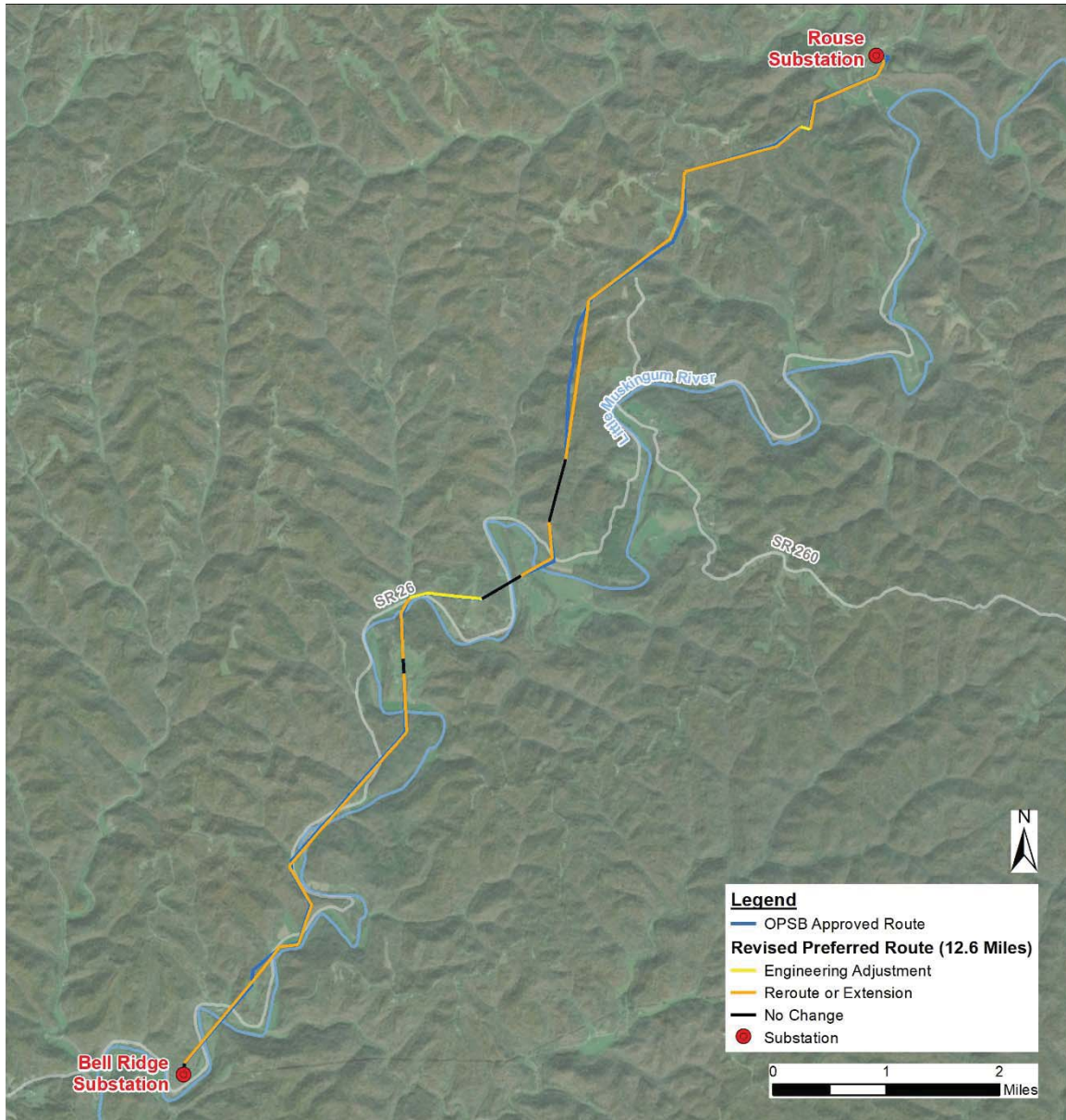
AEP Ohio Transmission Company, Inc. (AEP Ohio Transco) submitted a Certificate Application to the Ohio Power Siting Board (OPSB) for the Rouse to Bell Ridge 138 kV Transmission Line Project (Project) on January 9, 2018. On September 20, 2018, the OPSB issued its Certificate of Environmental Compatibility and Public Need for the Preferred Route.

The purpose of this amendment is 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.

As detailed engineering of the transmission line progressed after submittal of the certificate application in January 2018, numerous alignment changes were necessary for the Preferred Route. Each alignment change has been categorized as either an engineering adjustment (within the 100-foot right-of-way (ROW) of the OPSB-approved alignment) or an alignment reroute or extension (deviations outside of the 100-foot ROW of the OPSB-approved alignment). An overview of the changes is provided in the following Exhibit 1 figure.

Changes to the alignment and impacts to woodlots and property owners are discussed for each change within this change summary. Changes to land use, wetlands and waterbodies resulting from the alignment changes are provided in Section 7 and Section 8 of the amended OPSB application.

Exhibit 1: Summary of the Alignment Changes to the Preferred Route

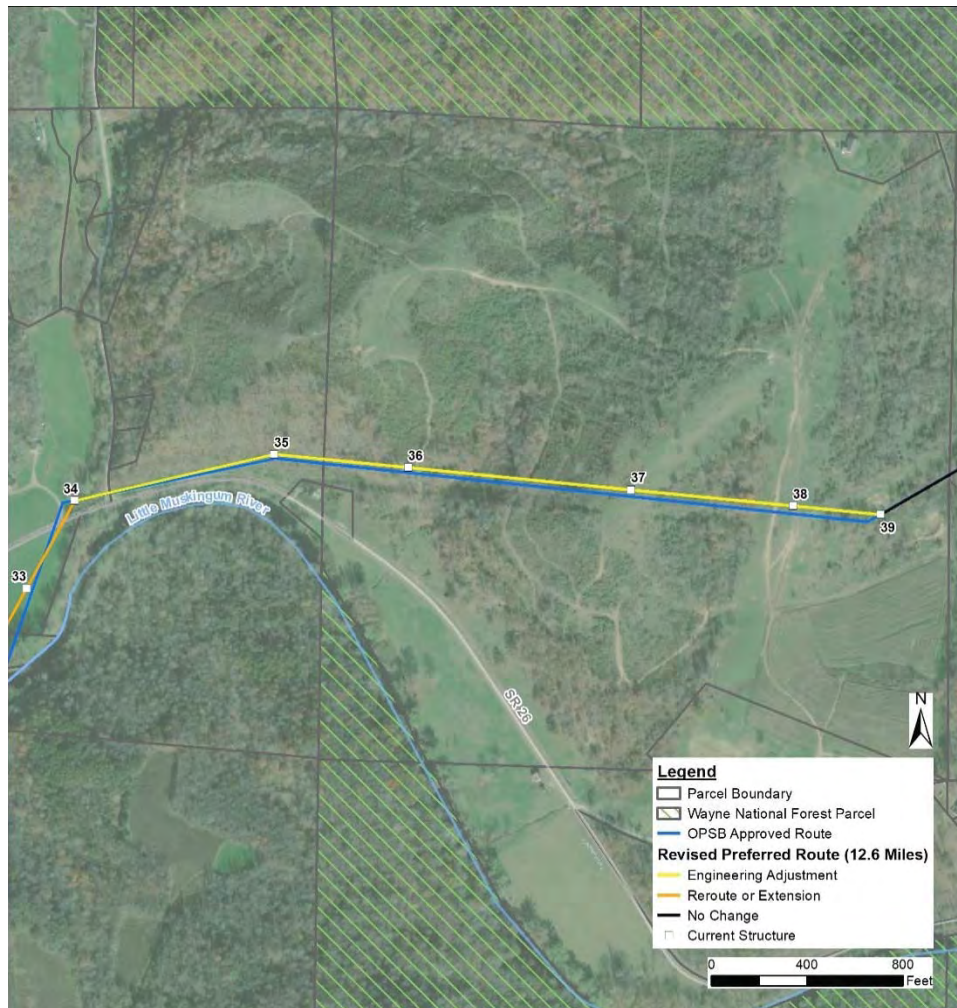


Engineering Adjustments

Two engineering adjustments were made along the OPSB-approved Preferred Route. These engineering adjustments were initiated because of 1) a need to increase clearance from existing distribution lines so that extended outage of the distribution line during construction could be avoided; and 2) property owners' requests to minimize land use impacts. These engineering adjustments are described in greater detail below.

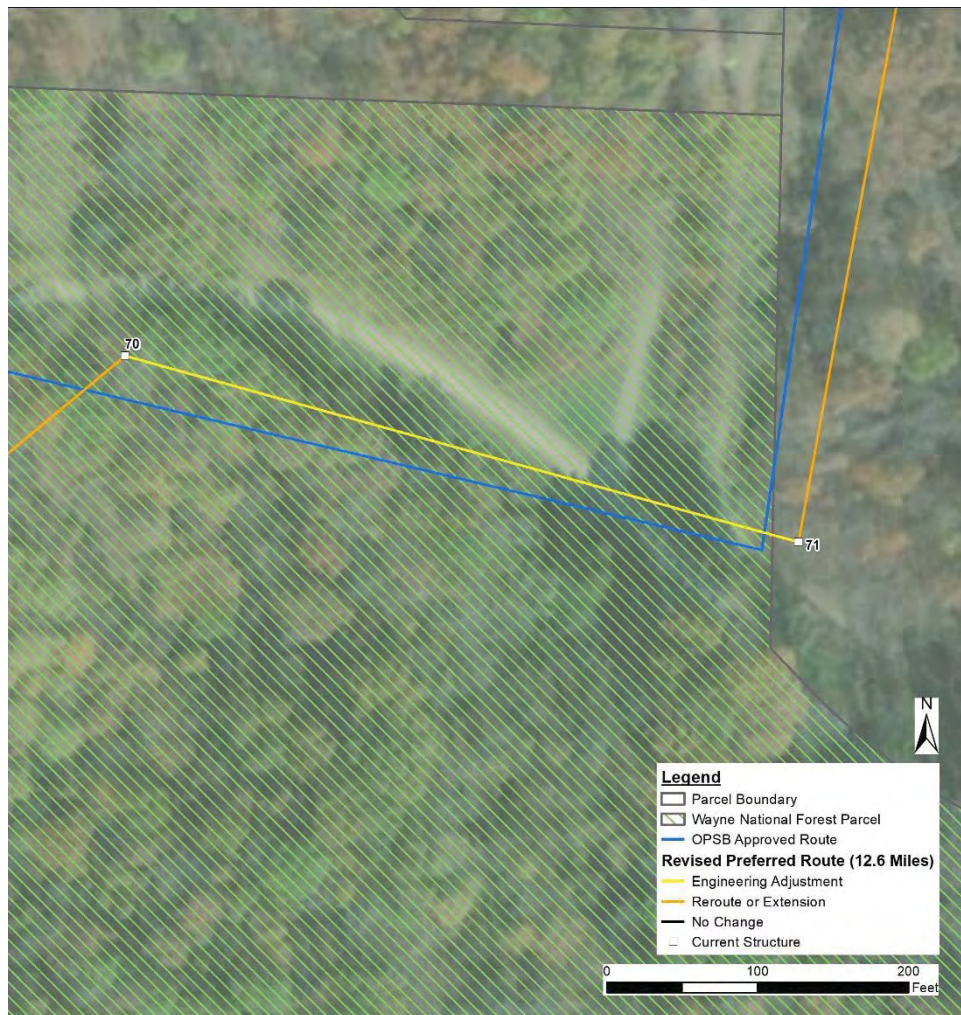
Engineering Adjustment 1 is from Structure 34 to Structure 39. This adjustment, as shown in Exhibit 2 below, shifted the alignment to the north to provide enough clearance to the existing distribution line so that extended distribution outages could be avoided. This engineering adjustment shifts the Preferred Route alignment north between 5 feet and 35 feet from the OPSB-approved alignment and would result in an additional 0.9 acre of tree clearing. No new property owners are affected by this reroute.

Exhibit 2: Map Illustration of Engineering Adjustment 1 (Structure 34 through Structure 39)



Engineering Adjustment 2 is from Structure 70 to Structure 71. This adjustment, as shown in Exhibit 3 below, is due to shifting Structure 71 east off the property owner's driveway. This engineering adjustment shifts the Preferred Route alignment between 15 feet to 30 feet from the OPSB-approved alignment and would result in no change in tree clearing. No new property owners are affected by this adjustment.

Exhibit 3: Map Illustration of Engineering Adjustment 2 (Structure 70 through Structure 71)

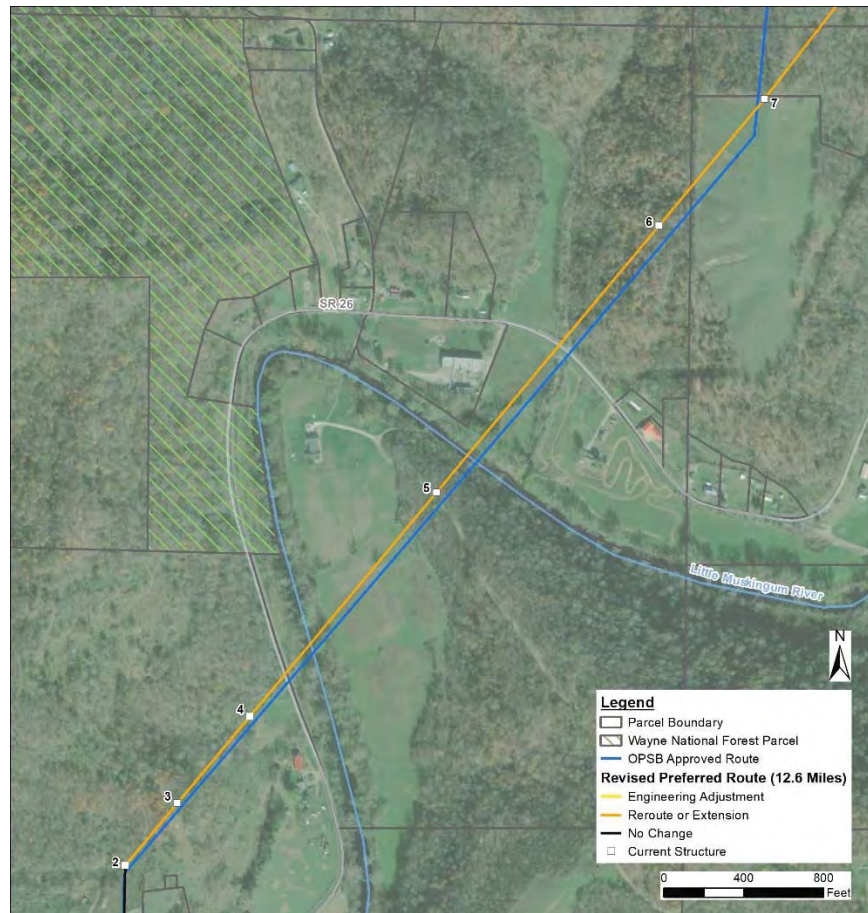


Alignment Reroutes

Twelve alignment reroutes were made along the OPSB-approved Preferred Route. These reroutes were made because of 1) a need to increase clearance from existing distribution lines so that extended outage of the distribution line during construction could be avoided; 2) property owners' request to minimize land use impacts; 3) concerns around the accessibility of one of structures along the Preferred Route; 4) an updated parcel boundary; and 5) the finalized location of the proposed Rouse Substation. These reroutes are described in greater detail below.

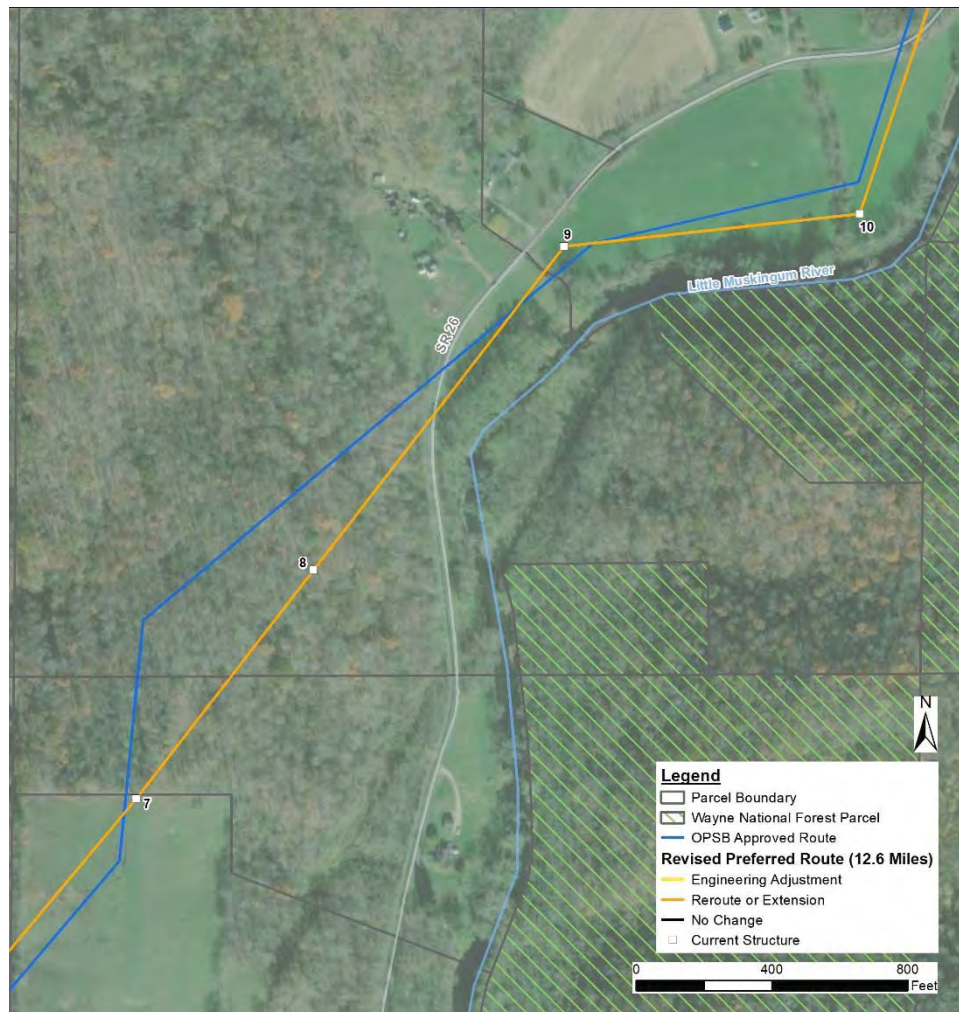
Reroute 1 is from Structure 2 to Structure 7. This reroute, as shown in Exhibit 4 below, is due to shifting Structure 2 north to provide enough clearance to the existing distribution line that extended distribution outages could be avoided and shifting Structure 7 to minimize impacts to the property owner's land use. As a result of these changes, Structures 3 through 6 were shifted west in order to keep all as tangent design structures, which require smaller diameter structures compared to angle structures. This reroute shifts the Preferred Route alignment between 23 feet and 80 feet from the OPSB-approved alignment and would result in an additional 0.1 acre of tree clearing. No new property owners are affected by this reroute.

Exhibit 4: Map Illustration of Reroute 1 (Structure 2 through Structure 7)



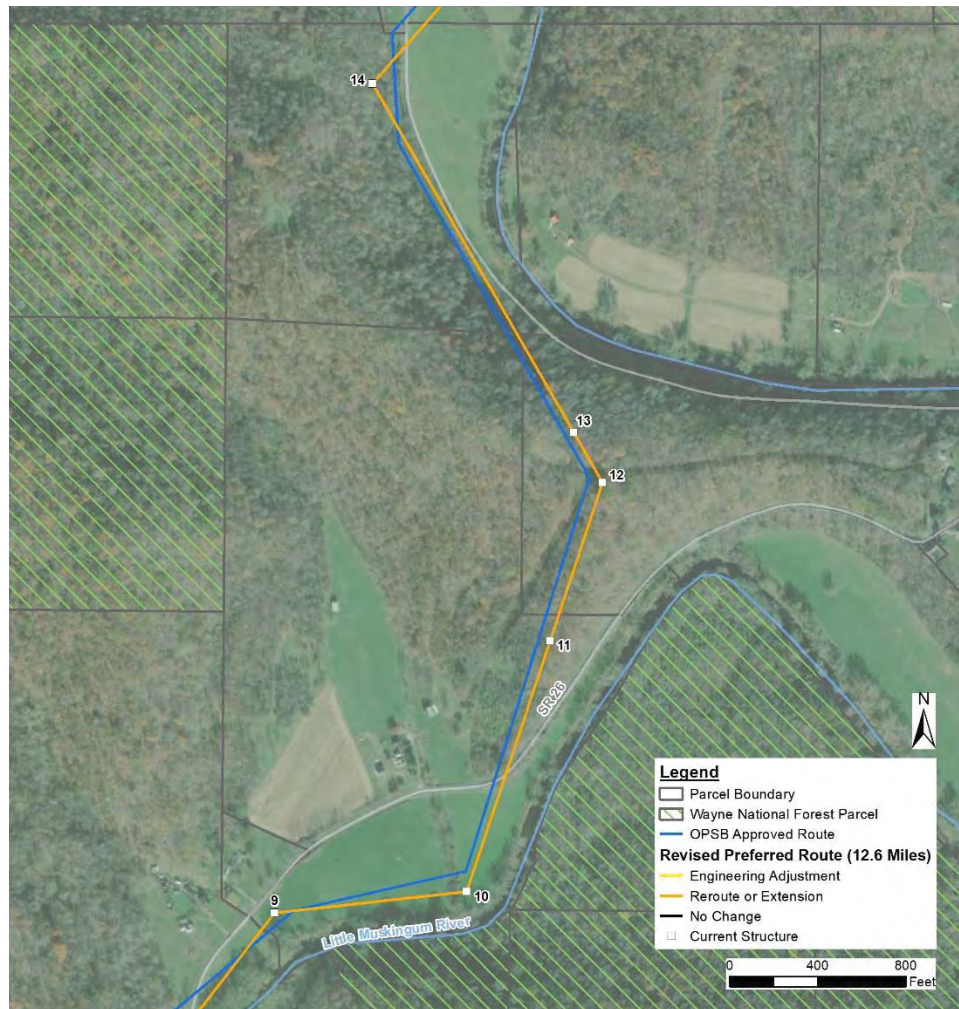
Reroute 2 is from Structure 7 to Structure 10. This reroute, as shown in Exhibit 5 below, was made due to the property owner's request to shift Structure 9 and Structure 10 to position the alignment at the edge of the owner's crop or pasture field. Structure 8 was shifted in order to make it a tangent design structure, which reduces land use impacts as a result of a smaller diameter pole. This reroute shifts the Preferred Route alignment between 5 feet and 310 feet from the OPSB-approved alignment and would reduce tree clearing in the area by 0.6 acre. No new property owners are affected by this reroute.

Exhibit 5: Map Illustration of Reroute 2 (Structure 7 through Structure 10)



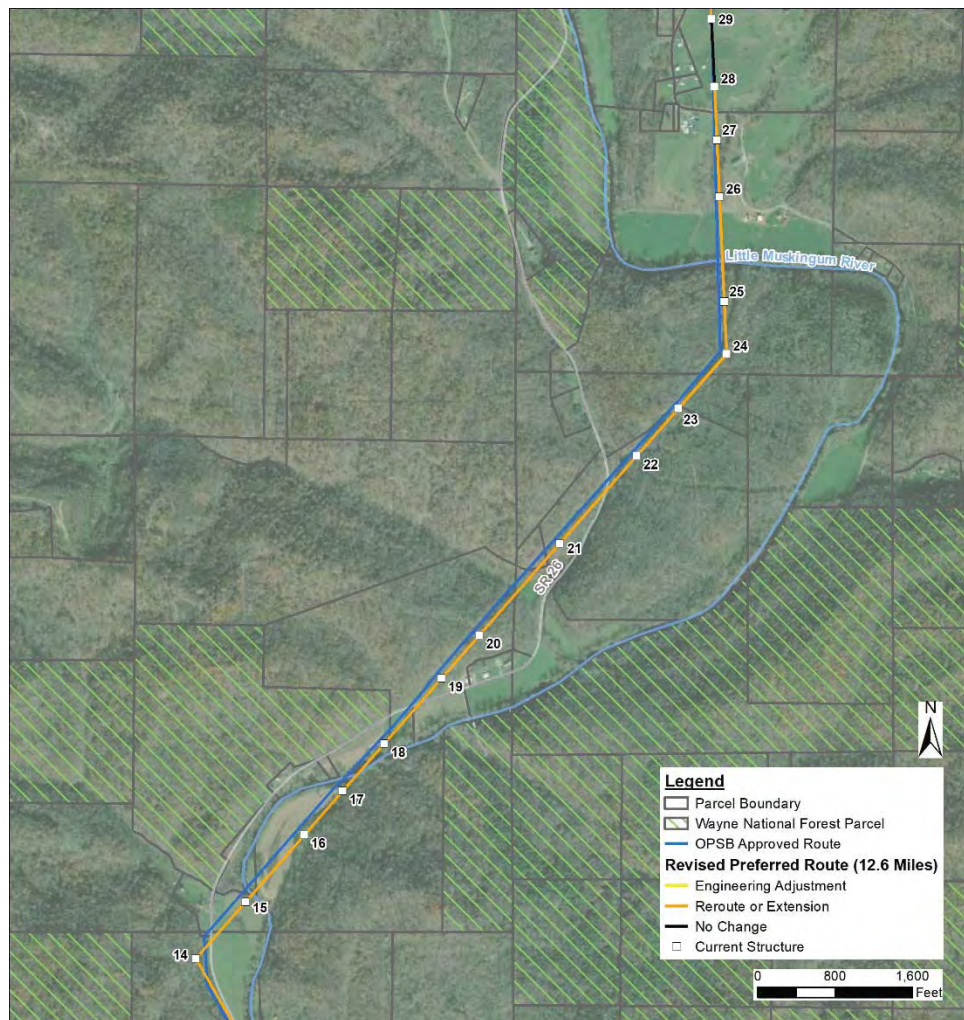
Reroute 3 is from Structure 10 to Structure 14. This reroute, as shown in Exhibit 6 below, is due to Structure 12 and Structure 14 being sited too close to an existing distribution line. Structure 12 was shifted east and Structure 14 was shifted west to provide enough clearance to the existing distribution line so extended distribution outages could be avoided during construction. As a result of these changes, Structure 11 and 13 were shifted in order to keep them as tangent design structures, which require smaller diameter structures compared to angle structures. This reroute shifts the Preferred Route alignment between 5 feet and 105 feet from the OPSB-approved alignment and would reduce tree clearing in the area by 0.6 acre. No new property owners are affected by this reroute.

Exhibit 6: Map Illustration of Reroute 3 (Structure 10 through Structure 14)



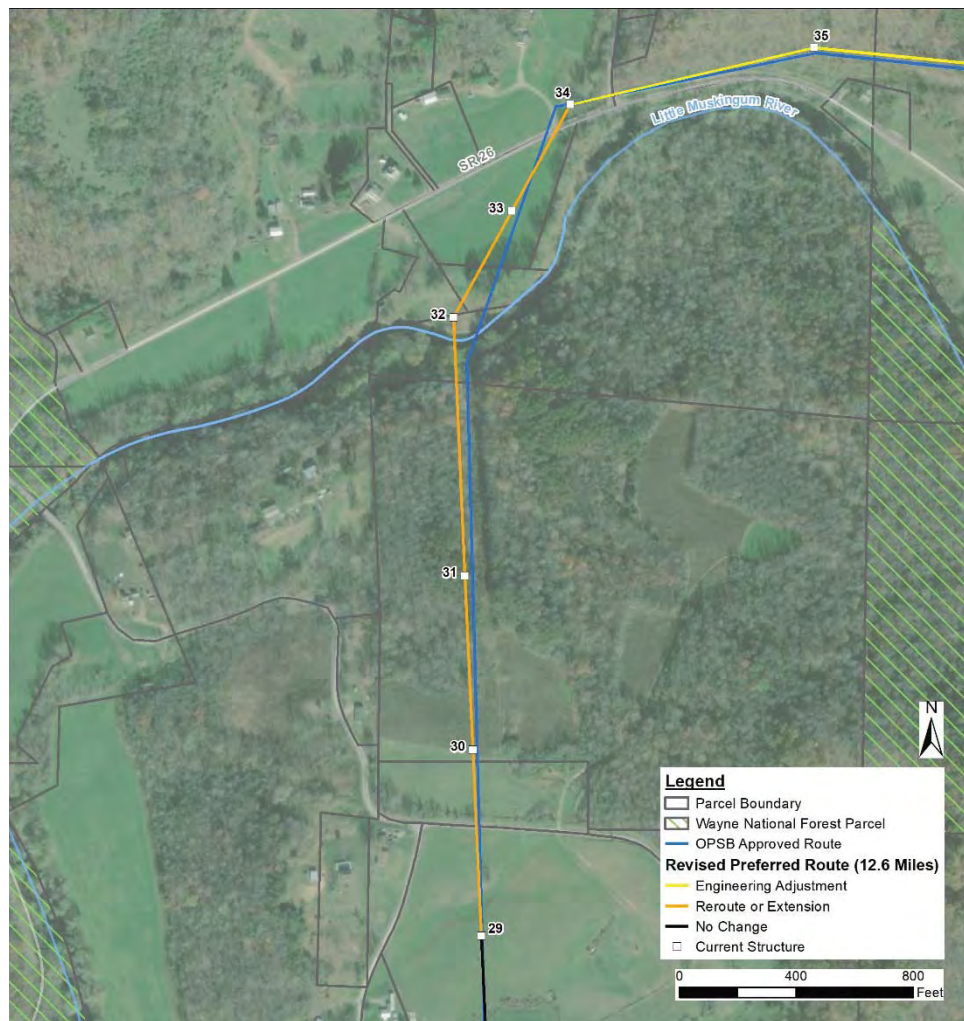
Reroute 4 is from Structure 14 to Structure 28. This reroute, as shown in Exhibit 7 below, was made to maintain necessary clearance to an existing distribution line. This reroute shifts Structures 15 through 24 to provide enough clearance to the existing distribution line to avoid extensive distribution outages. As a result of these changes, Structures 25 through 27 were shifted in order to keep all as tangent design structures, which require smaller diameter structures compared to angle structures. This reroute shifts the Preferred Route alignment between 5 feet and 85 feet from the OPSB-approved alignment and would result in an additional 3.8 acres of tree clearing. No new property owners are affected by this reroute.

Exhibit 7: Map Illustration of Reroute 4 (Structure 14 through Structure 28)



Reroute 5 is from Structure 29 to Structure 34. This reroute, as shown in Exhibit 8 below, was made due to accessibility concerns with the location of Structure 32. This was due to originally siting the new line too close to the existing distribution line, wetlands in the general area, and a steep slope that would be infeasible for an access road for the structure. Shifting Structure 32 to the north side of the Little Muskingum River allows for easy access from State Route 26 and largely avoids the wetland, increases the distribution clearance, and avoids the slope issues. Structure 34 was also originally sited too close to the property owner's driveway, so it was shifted east away from the driveway. As a result of these changes, Structure 30, 31, and 33 were shifted in order to keep them as tangent design structures, which require smaller diameter structures compared to angle structures. This reroute shifts the Preferred Route alignment between 5 feet and 95 feet from the OPSB-approved alignment and would result in an additional 0.2 acre of tree clearing. No new property owners are affected by this reroute.

Exhibit 8: Map Illustration of Reroute 5 (Structure 29 through Structure 34)



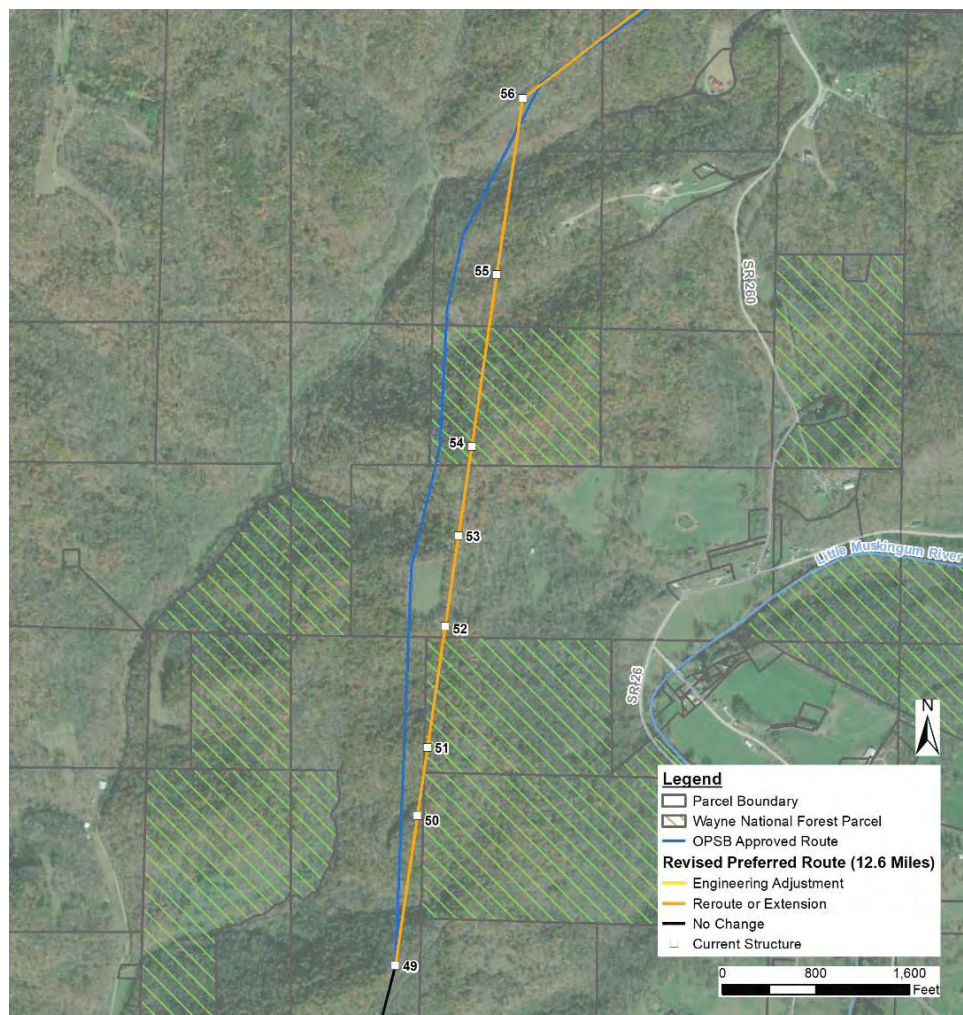
Reroute 6 is from Structure 41 to Structure 45. This reroute, as shown in Exhibit 9 below, shifts Structure 43 northwest to provide enough clearance to the existing distribution line that extended distribution outages could be avoided during construction. As a result of this change, Structure 42 and Structure 44 were shifted in order to keep them as tangent design structures, which require smaller diameter structures compared to angle structures. This reroute shifts the Preferred Route alignment between 5 feet and 175 feet from the OPSB-approved alignment and would result in an additional 0.1 acre of tree clearing. No new property owners are affected by this reroute.

Exhibit 9: Map Illustration of Reroute 6 (Structure 41 through Structure 45)



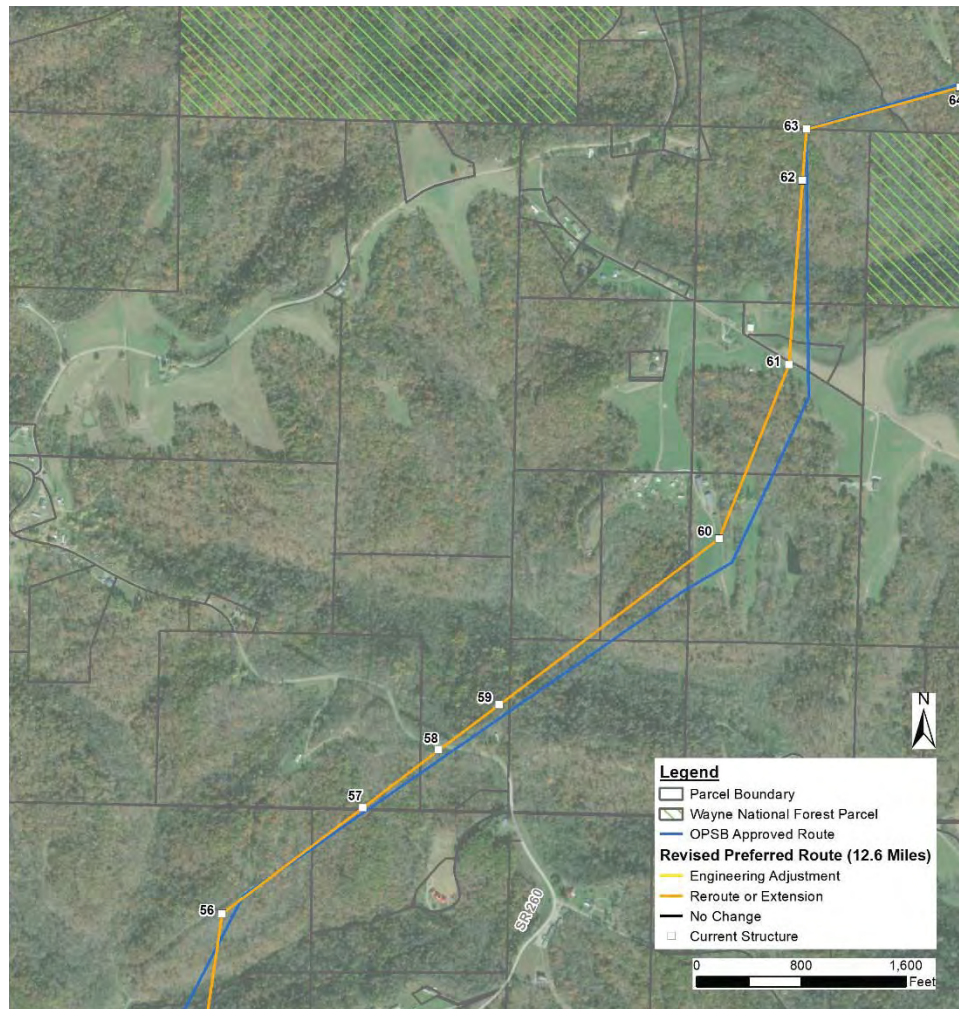
Reroute 7 is from Structure 49 to Structure 56. Early in the route siting study and route segment development, AEP chose to route the alignment through a section of Wayne National Forest (WNF) due to better terrain for equipment access, and to avoid crossing land based on the property owner's request. During detailed engineering design, it was determined that the WNF parcel boundaries used during the siting process were inaccurate for one parcel. To maintain AEP's original decision of routing through Wayne National Forest for the aforementioned reasons, the alignment was shifted east as shown in Exhibit 10 below, so that the entire ROW was within WNF. This reroute shifts the Preferred Route alignment between 5 feet and 385 feet from the OPSB-approved alignment and would result in an additional 0.5 acre of tree clearing. No new property owners are affected by this reroute.

Exhibit 10: Map Illustration of Reroute 7 (Structure 49 through Structure 56)



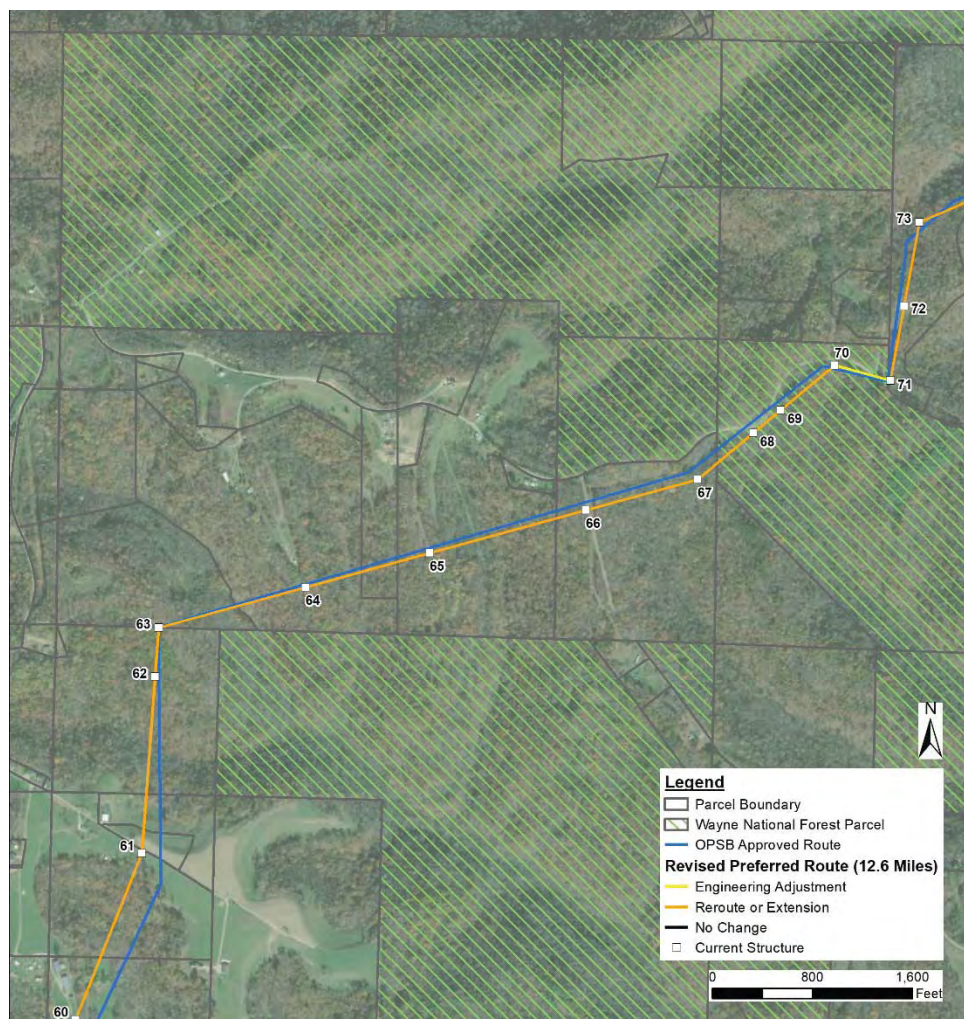
Reroute 8 is from Structure 56 to Structure 63 (Exhibit 11). At the request of the property owner, Structure 60 was shifted northwest, closer to the property owner's barn, due to concerns regarding the effect of tree clearing and the stability of the slope on their property. Further, Structure 61 was shifted northwest to avoid a gas well head located within the alignment of the Preferred Route. Structures 57 through 59, and Structure 62 were shifted in order to keep them as tangent design structures, which require smaller diameter structures compared to angle structures. This reroute shifts the Preferred Route alignment between 5 feet and 230 feet from the OPSB-approved alignment and would result in an additional 0.7 acre of tree clearing. No new property owners are affected by this reroute.

Exhibit 11: Map Illustration of Reroute 8 (Structure 56 through Structure 63)



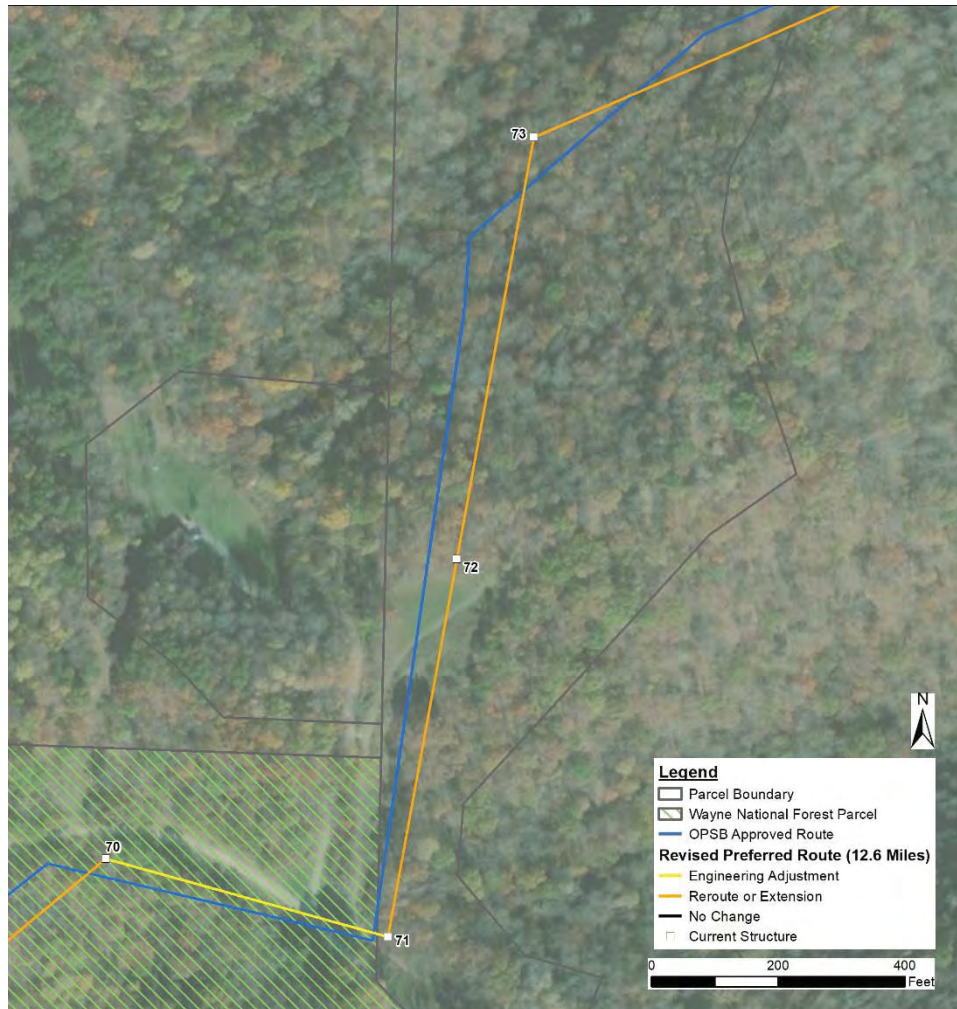
Reroute 9 is from Structure 63 to Structure 70. This reroute, as shown in Exhibit 12 below, is due to the Preferred Route alignment located too close to existing distribution lines. The reroute shifts Structure 67 south and Structure 70 east to provide enough clearance to the existing distribution line to avoid extensive distribution outages during construction. As a result of these changes, Structures 64, 65, 66, 68, and 69 were shifted in order to keep all as tangent design structures, which require smaller diameter structures compared to angle structures. This reroute shifts the Preferred Route alignment between 5 feet and 92 feet from the OPSB-approved alignment and would result in an additional 0.6 acre of tree clearing. No new property owners are affected by this reroute.

Exhibit 12: Map Illustration of Reroute 9 (Structure 63 through Structure 70)



Reroute 10 is from Structure 71 to Structure 73. This reroute, as shown in Exhibit 13 below, eliminates a transmission structure from the original design that was located to the northeast of Structure 73. The reroute simplifies the line route and reduces land use impacts by reducing the number of angle structures in the area. This reroute shifts the Preferred Route alignment between 5 feet and 72 feet from the OPSB-approved alignment and would result in an additional 0.2 acre of tree clearing. No new property owners are affected by this reroute.

Exhibit 13: Map Illustration of Reroute 10 (Structure 71 through Structure 73)



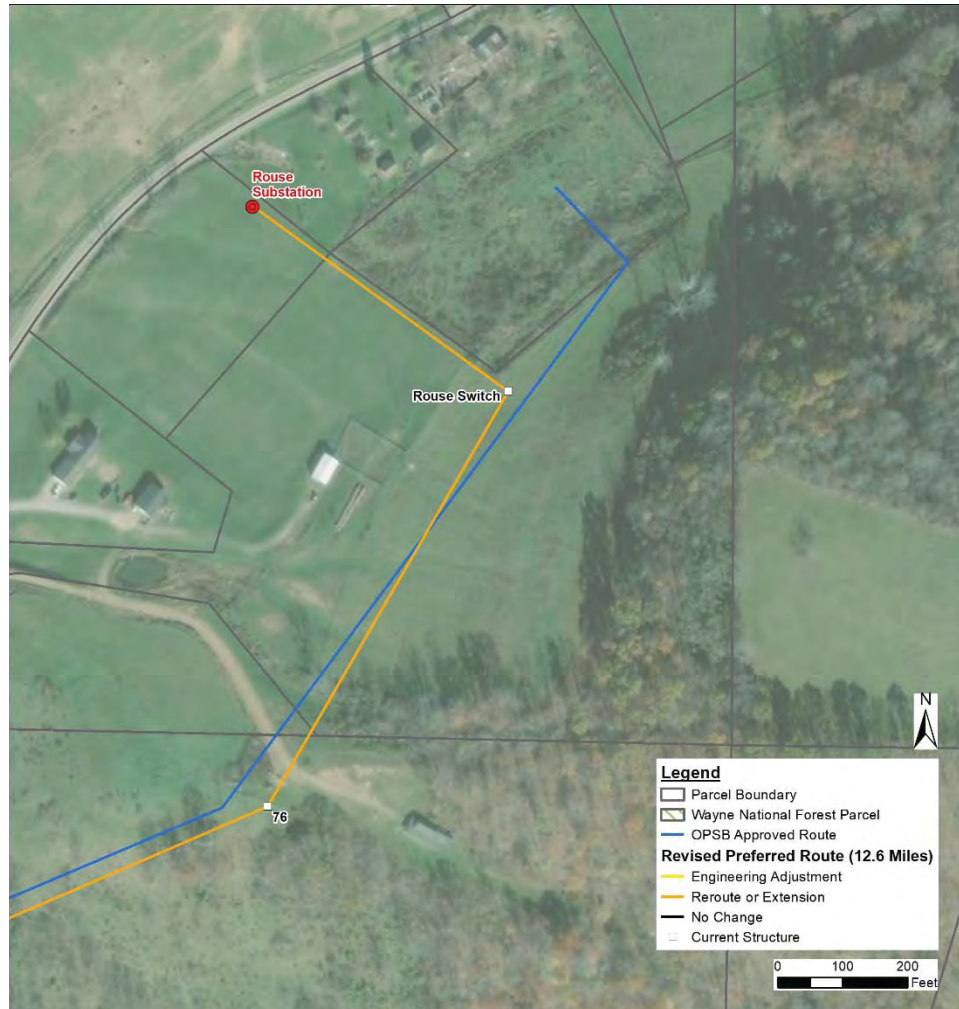
Reroute 11 is from Structure 73 to Structure 76. This reroute, as shown in Exhibit 14 below, resulted from a need to achieve the required clearance to an existing distribution line. The reroute shifts Structure 76 east to provide enough clearance to the existing distribution line to avoid extensive distribution outages during construction. As a result of these changes, Structure 74 and 75 were shifted south in order to keep all as tangent design structures, which require smaller diameter structures compared to angle structures. This reroute shifts the Preferred Route alignment between 5 feet and 56 feet from the OPSB-approved alignment and would result in an additional 0.2 acre of tree clearing. No new property owners are affected by this reroute.

Exhibit 14: Map Illustration of Reroute 11 (Structure 73 through Structure 76)



Reroute 12 is from Structure 76 to the planned Rouse Substation. This reroute, as shown on Exhibit 15 below, was made to remain in line with the Rouse Switch structure and connect to the Preferred Route to the final location of the Rouse Substation. This reroute shifts the Preferred Route alignment between 5 feet and 56 feet from the OPSB-approved alignment and would reduce tree clearing by 0.2 acre. One new property owner is affected by this reroute east of the Rouse Substation. An overhang easement has been acquired from the property owner for the proposed route.

Exhibit 15: Map Illustration of Reroute 12 (Structure 76 through Rouse Substation)



4906-5-02 PROJECT SUMMARY AND APPLICANT INFORMATION**(A) PROJECT SUMMARY**

Text provided in the January 9, 2018 Application filing remains unchanged.

(1) General Purpose of the Facility

Text provided in the January 9, 2018 Application filing remains unchanged.

(2) General Location, Size, and Operating Characteristics

The proposed Project is located in southern Monroe County and northeastern Washington County, approximately 10 miles northeast of Marietta, Ohio.

The proposed Project begins approximately 4.2 miles south of Graysville, Ohio at the ~~proposed~~ site of the proposed Rouse Substation~~—site~~, located ~~south—southwest~~ of the intersection of Pleasant Ridge Road and State Route 26. The proposed Project terminates approximately 4.5 miles southwest of Wingett Run, Ohio at the proposed site of the Bell Ridge Substation, located approximately 0.2 mile northeast of the intersection of State Route 26 and Bear Run Road. The proposed Project is approximately ~~12.7~~ 12.6 to 12.8-miles in length, depending on the route selected, and will be constructed using primarily steel H-frame structures, and will require a new, approximately 100-foot-wide permanent right-of-way (ROW). The actual width of the ROW required for any particular section of the transmission line could vary from the 100-foot planning width, dependent on several factors for a specific location. For purposes of comparison of the features of the Preferred and Alternate Routes throughout this certificate application, AEP Ohio Transco is using the 100-foot ROW width which is estimated to be the average ROW requirement for the Project. Revised Figure 2-1 shows the Project vicinity, substation interconnecting points, and the Preferred and Alternate Routes proposed by AEP Ohio Transco.

(3) Suitability of Preferred and Alternate Routes

Text provided in the January 9, 2018 Application filing remains unchanged.

(i) Preferred Route

The entirety of the Preferred Route from the proposed Rouse Substation to the proposed Bell Ridge Substation is approximately 12.7 miles in length.

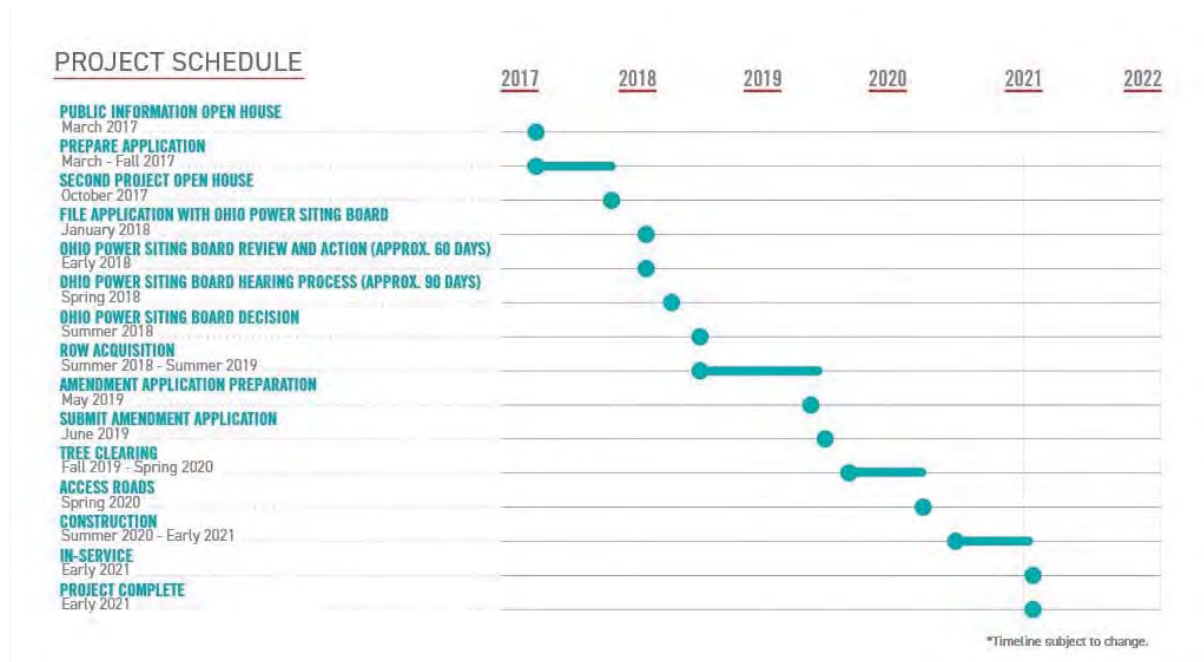
The ~~12.7~~12.6-mile route begins at the proposed Rouse Substation and runs southwest for approximately 0.3 mile, crosses over State Route 26, then continues southwest for another 1.9 miles. The route then runs south for ~~0.4~~ 0.6 mile then southwest for ~~0.9~~ 1.0 mile, crossing State Route 260 and crossing into Washington County. Once over the Washington/Monroe County line, the route runs south for ~~2.6~~ 2.3 miles, then southwest and west for 1.5 miles to Wingett Run, crossing over State Route 26 three times. From Wingett Run, the route runs south, southwest, south, southwest for ~~5.4~~ 5.0 miles, crosses over State Route 26 seven times, and terminates at the proposed Bell Ridge Substation.

(ii) Alternate Route

Text provided in the January 9, 2018 Application filing remains unchanged.

(4) Schedule

The current Project schedule is illustrated in the diagram below. ~~Note that the estimated end date indicated for construction is based on the latest finish if acquisition of property easements is delayed or longer than expected.~~

**(B) APPLICANT DESCRIPTION**

Text provided in the January 9, 2018 Application filing remains unchanged.

4906-5-03 REVIEW OF NEED AND SCHEDULE**(A) NEED FOR PROPOSED FACILITY**

Text provided in the January 9, 2018 Application filing remains unchanged.

(B) REGIONAL EXPANSION PLANS

Text provided in the January 9, 2018 Application filing remains unchanged.

(C) SYSTEM ECONOMY AND RELIABILITY

Text provided in the January 9, 2018 Application filing remains unchanged.

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

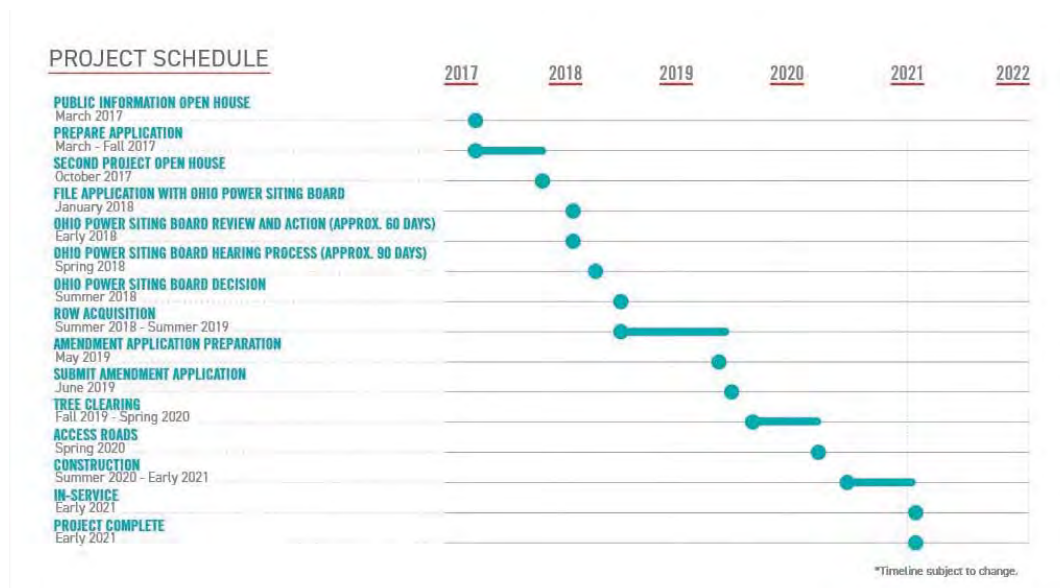
Text provided in the January 9, 2018 Application filing remains unchanged.

(E) FACILITY SELECTION RATIONALE

Text provided in the January 9, 2018 Application filing remains unchanged.

(F) PROJECT SCHEDULE**(1) Schedule Gantt Chart**

A schedule of the proposed Project is presented below.

**(2) Impact of Critical Delays**

Text provided in the January 9, 2018 Application filing remains unchanged.

4906-5-04 ROUTE ALTERNATIVES ANALYSIS

Text provided in the January 9, 2018 Application filing remains unchanged.

4906-5-05 PROJECT DESCRIPTION**(A) PROJECT AREA DESCRIPTION**

Text provided in the January 9, 2018 Application filing remains unchanged.

(1) Project Area Map

Text provided in the January 9, 2018 Application filing remains unchanged.

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

The proposed ROW width is 100 feet for AEP Ohio Transco's planning purposes. Table 5-1 provides information about the Preferred and Alternate Route ROW acreage, length, and properties crossed based on the proposed centerline.

TABLE 5-1

Right-of-way Area, Length, and Number of Properties Crossed for the Preferred and Alternate Routes

	Route Alternatives	
	Preferred	Alternate
Proposed ROW area (in acres)	153.60 <u>153.1</u>	155.50
Length (in miles)	12.7 <u>12.6</u>	12.8
Number of properties crossed (by ROW)	76 <u>73</u>	72

(B) ROUTE OR SITE ALTERNATIVE FACILITY LAYOUT AND INSTALLATION**(1) Site Clearing, Construction, and Reclamation**

Text provided in the January 9, 2018 Application filing remains unchanged.

(a) Surveying and Soil Testing

Text provided in the January 9, 2018 Application filing remains unchanged.

(b) Grading and Excavation

Text provided in the January 9, 2018 Application filing remains unchanged.

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

Text provided in the January 9, 2018 Application filing remains unchanged.

(d) Stringing of Cable

Text provided in the January 9, 2018 Application filing remains unchanged.

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

Text provided in the January 9, 2018 Application filing remains unchanged.

(f) Post-Construction Reclamation.

Text provided in the January 9, 2018 Application filing remains unchanged.

(2) Facility Layout**(a) Transmission Line Route Map**

Revised Figure 8-2A through 8-2R and Figure 8-3A through 8-3S show maps at 1:6,000-scale of the Preferred and Alternate Routes, respectively. 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, preliminary locations are provided for the Preferred Route as illustrated in Figures 8-2A through 8-2R. 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 Figure 8-2A through 8-2R has been updated to include the proposed location of transmission line poles. No fenced-in or secured areas are planned for the Project.

AEP Ohio Transco is currently using a laydown yard in Marietta, located at 2633 Waterford Road, Marietta, OH 45750. An additional staging area/laydown area is currently being identified. identifying staging areas and laydown areas for the Project. To date, none have been identified within the project area. After sites are identified, AEP Ohio Transco will provide final locations that support this Project.

(b) Proposed Layout Rationale

Text provided in the January 9, 2018 Application filing remains unchanged.

(c) Plans for Future Modifications

Text provided in the January 9, 2018 Application filing remains unchanged.

(C) DESCRIPTION OF PROPOSED TRANSMISSION LINES OR PIPELINES

Text provided in the January 9, 2018 Application filing remains unchanged.

4906-5-06 ECONOMIC IMPACT AND PUBLIC INTERACTION

Text provided in the January 9, 2018 Application filing remains unchanged.

4906-5-07 HEALTH AND SAFETY, LAND USE, AND REGIONAL DEVELOPMENT**(A) HEALTH AND SAFETY****(1) Compliance with Safety Regulations**

Text provided in the January 9, 2018 Application filing remains unchanged.

(2) Electric and Magnetic Fields

Text provided in the January 9, 2018 Application filing remains unchanged.

(a) Calculated Electric and Magnetic Field Strength Levels

EMF calculations for winter normal conductor rating, emergency line loading and normal maximum loading are provided for the proposed single-circuit line configuration representative of the most common structure design planned for the Project. This configuration, representing the H-frame design, is shown in Figure 5-1. EMF levels were computed within the ROW of the line configuration at the point of minimum ground clearance, where EMF is the highest. Lower EMF levels are expected beyond the ROW edge. Because the line configurations associated with the Preferred and Alternate Routes are identical, EMF levels produced by these configurations in any route selected for the Project would be the same.

Factors that affect EMF include the ROW width, operating voltage, current flow magnitude, phase configuration, conductor height above ground, electrical unbalance, and other nearby objects. Nominal voltages and balanced conditions are assumed, with line conductors arranged in a configuration depicted in Figure 5-1. No trees, shrubs, buildings, or other objects that can block EMF are assumed in proximity to the proposed line.

All calculations were obtained at the height of 3.28 feet (1 meter) above ground using the Electric Power Research Institute (EPRI) EMF Workstation computer program. Three loading conditions were examined: (1) normal maximum loading, (2) emergency loading, and (3) winter normal conductor rating, consistent with the OPSB requirements. Normal maximum loading represents the peak flow expected with all system facilities in service; daily/hourly flows fluctuate below this level. Emergency loading is the maximum current flow during unusual (contingency) conditions, which exists only for short periods. Winter normal conductor rating represents the maximum current flow that a line, including its terminal equipment, can carry during winter conditions. It is not anticipated that either circuit of this line would operate at its winter normal rating in the foreseeable future.

Loading levels used in the EMF calculations, along with key line design data, are presented in Table 7-1. These levels are based on the 2019 projected system conditions.

TABLE 7-1
EMF Calculations for Rouse to Bell Ridge

Condition	Circuit Load (amperes)	Electric Field (kV/m)*	Magnetic field (mG)*
Rouse to Bell Ridge 138 kV Circuit			
(1) Normal Maximum Loading	141.4	0.59/1.04/0.59	7.31/20.69/7.31
(2) Emergency Line Loading	363.4	0.63/1.46/0.63	21.30/74.99/21.30
(3) Winter Normal Conductor Rating	1359	0.59/1.04/0.59	70.27/198.84/70.27

*EMF levels (Left ROW Edge/Maximum/Right ROW Edge) computed 1 meter above ground at the point of minimum ground clearance, assuming balanced phase currents and nominal voltages. ROW width is 50 feet (left) and 50 feet (right) of centerline, respectively.

kV/m = kilovolt per meter; mG = milligauss

In accordance with O.A.C. 4905-5-07 (2)(a), EMF strength values are provided for the most utilized pole configuration for the Project. Additional pole and conductor configurations were not modeled because the ~~two~~ one ~~residences~~ residence located within 100 feet of the Preferred Route centerline (and two residences located within 100 feet of the Alternate Route centerline) ~~do~~ does not constitute more than 10 percent of the total line length or more than 1 mile of the total line length being certificated.

(b) Current State of EMF Knowledge

Text provided in the January 9, 2018 Application filing remains unchanged.

(c) Line Design Considerations

Text provided in the January 9, 2018 Application filing remains unchanged.

(d) EMF Public Inquiries Policy

Text provided in the January 9, 2018 Application filing remains unchanged.

(3) Estimate of Radio, Television, and Communications Interference

Text provided in the January 9, 2018 Application filing remains unchanged.

(4) Noise from Construction, Operations, and Maintenance

Text provided in the January 9, 2018 Application filing remains unchanged.

(B) LAND USE

(1) Map of the Site and Route Alternatives

Text provided in the January 9, 2018 Application filing remains unchanged.

(2) Impact on Identified Land Uses

Land use in the project area is primarily influenced by topography. The project area is steeply sloped and primarily forested with pockets of residential, commercial, and agricultural land use. Residential and commercial structures are mainly located along State Route 26 and State Route 260. Agricultural land use is mainly located within the Little Muskingum River valley.

Comparisons of the various land use types and land use features for both routes are included in Tables 7-4 through 7-6 for the Preferred and Alternate Routes. The estimates of each land use type being crossed by the transmission line, land use within the 100-foot-wide construction ROW, and the permanent ROW (linear feet, acreage, and percentages) were determined using geographic information system (GIS) software calculations. The potential disturbance area during construction activities (vegetation clearing, pole installations, etc.) consists of the 100-foot-wide construction ROW. The 100-foot-wide permanent ROW will be restored through soil grading, seeding, and mulching, thus the permanent impact to the ROW is primarily limited to the removal of existing trees and other vegetation. Property owners may continue to utilize most of the ROW area for general uses that will not affect the safe and reliable operation of the transmission line such as lawn maintenance.

TABLE 7-4
Length and Percent of Land Uses Crossed by Route Alternatives

Land Use	Preferred Route*		Alternate Route*	
	Linear Feet	Percent	Linear Feet	Percent
Agriculture / Agricultural District Land	2,279 <u>4,337</u>	3.4% <u>6.5%</u>	3,277	4.8%
Commercial / Industrial	0	0.0%	0	0.0%
Institutional	0	0.0%	0	0.0%
Open Land / Pasture	0 <u>52</u>	0.0% <u>0.1%</u>	0	0.0%
Residential	11,423 <u>11,042</u>	17.1% <u>16.6%</u>	6,562	9.7%
Road Right-of-Way	678 <u>990</u>	1.0% <u>1.5%</u>	910	1.3%
Utility Right-of-Way ¹	12,862 <u>2,256</u>	19.2% <u>3.4%</u>	7,734	11.4%
Wayne National Forest	2,591 <u>3,934</u>	3.9% <u>5.9%</u>	8,031	11.9%
Woodlot	35,136 <u>42,056</u>	52.5% <u>63.1%</u>	40,451	59.8%
Delineated Wetland	310 <u>291</u>	0.5% <u>0.4%</u>	45	0.1%
Delineated Stream	1,586 <u>1,679</u>	2.4% <u>2.5%</u>	665	1.0%
Delineated Pond	0	0.0%	0	0.0%
Open Water	0	0.0%	0	0.0%
Total	66,865 <u>66,637</u>	100%	67,675	100%

*Numbers in the table are for the planned potential disturbance area which is a nominal 100-foot-wide corridor centered on the route.

¹ The original OPSB Preferred Route alignment was on the edge of existing distribution line ROW (i.e., the "utility right-of-way"). The length within utility ROW decreased as a result of shifting the line away from the existing

distribution line, and thus other land use categories such woodlots, Wayne National Forest and agriculture increased.

TABLE 7-5

Acreage and Percent of Land Uses Crossed by Route Alternatives

Land Use	Preferred Route*		Alternate Route*	
	Acreage	Percent	Acreage	Percent
Agriculture / Agricultural District Land	7.78 <u>9.2</u>	5.1% <u>6.0%</u>	7.95	5.1%
Commercial / Industrial	0.00	0.0%	0.14	0.1%
Institutional	0.00	0.0%	0.00	0.0%
Open Land / Pasture	0.00 <u>0.1</u>	0.0% <u>0.1%</u>	0.00	0.0%
Residential	28.12 <u>27.0</u>	18.3% <u>17.6%</u>	17.08	11.0%
Road Right-of-Way	2.30 <u>3.1</u>	1.5% <u>2.0%</u>	3.07	2.0%
Utility Right-of-Way ¹	14.95 <u>6.9</u>	9.7% <u>4.5%</u>	10.68	6.8%
Wayne National Forest	5.46 <u>9.1</u>	3.5% <u>6.0%</u>	19.05	12.2%
Woodlot	90.39 <u>93.1</u>	58.9% <u>60.8%</u>	95.90	61.7%
Delineated Wetland	0.81 <u>0.8</u>	0.5%	0.05	0.1%
Delineated Stream	3.79 <u>3.8</u>	2.5%	1.58	1.0%
Delineated Pond	0.00	0.0%	0.00	0.0%
Open Water	0.00	0.0%	0.00	0.0%
Total	153.60 <u>153.1</u>	100%	155.50	100.00%

*Numbers in the table are for the planned potential disturbance area which is a nominal 100-foot-wide corridor centered on the route.

¹ The original OPSB Preferred Route alignment was on the edge of existing distribution line ROW (i.e., the “utility right-of-way”). The length within utility ROW decreased as a result of shifting the line away from the existing distribution line, and thus other land use categories such woodlots, Wayne National Forest, and agriculture increased.

TABLE 7-6

Number of Sensitive Features Within or Near the Potential Disturbance Area for the Route Alternatives

	Route Alternatives	
	Preferred	Alternate
Length (in miles)	12.7 <u>12.6</u>	12.8
Features within the Potential Disturbance Area of Route Alternatives*		
Historic Structures (OHI)	0	0
National Register of Historic Places ¹	0 <u>1</u>	0
Previously Identified Archaeological Sites ²	0 <u>7</u>	0
Residences	0	0
Commercial Buildings	0	0
Industrial Buildings	0	0
Schools and Hospitals	0	0
Churches and Civic Buildings	0	0
State/Federal Forests and Recreational Lands	1	1
Airports	0	0
Features within 1,000 feet of Route Alternatives (centerline)		
Historic Structures (OHI)	2 <u>3</u>	8
National Register of Historic Places ¹	1 <u>2</u>	0
Previously Identified Archaeological Sites ²	0 <u>8</u>	1
Residences	90 <u>88</u>	87
Commercial Buildings	1	2
Industrial Buildings	0	0
Schools and Hospitals	1	0
Churches and Civic Buildings	1	2
State/Federal Forests and Recreational Land ³	1 <u>2</u>	1
Airports	0	0

* The planned potential disturbance area is a nominal 100-foot-wide corridor centered on the route.

OHI = Ohio Historic Inventory

¹ The Hune Farm property was not included in the count for National Register of Historic Places (NRHP) in the original OPSB application submitted January 9, 2018. The entire property is a NRHP Historic District and is crossed by the Preferred Route.

² For "Previously Identified Archaeological Sites" category, new sites identified during the project's Phase I archaeological resource surveys are included in the site count. Refer to Section (E) Cultural and Archaeological Resources for more detailed information.

TABLE 7-6

Number of Sensitive Features Within or Near the Potential Disturbance Area for the Route Alternatives

	Route Alternatives	
	Preferred	Alternate

³ The Ohio Buckeye Trail was not included in the original OPSB application submitted January 9, 2018. The Buckeye Trail is within 1,000 feet of both the Preferred and Alternate routes at the northern end of the Project. This information is not included in the table for the Alternate Route because the purpose of this amendment is to document the changes to the Preferred Route alignment since the OPSB's approval of the Preferred Route.

(a) Residential

Preferred Route: The Preferred Route is located within 1,000 feet of ~~90~~ 88 residences, none of which are within the planned potential disturbance area. As shown in Table 7-5, residential land makes up ~~18.3~~ 17.6 percent of the Preferred Route ROW (100 feet wide).

Alternate Route: The Alternate Route is located within 1,000 feet of 87 residences, none of which are within the planned potential disturbance area. As shown in Table 7-5, residential land makes up 11 percent of the Alternate Route ROW (100 feet wide).

(b) Commercial

Text provided in the January 9, 2018 Application filing remains unchanged.

(c) Industrial

Text provided in the January 9, 2018 Application filing remains unchanged.

(d) School and Hospitals

Text provided in the January 9, 2018 Application filing remains unchanged.

(e) Churches and Civic Buildings

Text provided in the January 9, 2018 Application filing remains unchanged.

(f) State/Federal Forests and Recreational Land

Wayne National Forest is located within the planned potential disturbance area and within 1,000 feet of the Preferred and Alternate Route. The Buckeye Trail is within 1,000 feet of both the Preferred and Alternate routes at the northern end of the Project. As shown in Table 7-5, Wayne National Forest makes up ~~3.5~~ 6.0 percent of the Preferred Route ROW (100 feet wide) and 12.2 percent of the Alternate Route ROW (100 feet wide).

(g) Agricultural

~~As shown in Table 7-4, approximately 3.4 percent (2,279 feet) of the Preferred Route and 4.8 percent (3,277 feet) of the Alternate Route cross agricultural fields.~~ As shown in Table 7-5, approximately 6.0 percent (9.2 acres) of the Preferred Route and 5.1 percent (7.95 acres) of the

Alternate Route cross agricultural fields. A discussion of agricultural land and Agricultural District Land is provided in section (C) below.

(3) Impact on Identified Nearby Structures

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

There are ~~10~~ 8 residences within 200 feet of the Preferred Route ROW; these residences range from ~~10~~ 12 to ~~193~~ 195 feet from the ROW. There are 12 residences within 200 feet of the Alternate Route ROW; these residences range from 46 to 163 feet from the ROW. There is one school building 200 feet from the Preferred Route ROW. There are ~~30~~ 34 and 15 other structures (e.g. garage or barn) within 200 feet of the Preferred Route and Alternate Route ROW, respectively. There are no commercial, industrial, or recreational structures within 200 feet of the proposed ROW for either route.

(b) Destroyed, Acquired, or Removed Buildings

Text provided in the January 9, 2018 Application filing remains unchanged.

(c) Mitigation Procedures

Text provided in the January 9, 2018 Application filing remains unchanged.

(C) AGRICULTURAL LAND IMPACTS

The potential impacts of the Project on agricultural land use include potential damage to crops that may be present, disturbance of underground field drainage systems, compaction of soils and potential for temporary reduction of crop productivity. Agricultural land used for crop cultivation within the Preferred and Alternate Route ROWs is estimated at ~~7.78~~ 9.2 acres and 7.95 acres, respectively.

Soil compaction resulting from construction activities is typically a temporary issue and is resolved within a few seasons of plowing and tilling. AEP Ohio Transco will work with the agricultural landowners to resolve conflicts with drainage tiles and irrigation systems that are affected by the Project where necessary.

(1) Agricultural Land Map

Text provided in the January 9, 2018 Application filing remains unchanged.

(2) Impacts to Agricultural Lands and Agricultural Districts

The Washington County Auditor and Monroe County Auditor was contacted to obtain information on current Agricultural District lands records. The centerline and ROW of the Preferred Route crosses one Agricultural District parcel. The parcel crossed is located southwest of the proposed Rouse Substation. No additional Agricultural District parcels are located within 1,000 feet of the Preferred Route. The centerline and ROW of the Alternate Route crosses one Agricultural District parcel. The parcel crossed is located southwest of the proposed Rouse Substation. No additional Agricultural District parcels are located within 1,000 feet of the Alternate Route. The data was

received from the Monroe County Auditor on ~~December 5, 2017~~ April 4, 2019 and the Monroe County Auditor confirmed there have been no changes to the data since this date on May 30, 2019. The data was received from the Washington County Auditor on ~~December 13, 2017~~ May 1, 2019. The provided data fulfills the requirement of O.A.C. 4906-5-07 (C)(1)(b), which states this data must be collected not more than 60 days prior to submittal.

Since OPSB's approval of the Preferred Route, the Agricultural District parcel has been split into two parcels. A portion of the original parcel, approximately 2.2 acres, is now owned by Washington Electric Cooperative and will be used for the Rouse Station. The other portion of the parcel is privately owned and currently being used as a cattle pasture and hayfield. The property is active in the Agricultural District land program and will continue to be listed in the program after the transmission line is constructed.

(a) Acreage Impacted

Text provided in the January 9, 2018 Application filing remains unchanged.

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

Text provided in the January 9, 2018 Application filing remains unchanged.

(c) Mitigation Procedures

Text provided in the January 9, 2018 Application filing remains unchanged.

(D) LAND USE PLANS AND REGIONAL DEVELOPMENT

Text provided in the January 9, 2018 Application filing remains unchanged.

(1) Impacts to Regional Development

Text provided in the January 9, 2018 Application filing remains unchanged.

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

Text provided in the January 9, 2018 Application filing remains unchanged.

(E) CULTURAL AND ARCHAEOLOGICAL RESOURCES

A Phase I archaeological resources survey was completed for the majority of the OPSB Preferred Route located outside of Wayne National Forest in September 2017. A Phase I archaeological resources survey was completed for the OPSB Preferred Route located within Wayne National Forest in August 2018. Additional Phase I archaeological resources surveys were completed August 2018 and February 2019 for the current Preferred Route and proposed access roads as a result of changes to the transmission alignment and planned access roads. The Phase I Cultural Resources Investigation Reports, along with correspondence with the Ohio Historical Preservation Office (OHPO), was provided to the OPSB after the original certificate application filing. A Phase I Addendum Report for the August 2018 and February 2019 surveys (covering transmission alignment changes and planned access roads) will be provided to the OPSB and the OHPO. A phase I cultural resources survey was not completed for the Alternate Route.

Six cultural resource sites were identified during the aforementioned surveys of the current Preferred Route corridor and planned access roads outside of the Wayne National Forest parcels. One cultural resource site was identified during the survey within Wayne National Forest land.

For this amendment, updated SHPO data files (accessed May 23, 2019) as well as the cultural resources identified during the Phase I surveys in September 2017, August 2018, and February 2019, were used to identify cultural resources within 1,000 feet of the Preferred Route centerline. Cultural resources within 1,000 feet of the Alternate Route were not updated because the purpose of this application amendment is to document the changes to the Preferred Route alignment since the OPSB's approval of the Preferred Route.

~~Cultural resource studies of the project area were conducted on behalf of AEP Ohio Transco. To date, these studies have included a background records check and literature review using data files from the State Historic Preservation Office (SHPO) for both the Preferred and Alternate Routes, an architectural and historic resources survey of the entirety of the Preferred Route, and a Phase I archaeological reconnaissance field investigation of most of the Preferred Route. Once complete, a report of this effort for the Preferred Route will be filed as a confidential filing with the Board because of the sensitive nature of the location information for archaeological sites.~~

(1) Cultural Resources Map

Based on the cultural resources desktop study, there are no scenic rivers or scenic routes/byways (as defined by the Ohio Department of Natural Resources [ODNR] and/or the Ohio Department of Transportation [ODOT]). There is one NRHP-listed resource (Hune Farm) within the potential disturbance area of the Preferred Route and one NRHP-listed resource Historic District (Hune Covered Bridge) within 1,000 feet of the Preferred Route. ~~and there~~ There are no registered landmarks of historic, religious, archaeological, scenic, natural, or other cultural significance within 1,000 feet of the Alternate Route.

Although not registered or listed as cultural resource sites, four cemeteries and ~~two~~ three Ohio Historical Inventory (OHI) structures are located within 1,000 feet of the Preferred Route. Six cemeteries, eight OHI structures, and one Ohio Archaeological Inventory (OAI) archaeological site are located within 1,000 feet of the Alternate Route. Cultural resources already in the public domain (churches, cemeteries, and OHI structures) are identified on revised Figure 7-1A to 7-1E.

(2) Cultural Resources in Study Corridor

Cultural resources studies to date have involved background research utilizing data files from the Ohio Historic Preservation Office (OHPO) online mapping system for both the Preferred and Alternate Routes. In addition, ~~a~~ Phase I archaeological reconnaissance survey-surveys and ~~an~~ architectural history investigation investigations were conducted for the OPSB approved Preferred Route and current Preferred Route.

For the background research, a ~~1~~ one-mile buffer was used around both the Preferred and Alternate Routes to identify ~~these~~ previously known cultural resources and to provide information

on the probability of identifying cultural resources within the potential disturbance area. The OHPO online mapping database included a review of the OAI, the OHI, Determination of Eligibility files, the NRHP, historic cemeteries, historic bridges, national historic landmarks, and previous cultural resources surveys data. No known cultural resources were identified within the potential disturbance area of either the Preferred or Alternate Route from the desktop review.

~~No known cultural resources were identified within the potential disturbance area of either the Preferred or Alternate Route from the desktop review. A field investigation of the proposed disturbance area of the Preferred Route was conducted. Phase I cultural resources surveys were completed for the OPSB Preferred Route in September 2017 and August 2018, and current Preferred Route in August 2018 and February 2019. To date, the The Phase I cultural resources surveys archaeological reconnaissance resulted in the identification of six seven archaeological sites, including four five historic era sites and two sites with both historic and prehistoric components. Of these, five of the sites are not recommended all seven are located within the potential disturbance area of the current Preferred Route. None of these sites are recommended eligible for NRHP. and the sixth has not been fully tested at this time. A total of 21.55 acres of the Preferred Route remains to be investigated through Phase I archaeological surveys. The Phase I archaeological investigation will be completed in these remaining areas in 2018. Once complete, a report of this effort for the Preferred Route will be filed as a confidential filing with the OPSB.~~

~~Additionally, an architectural and historical resources field survey has been largely completed for the Preferred Route. Once complete, a report of this survey effort will be filed as a confidential filing with the OPSB.~~

(3) Construction, Operation, and Maintenance Impacts on Cultural Resources

Text provided in the January 9, 2018 Application filing remains unchanged. As noted above, seven cultural resource sites were identified during Phase I cultural resources surveys, however the OHPO concurred that the sites were not significant and preservation of the sites was not required.

(4) Mitigation Procedures

Text provided in the January 9, 2018 Application filing remains unchanged.

(5) Aesthetic Impact

Text provided in the January 9, 2018 Application filing remains unchanged.

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

Text provided in the January 9, 2018 Application filing remains unchanged.

(A) ECOLOGICAL MAP

Text provided in the January 9, 2018 Application filing remains unchanged.

(B) FIELD SURVEY REPORT FOR VEGETATION AND SURFACE WATERS

Text provided in the January 9, 2018 Application filing remains unchanged.

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

Vegetative communities and land use types within the Field Study Area include: agricultural and pasture fields, old fields, dense areas of scrub-shrub, early or second growth successional forests, mesophytic forests, riparian forests, palustrine emergent (PEM) wetland, palustrine scrub-shrub (PSS) wetland, palustrine forested (PFO) wetland, residential, existing utility ROW, and upland forest, in addition to the identified waterbodies. Wayne National Forest land occupies a small portion of the Preferred Route (~~5.46~~ 9.1 acres) and a greater portion of the Alternate Route (19.05 acres). Habitat descriptions are provided below. Details on the anticipated impacts from construction of the proposed Project are provided in Section 4906-05-08(B)(3)(a) below and in Table 8-5.

(i) Agricultural and Pasture Fields

Text provided in the January 9, 2018 Application filing remains unchanged.

(ii) Old Field and Scrub-Shrub

Text provided in the January 9, 2018 Application filing remains unchanged.

(iii) Successional Forests, Mesophytic Forests, and Forested Riparian Floodplains

Text provided in the January 9, 2018 Application filing remains unchanged.

(iv) Wetlands

Text provided in the January 9, 2018 Application filing remains unchanged.

(v) Residential

Text provided in the January 9, 2018 Application filing remains unchanged.

(vi) Utility ROW

Text provided in the January 9, 2018 Application filing remains unchanged.

(b) Wetlands

Text provided in the January 9, 2018 Application filing remains unchanged.

(i) Summary of National Wetland Inventory Data

USFWS NWI data, including freshwater wetlands and riverine areas, were mapped within 1,000 feet of the Preferred and Alternate Routes, and reviewed to guide the field ecological survey as one factor in identifying potential wetland locations (USFWS, 2017a). The NWI-mapped areas for the Preferred and Alternate Routes are shown on revised Figure 8-2A through 8-2R and Figure 8-3A through 8-3S, respectively. Table 8-1 summarizes the NWI data by wetland classification and habitat type. The actual extent and type of field-delineated wetlands along the routes are discussed in the next section.

TABLE 8-1**NWI Wetlands Within 1,000 feet of the Preferred and Alternate Routes**

Wetland Type	NWI Code	NWI Habitat Type*	Total Number of Each Habitat Type Preferred/ Alternate
Freshwater Emergent Wetland	PEM1A	Palustrine Emergent Persistent Temporary Flooded	1 – Alternate
Freshwater Emergent Wetland	PEM1F	Palustrine Emergent Persistent Semipermanently Flooded	3 – Preferred
Freshwater Scrub-Shrub Wetland	PSS1A	Palustrine Scrub-Shrub Broad-Leaved Deciduous Semipermanently Flooded	1 – Preferred
Freshwater Forested/Shrub Wetland	PFO1A	Palustrine Forested Broad-Leaved Deciduous Temporary Flooded	3 – Preferred 2 – Alternate
Freshwater Pond	PUBGh	Palustrine Unconsolidated Bottom Intermittently Exposed Diked/Impounded	4 3 – Preferred 5 – Alternate
Freshwater Pond	PUBGx	Palustrine Unconsolidated Bottom Excavated	1 – Preferred
Riverine	R2UBH	Riverine Lower Perennial Unconsolidated Bottom Permanently Flooded	1 – Preferred 1 – Alternate
Riverine	R3UBH	Riverine Upper Perennial Unconsolidated Bottom Permanently Flooded	1 – Alternate
Riverine	R4SBC	Riverine Intermittent Streambed Seasonally Flooded	13 – Preferred 19 – Alternate
Riverine	R5UBH	Riverine Unknown Perennial Unconsolidated Bottom Permanently Flooded	14 – Preferred 9 – Alternate
Total Number of Preferred Route NWI Wetlands:			40 39
Total Number of Alternate Route NWI Wetlands:			38

Notes:

Total number of PEM = 4, PSS = 1; PFO = 5, PUB = ~~10~~ 9, Riverine = 58

* USFWS, 2016

(ii) Field-Delineated Wetlands

A total of ~~16~~ 26 wetlands (totaling ~~2.12~~ 1.9 acres) were delineated within the Preferred Route Field Survey Area. Within the Alternate Route Field Survey Area, eight wetlands (totaling 0.31 acre) were delineated. ~~No wetlands were delineated within both the Preferred and Alternate Routes where the routes overlapped.~~

A total of ~~0.82~~ 0.8 acre of wetlands were delineated within the Preferred Route ROW and 0.07 acre within the Alternate Route ROW. These field-delineated wetlands for the Preferred and

Alternate Routes are mapped on revised Figure 8-2A through 8-2R and Figure 8-3A through 8-3S, respectively.

Detailed information on each wetland is provided in Table 8-2. The anticipated temporary construction impacts, where unavoidable, on these wetlands are included in Table 8-2 and further discussed in Section 4906-05-08(B)(3)(b).

TABLE 8-2

Delineated Wetlands within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Wetland Name	Route	Figure	Cowardin Wetland Type ^a	ORAM Score	ORAM Category	Acreage within Field Survey Area ^b	Acreage within Potential Disturbance Area/ROW ^{c, d, e}	Length Crossed by Centerline (feet)
Preferred Route Wetlands								
<u>WBR008</u>	<u>Preferred</u>	<u>8-2A</u>	<u>PEM</u>	<u>23</u>	<u>1</u>	<u>0.1</u>	<u>0.0</u>	<u>0</u>
<u>WDS027</u>	<u>Preferred</u>	<u>8-2A</u>	<u>PEM</u>	<u>22.5</u>	<u>1</u>	<u><0.1</u>	<u>0.0</u>	<u>0</u>
<u>WSM001</u>	<u>Preferred</u>	<u>8-2A</u>	<u>PEM</u>	<u>23.5</u>	<u>1</u>	<u><0.1</u>	<u><0.1</u>	<u>0</u>
<u>WBR013</u>	<u>Preferred</u>	<u>8-2E</u>	<u>PEM</u>	<u>50</u>	<u>2</u>	<u>0.1</u>	<u>0.1</u>	<u>26</u>
<u>WBR012</u>	<u>Preferred</u>	<u>8-2E</u>	<u>PFO</u>	<u>25</u>	<u>1</u>	<u><0.1</u>	<u><0.1</u>	<u>4</u>
<u>WMA001</u>	<u>Preferred</u>	<u>8-2F</u>	<u>PFO</u>	<u>41</u>	<u>Modified 2</u>	<u><0.1</u>	<u>0.0</u>	<u>0</u>
<u>WMA004</u>	<u>Preferred</u>	<u>8-2G</u>	<u>PFO</u>	<u>41</u>	<u>Modified 2</u>	<u><0.1</u>	<u>0.0</u>	<u>0</u>
<u>WMA007</u>	<u>Preferred</u>	<u>8-2H</u>	<u>PEM</u>	<u>21</u>	<u>1</u>	<u><0.1</u>	<u>0.0</u>	<u>0</u>
<u>WMA005</u>	<u>Preferred</u>	<u>8-2H</u>	<u>PEM</u>	<u>21</u>	<u>1</u>	<u><0.1</u>	<u>0.0</u>	<u>0</u>
<u>WDS025</u>	<u>Preferred</u>	<u>8-2G</u>	<u>PEM</u>	<u>39</u>	<u>Modified-2</u>	<u>0.06</u>	<u>0.03</u>	<u>0</u>
<u>WME012A</u>	<u>Preferred</u>	<u>8-2I</u>	<u>PEM</u>	<u>39.5</u>	<u>Modified 2</u>	<u>0.98 0.6</u>	<u><0.04 0.3</u>	<u>0 113</u>
<u>WME012B</u>	<u>Preferred</u>	<u>8-2I</u>	<u>PFO</u>	<u>39.5</u>	<u>Modified-2</u>	<u>0.05</u>	<u>0.00</u>	<u>0</u>
<u>WBR002</u>	<u>Preferred</u>	<u>8-2J</u>	<u>PEM</u>	<u>26.5</u>	<u>1</u>	<u>0.14 0.1</u>	<u>0.00 0.1</u>	<u>0</u>
<u>WMA006</u>	<u>Preferred</u>	<u>8-2K</u>	<u>PEM</u>	<u>22</u>	<u>1</u>	<u>0.1</u>	<u>0.1</u>	<u>33</u>
<u>WME011</u>	<u>Preferred</u>	<u>8-2K</u>	<u>PEM</u>	<u>49</u>	<u>2</u>	<u>0.08 0.1</u>	<u>0.02 <0.1</u>	<u>0 11</u>
<u>WME009</u>	<u>Preferred</u>	<u>8-2L</u>	<u>PEM</u>	<u>16.5</u>	<u>1</u>	<u>0.14 0.1</u>	<u>0.00 <0.1</u>	<u>0 3</u>
<u>WME010</u>	<u>Preferred</u>	<u>8-2L</u>	<u>PEM</u>	<u>41</u>	<u>Modified 2</u>	<u><0.04 <0.1</u>	<u>0.00 <0.1</u>	<u>0</u>
<u>WME007</u>	<u>Preferred</u>	<u>8-2L</u>	<u>PEM</u>	<u>18</u>	<u>1</u>	<u>0.02 <0.1</u>	<u>0.00 <0.1</u>	<u>0 18</u>
<u>WME008</u>	<u>Preferred</u>	<u>8-2L</u>	<u>PEM</u>	<u>21</u>	<u>1</u>	<u><0.04 <0.1</u>	<u><0.04 <0.1</u>	<u>0</u>

TABLE 8-2

Delineated Wetlands within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Wetland Name	Route	Figure	Cowardin Wetland Type ^a	ORAM Score	ORAM Category	Acreage within Field Survey Area ^b	Acreage within Potential Disturbance Area/ROW ^{c, d, e}	Length Crossed by Centerline (feet)
WME006	Preferred	8-2M	PEM	26.5	1	<0.04 <0.1	<0.04 0.0	0
WME005	Preferred	8-2M	PEM	33.5	1 or 2 Gray Zone	0.03 0.1	0.43 <0.1	43 0
WME004	Preferred	8-2M	PEM	27.5	1	0.03 <0.1	0.07 <0.1	67 12
WME003	Preferred	8-2M	PEM	34	1 or 2 Gray Zone	<0.04 <0.1	<0.04 0.0	204 0
WBR003	Preferred	8-2N	PFO	55	2	0.46 0.3	0.00 0.1	0
WDS032	Preferred	8-2N	PEM	28	1	<0.1	0.0	0
WME013	Preferred	8-2Q 8-2R	PEM	27	1	0.05 <0.1	0.22 0.0	0
WBR001	Preferred	8-2R	PEM	31.5	1 or 2 Gray Zone	0.33 0.3	0.00 0.1	0 71
WME002	Preferred	8-2R	PEM	38	Modified 2	<0.04 <0.1	<0.04 <0.1	26 0
					Total	2.42 1.9	0.82 0.8	340 291
Alternate Route Wetlands								
WBR009	Alternate	8-3A	PEM	17	1	0.09	0	0
WBR007	Alternate	8-3C	PEM	17	1	0.02	0.03	0
WTQ023	Alternate	8-3E	PEM	14	1	0.02	<0.01	0
WDS023	Alternate	8-3H	PEM	23	1	<0.01	<0.01	3
WDS024	Alternate	8-3H	PEM	23	1	0.06	<0.01	42
WBR006	Alternate	8-3N	PEM	20	1	0.07	0	0
WBR005	Alternate	8-3N	PEM	23	1	0.03	<0.01	0
WBR004	Alternate	8-3P	PEM	22	1	<0.01	0	0

TABLE 8-2

Delineated Wetlands within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Wetland Name	Route	Figure	Cowardin Wetland Type ^a	ORAM Score	ORAM Category	Acreage within Field Survey Area ^b	Acreage within Potential Disturbance Area/ROW ^{c, d, e}	Length Crossed by Centerline (feet)
Total						0.31	0.07	45

Notes:

a Wetland Type: PEM = palustrine emergent, PSS = palustrine scrub/shrub, PFO = palustrine forested.

b The width of the Field Survey Area was 300 feet.

c The width of the potential disturbance area and the final maintained ROW is planned to be 100 feet.

d All measurements listed as less than 0.01 were assumed to be 0.01 for calculations.

e All measurements listed as less than 0.1 were assumed to be 0 for calculations.

< = less than

(c) Waterbodies**(i) Field-Delineated Streams**

Streams and drainage channels were delineated and assessed during the ecological survey of the Preferred and Alternate Routes. Streams with drainage areas greater than 1 square mile or maximum pool depths greater than 40 centimeters (cm) were assessed using the OEPA Qualitative Habitat Evaluation Index (QHEI). The QHEI is one measure that is used by OEPA, in association with biotic sampling, to determine a stream's aquatic life use designation in accordance with the Ohio water quality standards (OEPA, 2006). The QHEI method classifies streams based on their drainage area. Streams that drain greater than or equal to 20 square miles are classified as "larger streams," while those that drain less than 20 square miles are classified as "headwaters." QHEI-classified streams then receive a narrative rating based upon their score:

- Score less than 30 for both headwaters and larger streams = Very Poor
- Score between 30 and 42 for headwaters, and 30 and 44 for larger streams = Poor
- Score between 43 and 54 for headwaters, and 45 and 59 for larger streams = Fair
- Score between 55 and 69 for headwaters, and 60 and 74 for larger streams = Good
- Score greater than or equal to 70 for headwaters, and 75 for larger streams = Excellent

Twenty-seven (27) stream segments (SMT028A, STQ160, STQ128, SME057, STQ128A, SBR008, STQ128D, STQ128E, SME042, STQ168, STQ128F, STQ128G, SME037, STQ128H, SBR003, STQ128I, STQ128J, SMT028B, STQ128L, SBR054, STQ174, STQ128B, STQ128C, SBR039, SBR068, SBR015, and STQ128K) were evaluated using the QHEI method. Of these streams, 17 were located in the Preferred Route and 10 were located in the Alternate Route. Streams labeled STQ128 are all segments of the Little Muskingum River. Segments of the Little Muskingum River were given a unique identifier to individually evaluate each segment. The OEPA has designated the section of the Little Muskingum River between Witten Fork and Fifteen Mile Creek as a Superior High Quality Water (OEPA, 2003). This includes all the crossings. Field personnel completed the QHEI near the proposed centerline of the transmission line crossing when possible.

The OEPA's Headwater Habitat Evaluation Index (HHEI) is used to evaluate streams with a drainage area less than or equal to one square mile, and maximum pools depths less than or equal to 40 cm (OEPA, 2012). The HHEI is generally used to assess Primary Headwater Habitat (PHWH) streams that typically fall under the classification of first or second-order streams. The HHEI rates a stream based on its physical habitat and uses that information to determine the biological potential of the stream. The physical habitats scored for the HHEI are substrate type, pool depth, and bank full width. Scores for Class I PHWH Streams range from 0 to 29.9; scores for Class II PHWH Streams range from 30 to 69.9; and scores for Class III PHWH Streams range from 70 to 100. A "Modified" qualifier may be added as a prefix to any of these classes if evidence of anthropogenic alterations, such as channelization and bank stabilization, are observed. A higher PHWH class corresponds with a more continuous flow regime. The flow regime determines the physical habitat of the stream, and is therefore indicative of the biological communities it can support. Streams with scores between 30 and 69 may be classified as potential rheocrene habitat, depending on substrate type, watershed size, and stream flow. The PHWH class for these

potential rheocrene streams is then identified by evaluating the biology (fish, salamanders, and benthic macroinvertebrates). Per AEP Ohio Transco's consultant's standard operating procedures, it was not necessary to perform a biotic evaluation, and potential rheocrene streams were listed in Table 8-3 as "Rheocrene Potential."

A total of ~~195~~ 185 streams were evaluated using the HHEI method. ~~Eighty-eight~~ Seventy-eight (88 78) streams were identified along the Preferred Route Field Survey Area, and 107 were identified along the Alternate Route Field Survey Area. The HHEI evaluations were completed at the proposed transmission line crossing points, if crossed by the proposed alignment. Multiple HHEI evaluations were completed at streams that exhibited significant change in either flow regime, substrate, size, and/or other characteristics that could potentially significantly change the outcome of the stream's score.

Streams identified during the ecological survey on the Preferred and Alternate Routes are shown on revised Figure 8-2A through 8-2R and Figure 8-3A through 8-3S, respectively. Detailed information on each delineated stream is included in Table 8-3. Aquatic life use designations within the Central Ohio tributaries basin obtained from O.A.C. 3745-1-09 are also provided. The Ohio River, located approximately 17 miles downstream of the proposed Bell Ridge Substation, is a traditionally navigable waterway as defined by USACE.

Approximately ~~9,593~~ 9,752 linear feet of stream are located within the Preferred Route ROW, while approximately 11,058 linear feet are located within the Alternate Route ROW.

The Preferred Route centerline has ~~58~~ 59 stream crossings. The length of delineated streams located within the Preferred Route Field Survey Area is approximately ~~31,788~~ 27,731 linear feet. The Alternate Route centerline has 63 stream crossings. The total length of streams located within the field survey area of the Alternate Route is approximately 31,827 linear feet. Construction impacts on these features are included in Table 8-3 and further discussed in Section 4906-05-08(B)(3)(c).

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
Preferred Route												
SBO011 UNT Clear Fork Little Muskingum River	Preferred	8-2A	Ephemeral	3	1	HHEI	32	-	Modified Class II	No	139	0
SDS154 UNT Clear Fork Little Muskingum River	Preferred	8-2A	Intermittent	2	6	HHEI	27	-	Modified Class I	Yes	368 <u>357</u>	121 <u>124</u>
SMT028A Clear Fork Little Muskingum River	Preferred	8-2A	Perennial	40	8	QHEI	49.5	WWH	Fair	Yes	<u>424</u> <u>419</u>	150 <u>120</u>
SBO007 UNT Clear Fork Little Muskingum River	Preferred	8-2B	Ephemeral	2	3	HHEI	33	-	Modified Class II	Yes	487 <u>629</u>	275 <u>341</u>
SBO010 UNT Clear Fork Little Muskingum River	Preferred	8-2B	Ephemeral	1.5	0	HHEI	19	-	Modified Class I	No <u>Yes</u>	149 <u>174</u>	0 <u>72</u>
SBO009 UNT Clear Fork Little Muskingum River	Preferred	8-2B	Ephemeral	2	0	HHEI	19	-	Modified Class I	No	116	0 <u>116</u>

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
SBO008 UNT Clear Fork Little Muskingum River	Preferred	8-2B	Ephemeral	3	3	HHEI	41	-	Class II	No	70	0
SBO006 UNT Clear Fork Little Muskingum River	Preferred	8-2B	Ephemeral	4	7	HHEI	44	-	Modified Class II	No	513 243	0
SBO005 UNT Clear Fork Little Muskingum River	Preferred	8-2B	Ephemeral	2	1	HHEI	30	-	Modified Class II	Yes	249 261	74 111
SBO004 UNT Little Muskingum River	Preferred	8-2B	Ephemeral	1.5	0	HHEI	24	-	Class I	No	403 85	0
SBO002 UNT Little Muskingum River	Preferred	8-2B	Ephemeral	1.5	0	HHEI	18	-	Class I	No	84 12	0
SBO003 UNT Little Muskingum River	Preferred	8-2B	Ephemeral	2.5	0	HHEI	15	-	Class I	No	413 84	6 0
SBO001 UNT Little Muskingum River	Preferred	8-2B	Ephemeral	2.5	0	HHEI	21	-	Class I	Yes	209 195	97 70

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
SMT016 UNT Little Muskingum River	Preferred	8-2B	Ephemeral	2	0	HHEI	20	-	Class I	No <u>Yes</u>	454 <u>210</u>	52 <u>110</u>
SMT015 UNT Little Muskingum River	Preferred	8-2B	Ephemeral	3	0.4	HHEI	26	-	Class I	Yes	249 <u>308</u>	408 <u>114</u>
SMT014 UNT Little Muskingum River	Preferred	8-2C	Ephemeral	2	0	HHEI	20	-	Class I	No	210	0 <u>177</u>
SMT013 UNT Little Muskingum River	Preferred	8-2C	Ephemeral	3	0.4	HHEI	29	-	Class I	Yes	323 <u>321</u>	406 <u>109</u>
SMT012 UNT Little Muskingum River	Preferred	8-2D	Intermittent	5	1	HHEI	39	-	Rheocrene Potential	Yes	301	400 <u>101</u>
SMT011 UNT Little Muskingum River	Preferred	8-2D	Ephemeral	3	0	HHEI	21	-	Class I	No	133	0
SMT010 UNT Little Muskingum River	Preferred	8-2D	Intermittent	12	1	HHEI	45	-	Class II	Yes	343 <u>346</u>	409 <u>111</u>

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
SMT009 UNT Little Muskingum River	Preferred	8-2D	Intermittent	8	8	HHEI	70	-	Class III	Yes	<u>398</u> <u>339</u>	<u>404</u> <u>134</u>
SMT008 UNT Little Muskingum River	Preferred	8-2D	Ephemeral	3	0	HHEI	15	-	Class I	No	<u>194</u> <u>7</u>	<u>13</u> <u>0</u>
SMT007 UNT Little Muskingum River	Preferred	8-2D	Ephemeral	3	0	HHEI	30	-	Class II	Yes No	<u>208</u> <u>95</u>	<u>109</u> <u>0</u>
SMT006 UNT Little Muskingum River	Preferred	8-2D	Intermittent	5	0-4	HHEI	35	-	Rheocreene Potential	No	<u>244</u>	<u>0</u>
SMT005 UNT Little Muskingum River	Preferred	8-2E	Ephemeral	4	0	HHEI	25	-	Class I	Yes	<u>286</u>	<u>106</u>
SMA001 UNT Little Muskingum River	Preferred	8-2E	Ephemeral	4	<u>1</u>	HHEI	<u>46</u>	-	Rheocreene Potential	Yes	<u>470</u>	<u>374</u>
SBR086 UNT Little Muskingum River	Preferred	8-2E	Ephemeral	<u>1</u>	<u>0</u>	HHEI	<u>30</u>	-	Class II	Yes	<u>234</u>	<u>114</u>

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
SMT004 UNT Little Muskingum River	Preferred	8-2E	Intermittent	7	2	HHEI	47	-	Rheocrene Potential	Yes	469 <u>346</u>	495 <u>122</u>
SDS176 UNT Little Muskingum River	Preferred	8-2E	Ephemeral	1.5	1	HHEI	18	-	Class I	No	97	0
SMT003 UNT Little Muskingum River	Preferred	8-2E	Ephemeral	5	0	HHEI	31	-	Class I	No <u>Yes</u>	240 <u>407</u>	40 <u>252</u>
SMT002 UNT Little Muskingum River	Preferred	8-2E	Intermittent	12	8	HHEI	76	-	Class III	Yes	412 <u>311</u>	422 <u>133</u>
SMT001 UNT Little Muskingum River	Preferred	8-2E	Ephemeral	2	0	HHEI	31	-	Class II	Yes <u>No</u>	537 <u>150</u>	458 <u>0</u>
STQ153 UNT Sackett Run	Preferred	8-2F	Ephemeral	3	0	HHEI	13	-	Class I	Yes	266 <u>215</u>	402 <u>103</u>
STQ154 UNT Sackett Run	Preferred	8-2F	Ephemeral	3	0	HHEI	14	-	Class I	Yes	259 <u>209</u>	403 <u>97</u>
STQ155 UNT Sackett Run	Preferred	8-2F	Ephemeral	3	0	HHEI	13	-	Class I	Yes	174	88 <u>131</u>

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
STQ156 UNT Sackett Run	Preferred	8-2F	Ephemeral	1.5	0	HHEI	13	-	Class I	No	164 <u>112</u>	42 <u>0</u>
STQ157 UNT Sackett Run	Preferred	8-2F	Ephemeral	3	0	HHEI	21	-	Class I	No	278 <u>220</u>	0
STQ158 UNT Sackett Run	Preferred	8-2F	Intermittent	7	0	HHEI	45	-	Class I	Yes	414 <u>420</u>	175 <u>177</u>
STQ159 UNT Sackett Run	Preferred	8-2F	Ephemeral	2	0	HHEI	30	-	Class II	No	36 <u>39</u>	0
STQ160 Sackett Run	Preferred	8-2F	Perennial	12	9.8	QHEI	49.75	WWH	Fair	Yes	427 <u>356</u>	146 <u>121</u>
STQ162 UNT Sackett Run	Preferred	8-2F	Ephemeral	3	0	HHEI	21	-	Class I	No <u>Yes</u>	73 <u>84</u>	0 <u>84</u>
STQ161 UNT Sackett Run	Preferred	8-2F	Ephemeral	2	0	HHEI	14	-	Class I	Yes <u>No</u>	94 <u>54</u>	84 <u>0</u>
STQ165 UNT Sackett Run	Preferred	8-2F	Ephemeral	3	0	HHEI	21	-	Class I	No	213	0
STQ164 UNT Sackett Run	Preferred	8-2G	Intermittent	5	0-4	HHEI	50	-	Class II	Yes	373	105
SDS153 UNT Sackett Run	Preferred	8-2G	Perennial	15	5	HHEI	63	-	Rheocrene Potential	No	333	121

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
SDS152 UNT Sackett Run	Preferred	8-2G	Ephemeral	1.5	0	HHEI	23	-	Class-I	No	123	0
STQ166 UNT Sackett Run	Preferred	8-2G	Intermittent	3	0.4	HHEI	39	-	Class-II	No	605	273
SDS150 UNT Sackett Run	Preferred	8-2G	Ephemeral	1.5	0.4	HHEI	35	-	Class-II	No	44	0
SDS151 UNT Sackett Run	Preferred	8-2G	Ephemeral	1	0	HHEI	16	-	Class-I	No	23	0
SDS148 UNT Sackett Run	Preferred	8-2G	Ephemeral	2	0	HHEI	16	-	Class-I	No	126	0
SDS145 UNT Sackett Run	Preferred	8-2G	Ephemeral	1	0	HHEI	11	-	Class-I	No	118	63
SDS146 UNT Sackett Run	Preferred	8-2G	Ephemeral	1	0	HHEI	11	-	Class-I	No	62	0
SDS144 UNT Sackett Run	Preferred	8-2G	Ephemeral	2.5	0	HHEI	26	-	Class-I	Yes	190	89
SDS143 UNT Sackett Run	Preferred	8-2G	Ephemeral	1	0	HHEI	13	-	Class-I	Yes	101	80
SMA002 UNT Sackett Run	Preferred	8-2F	Ephemeral	1	1	HHEI	17	-	Class I	No	32	0

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
<u>SMA003</u> <u>UNT Sackett Run</u>	<u>Preferred</u>	<u>8-2G</u>	<u>Perennial</u>	<u>8</u>	<u>5</u>	<u>HHEI</u>	<u>64</u>	<u>-</u>	<u>Class III</u>	<u>Yes</u>	<u>421</u>	<u>128</u>
<u>SMA004</u> <u>UNT Sackett Run</u>	<u>Preferred</u>	<u>8-2G</u>	<u>Ephemeral</u>	<u>2</u>	<u>3</u>	<u>HHEI</u>	<u>38</u>	<u>-</u>	<u>Rheocrene Potential</u>	<u>No</u>	<u>174</u>	<u>53</u>
<u>SMA005</u> <u>UNT Sackett Run</u>	<u>Preferred</u>	<u>8-2G</u>	<u>Ephemeral</u>	<u>2</u>	<u>1</u>	<u>HHEI</u>	<u>28</u>	<u>-</u>	<u>Class I</u>	<u>No</u>	<u>171</u>	<u>0</u>
SDS139A UNT Sackett Run	Preferred	8-2G	Ephemeral	2	0	HHEI	13	-	Class I	No	229 56	48 0
SDS139B UNT Sackett Run	Preferred	8-2G	Intermittent	2	4	HHEI	56	-	Class II	Yes	252	129
SDS140 UNT Sackett Run	Preferred	8-2G	Ephemeral	2	<0.4	HHEI	23	-	Class I	No	458 66	22 0
SDS141 UNT Sackett Run	Preferred	8-2G	Ephemeral	1	0	HHEI	17	-	Class I	No	46 48	0
SDS142 UNT Sackett Run	Preferred	8-2G	Ephemeral	1	0	HHEI	16	-	Class I	Yes	178	102
STQ152 UNT Sackett Run	Preferred	8-2H	Intermittent	8	6	HHEI	71	-	Class III	Yes	313 314	403 105
STQ151 UNT Sackett Run	Preferred	8-2H	Ephemeral	3	0	HHEI	20	-	Class I	No	116	0

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
STQ150 UNT Little Muskingum River	Preferred	8-2H	Ephemeral	4	0	HHEI	23	-	Class I	No	74 <u>73</u>	0
STQ128 Little Muskingum River	Preferred	8-2I	Perennial	70	48	QHEI	46.5	EWB	Fair	Yes	346 <u>333</u>	113
SME057 Tice Run	Preferred	8-2I	Perennial	22	28	QHEI	47.5	WWH	Fair	No	420 <u>196</u>	435 <u>0</u>
SME056 UNT Tice Run	Preferred	8-2I	Intermittent	3	0.8	HHEI	27	-	Modified Class I	Yes	367	348 <u>241</u>
SME059 UNT Tice Run	Preferred	8-2I	Ephemeral	1	0	HHEI	19	-	Modified Class I	No <u>Yes</u>	44	44
SME060 UNT Little Muskingum River	Preferred	8-2I	Intermittent	3	2	HHEI	38	-	Modified Class II	No	320	0
STQ128A Little Muskingum River	Preferred	8-2I	Perennial	70	48	QHEI	46.5	EWB	Fair	Yes	317	108
SBR011 UNT Little Muskingum River	Preferred	8-2J	Intermittent	2.5	2	HHEI	41	-	Modified Class II	Yes	1,084	623 <u>630</u>

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
SBR012 UNT Little Muskingum River	Preferred	8-2J	Ephemeral	6	0	HHEI	29	-	Modified Class I	No	228 <u>226</u>	58 <u>56</u>
SBR010 UNT Little Muskingum River	Preferred	8-2J	Intermittent	6	2	HHEI	50	-	Modified Class II	Yes	336	415 <u>111</u>
SBR009 UNT Little Muskingum River	Preferred	8-2K	Intermittent	12	3	HHEI	63	-	Class III	Yes	383	454 <u>156</u>
SBR008 Wingett Run	Preferred	8-2K	Perennial	24	10	QHEI	62.5	-	Good	Yes	394 <u>395</u>	409 <u>111</u>
STQ128D Little Muskingum River	Preferred	8-2K	Perennial	80	48	QHEI	65.5	EWB	Good	Yes	4057 <u>846</u>	419 <u>101</u>
SME054 UNT Little Muskingum River	Preferred	8-2K	Intermittent	8	6	HHEI	71	-	Class III	Yes	564 <u>502</u>	328 <u>179</u>
SME055 UNT Little Muskingum River	Preferred	8-2K	Ephemeral	2	0	HHEI	24	-	Class I	Yes	242 <u>278</u>	420 <u>135</u>
SME053 UNT Little Muskingum River	Preferred	8-2L	Intermittent	8	3	HHEI	53	-	Modified Class II	Yes	354 <u>349</u>	430 <u>129</u>

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
SME052 UNT Little Muskingum River	Preferred	8-2L	Perennial	9	2	HHEI	58	-	Modified Class II	Yes	4053 <u>1,032</u>	345 <u>317</u>
SME051 UNT Little Muskingum River	Preferred	8-2L	Intermittent	3	0.4	HHEI	25	-	Modified Class II	No	207	443 <u>165</u>
STQ128E Little Muskingum River	Preferred	8-2L	Perennial	90	>40	QHEI	47.5	EWI	Fair	Yes	302 <u>301</u>	100
SME049 UNT Little Muskingum River	Preferred	8-2L	Ephemeral	3	0.4	HHEI	38	-	Class II	No	444 <u>57</u>	3 <u>0</u>
SME048 UNT Little Muskingum River	Preferred	8-2L	Ephemeral	4	4	HHEI	67	-	Class II	Yes	488 <u>333</u>	245 <u>169</u>
SME046 UNT Little Muskingum River	Preferred	8-2L	Ephemeral	3	0.4	HHEI	25	-	Class I	Yes	694 <u>629</u>	408 <u>145</u>
SME050 UNT Little Muskingum River	Preferred	8-2L	Ephemeral	2.5	0	HHEI	11	-	Class I	No	848 <u>978</u>	0 <u>112</u>

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
SME044 UNT Little Muskingum River	Preferred	8-2M	Intermittent	3	0.4	HHEI	31	-	Class II	Yes	501	278 <u>236</u>
SME045 UNT Little Muskingum River	Preferred	8-2M	Ephemeral	2	0.4	HHEI	31	-	Modified Class II	No	50 <u>111</u>	0
SME042 UNT Little Muskingum River	Preferred	8-2M	Perennial	15	30	QHEI	62.75	-	Good	Yes	548 <u>624</u>	469 <u>137</u>
SME041 UNT Little Muskingum River	Preferred	8-2M	Ephemeral	3	1	HHEI	34	-	Modified Class II	Yes	270 <u>214</u>	409 <u>108</u>
STQ168 UNT Little Muskingum River	Preferred	8-2M	Perennial	8-10	48	QHEI	60.75	-	Good	Yes	340 <u>338</u>	408 <u>129</u>
STQ169 UNT Little Muskingum River	Preferred	8-2M <u>8-2N</u>	Intermittent	4	0.4	HHEI	36	-	Class II	Yes	593	497 <u>445</u>
STQ170 UNT Little Muskingum River	Preferred	8-2M	Ephemeral	3	0	HHEI	28	-	Modified Class I	No <u>Yes</u>	70	0 <u>70</u>

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
SME040 UNT Little Muskingum River	Preferred	8-2N	Ephemeral	15	3	HHEI	70	-	Class III	Yes	396 <u>353</u>	425 <u>131</u>
SBR014 UNT Little Muskingum River	Preferred	8-2N	Ephemeral	3	0	HHEI	16	-	Class I	No	33 <u>40</u>	0
STQ128F Little Muskingum River	Preferred	8-2N	Perennial	120	42	QHEI	75	EWI	Excellent	Yes	778 <u>933</u>	228 <u>390</u>
SMA009 UNT Little <u>Muskingum River</u>	<u>Preferred</u>	<u>8-2N</u>	<u>Intermittent</u>	<u>2</u>	<u>2</u>	<u>HHEI</u>	<u>26</u>	<u>-</u>	<u>Class I</u>	<u>No</u>	<u>53</u>	<u>0</u>
STQ128G Little Muskingum River	Preferred	8-2N <u>8-2O</u>	Perennial	120	42	QHEI	75	EWI	Excellent	Yes	348 <u>306</u>	402 <u>101</u>
SME037 UNT Little Muskingum River	Preferred	8-2O	Perennial	30	42	QHEI	75	-	Excellent	No	201 <u>66</u>	48 <u>0</u>
SBR005 UNT Little Muskingum River	Preferred	8-2O	Ephemeral	3.5	0	HHEI	31	-	Modified Class II	Yes	266 <u>321</u>	413 <u>119</u>

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
SME036 UNT Little Muskingum River	Preferred	8-2P	Perennial	20	4	HHEI	68	-	Modified Class II	Yes	382 409	407 114
STQ128H Little Muskingum River	Preferred	8-2P	Perennial	70	60	QHEI	72.5	EWI	Good	No	818 456	0
SME035 Steel Run	Preferred	8-2P	Intermittent	9	3	HHEI	48	-	Modified Class II	Yes	285 319	405 102
SME033 UNT Hog Run	Preferred	8-2P	Intermittent	3	0	HHEI	49	-	Class I	No	99	0
SME032 UNT Hog Run	Preferred	8-2Q	Ephemeral	4.5	3	HHEI	53	-	Modified Class II	No Yes	497 279	26 154
SME034 UNT Hog Run	Preferred	8-2Q	Ephemeral	2	4	HHEI	25	-	Class I	No	80	0
SBR003 Hog Run	Preferred	8-2Q	Perennial	10	36	QHEI	59	WWH	Good	Yes	633 591	152 148
STQ128I Little Muskingum River	Preferred	8-2Q	Perennial	70	>40	QHEI	74	EWI	Good	Yes	302 300	104 100
STQ128J Little Muskingum River	Preferred	8-2R	Perennial	70	60	QHEI	61	EWI	Good	Yes	364 365	129 125

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
SME021 UNT Little Muskingum River	Preferred	8-2R	Ephemeral	6	0	HHEI	52	-	Modified Class II	No	472 <u>216</u>	52 <u>96</u>
SME020 UNT Little Muskingum River	Preferred	8-2R	Intermittent	5	3	HHEI	68	-	Class II	Yes	379 <u>367</u>	409 <u>111</u>
<u>STQ036</u> <u>UNT Little</u> <u>Muskingum River</u>	<u>Preferred</u>	<u>8-2R</u>	<u>Ephemeral</u>	<u>3</u>	<u>3</u>	<u>HHEI</u>	<u>27</u>	<u>-</u>	<u>Modified</u> <u>Class I</u>	<u>No</u>	<u>88</u>	<u>0</u>
<u>STQ037</u> <u>UNT Little</u> <u>Muskingum River</u>	<u>Preferred</u>	<u>8-2R</u>	<u>Intermittent</u>	<u>2</u>	<u>2</u>	<u>HHEI</u>	<u>34</u>	<u>-</u>	<u>Modified</u> <u>Class II</u>	<u>No</u>	<u>88</u>	<u>0</u>
Total											31,788 <u>27,731</u>	9,593 <u>9,752</u>
Alternate Route												
SMT028B Clear Fork Little Muskingum River	Alternate	8-3A	Perennial	70	>36	QHEI	42.5	WWH	Poor	Yes	325	110
SBR060 UNT Clear Fork Little Muskingum River	Alternate	8-3A	Ephemeral	2	0	HHEI	18	-	Modified Class I	No	69	0

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
STQ128L Little Muskingum River	Alternate	8-3A	Perennial	70	>36	QHEI	55.5	EWI	Fair	No	228	0
SBR074 UNT Little Muskingum River	Alternate	8-3B	Ephemeral	2.5	1	HHEI	21	-	Modified Class I	No	202	97
SBR070 UNT Little Muskingum River	Alternate	8-3B	Intermittent	4	6	HHEI	51	-	Class III	Yes	472	140
STQ180 UNT Little Muskingum River	Alternate	8-3B	Intermittent	4	1.5	HHEI	38	-	Modified Class II	Yes	469	128
SBR071 UNT Little Muskingum River	Alternate	8-3B	Ephemeral	1.5	0.4	HHEI	15	-	Modified Class I	No	136	34
SBR072 UNT Little Muskingum River	Alternate	8-3B	Ephemeral	1.5	1	HHEI	15	-	Modified Class I	No	199	0
SBR073 UNT Little Muskingum River	Alternate	8-3C	Intermittent	4	1	HHEI	30	-	Modified Class II	No	61	0

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
SBR056 UNT Little Muskingum River	Alternate	8-3C	Intermittent	18	3	HHEI	50	-	Class III	Yes	702	243
SBR057 UNT Little Muskingum River	Alternate	8-3C	Intermittent	6	1.5	HHEI	40	-	Class II	Yes	364	121
SBR055 UNT Little Muskingum River	Alternate	8-3C	Intermittent	3.5	3	HHEI	39	-	Class II	Yes	205	102
SBR054 UNT Little Muskingum River	Alternate	8-3C	Perennial	14	12	QHEI	53	-	Fair	Yes	544	277
SBR053 UNT Little Muskingum River	Alternate	8-3D	Intermittent	6.5	1.5	HHEI	39	-	Rheocrene Potential	Yes	328	105
SBR051 UNT Little Muskingum River	Alternate	8-3D	Ephemeral	3	0	HHEI	25	-	Modified Class I	No	390	53
SBR052 UNT Little Muskingum River	Alternate	8-3D	Ephemeral	1.5	0	HHEI	18	-	Class I	No	56	0

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
SBR050 UNT Little Muskingum River	Alternate	8-3D	Ephemeral	4	0	HHEI	24	-	Modified Class I	Yes	439	412
SDS114 UNT Little Muskingum River	Alternate	8-3D	Ephemeral	1.5	0.4	HHEI	27	-	Modified Class I	Yes	221	105
SDS115 UNT Little Muskingum River	Alternate	8-3E	Ephemeral	2	<0.4	HHEI	22	-	Class I	No	579	425
SDS116 UNT Little Muskingum River	Alternate	8-3E	Intermittent	1.5	0	HHEI	17	-	Class I	No	71	0
SDS117 UNT Little Muskingum River	Alternate	8-3E	Intermittent	3	4	HHEI	37	-	Class II	Yes	351	127
SDS119 UNT Little Muskingum River	Alternate	8-3E	Ephemeral	1.5	5	HHEI	45	-	Modified Class II	Yes	447	163
SDS118 UNT Little Muskingum River	Alternate	8-3E	Perennial	1.5	0	HHEI	13	-	Modified Class I	No	115	0

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
STQ174 UNT Little Muskingum River	Alternate	8-3E	Perennial	12	11.8	QHEI	57.75	-	Fair	Yes	556	172
STQ173 UNT Little Muskingum River	Alternate	8-3E	Intermittent	5	0	HHEI	30	-	Modified Class II	Yes	517	214
STQ128B Little Muskingum River	Alternate	8-3E	Perennial	>50	>36	QHEI	65	EWI	Good	No	253	0
SBR065 UNT Little Muskingum River	Alternate	8-3E	Intermittent	30	3	HHEI	40	-	Modified Class II	Yes	372	113
SBR061 UNT Little Muskingum River	Alternate	8-3F	Ephemeral	4	0	HHEI	24	-	Class I	No	65	0
SBR062 UNT Little Muskingum River	Alternate	8-3F	Ephemeral	4	1	HHEI	30	-	Class II	Yes	371	185
STQ128C Little Muskingum River	Alternate	8-3F	Perennial	50	48	QHEI	57.25	EWI	Fair	Yes	322	107

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
SBR064 UNT Little Muskingum River	Alternate	8-3F	Intermittent	2	1	HHEI	29	-	Class I	No	363	52
SBR063 UNT Little Muskingum River	Alternate	8-3F	Ephemeral	1.5	1	HHEI	32	-	Modified Class II	No	72	0
SBR047 UNT Little Muskingum River	Alternate	8-3F	Ephemeral	6	0	HHEI	34	-	Modified Class II	No	175	0
SBR046 UNT Little Muskingum River	Alternate	8-3F	Ephemeral	7	0	HHEI	23	-	Class I	No	83	0
SBR048 UNT Little Muskingum River	Alternate	8-3G	Ephemeral	4	0	HHEI	24	-	Modified Class I	No	108	0
SBR045 UNT Little Muskingum River	Alternate	8-3G	Intermittent	12	3	HHEI	55	-	Class III	Yes	427	152
SBR044 UNT Little Muskingum River	Alternate	8-3G	Ephemeral	3	0	HHEI	24	-	Class I	Yes	248	105

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
SBR043 UNT Little Muskingum River	Alternate	8-3G	Intermittent	6	5	HHEI	63	-	Modified Class II	Yes	495	113
SBR042 UNT Little Muskingum River	Alternate	8-3H	Intermittent	2.5	1	HHEI	23	-	Modified Class I	Yes	317	103
SBR049 UNT Little Muskingum River	Alternate	8-3H	Perennial	7	5	HHEI	59	-	Modified Class II	Yes	355	127
SDS138 UNT Little Muskingum River	Alternate	8-3H	Ephemeral	1	0	HHEI	14	-	Class I	Yes	212	175
SDS134 UNT Little Muskingum River	Alternate	8-3H	Ephemeral	1	<0.4	HHEI	32	-	Class II	No	181	130
SDS135 UNT Little Muskingum River	Alternate	8-3H	Ephemeral	1	0	HHEI	13	-	Class I	No	27	0
SDS133 UNT Little Muskingum River	Alternate	8-3H	Intermittent	2	3	HHEI	46	-	Class II	Yes	379	104

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
SDS137 UNT Little Muskingum River	Alternate	8-3H	Ephemeral	1.5	2.75	HHEI	27	-	Class I	No	90	20
SDS136 UNT Little Muskingum River	Alternate	8-3H	Ephemeral	1	0	HHEI	12	-	Class I	No	28	0
SDS132 UNT Little Muskingum River	Alternate	8-3H	Ephemeral	1.5	0	HHEI	23	-	Class I	Yes	227	161
SDS131 UNT Little Muskingum River	Alternate	8-3H	Intermittent	1.5	0.4	HHEI	24	-	Class I	No	130	44
SDS130 UNT Little Muskingum River	Alternate	8-3H	Ephemeral	1.5	2	HHEI	26	-	Class I	Yes	330	111
SDS128 UNT Little Muskingum River	Alternate	8-3H	Intermittent	2	0.8	HHEI	31	-	Class II	Yes	323	106
SDS129 UNT Little Muskingum River	Alternate	8-3H	Ephemeral	1	<0.4	HHEI	21	-	Class I	No	10	0

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
SDS127 UNT Little Muskingum River	Alternate	8-3H	Ephemeral	2	<0.4	HHEI	27	-	Class I	Yes	298	110
SDS126 UNT Little Muskingum River	Alternate	8-3H	Ephemeral	1	0	HHEI	10	-	Class I	No	14	0
SDS125A UNT Little Muskingum River	Alternate	8-3H	Ephemeral	1.5	0	HHEI	22	-	Class I	No	147	19
SDS125B UNT Little Muskingum River	Alternate	8-3H	Intermittent	1.5	1	HHEI	36	-	Class II	Yes	207	85
SDS123 UNT Little Muskingum River	Alternate	8-3H	Ephemeral	1	0	HHEI	12	-	Class I	No	57	0
SDS124 UNT Little Muskingum River	Alternate	8-3H	Ephemeral	1	0	HHEI	21	-	Class I	Yes	61	61
SDS122 UNT Little Muskingum River	Alternate	8-3H	Ephemeral	2	0	HHEI	33	-	Class II	Yes	324	116

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
SDS120 UNT Little Muskingum River	Alternate	8-3H	Ephemeral	1.5	0	HHEI	32	-	Class II	No	127	5
SDS121 UNT Little Muskingum River	Alternate	8-3H	Ephemeral	1.5	0	HHEI	10	-	Class I	No	31	0
SBR040 UNT Tice Run	Alternate	8-3I	Ephemeral	3	1	HHEI	30	-	Class II	Yes	335	134
SBR039 Tice Run	Alternate	8-3I	Perennial	22	10	QHEI	64	WWH	Good	Yes	542	178
SBR041 UNT Tice Run	Alternate	8-3I	Ephemeral	1.5	0	HHEI	17	-	Modified Class I	No	75	0
SBR038 UNT Tice Run	Alternate	8-3I	Ephemeral	4.5	1	HHEI	30	-	Class II	Yes	358	116
SBR037 UNT Tice Run	Alternate	8-3I	Ephemeral	4.5	0	HHEI	24	-	Class I	No	75	0
SBR036 UNT Tice Run	Alternate	8-3I	Ephemeral	1.5	0	HHEI	22	-	Class I	No	152	0
SBR035 UNT Tice Run	Alternate	8-3I	Ephemeral	2	0	HHEI	22	-	Class I	Yes	323	106

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
SBR034 UNT Tice Run	Alternate	8-3J	Intermittent	3	3	HHEI	36	-	Modified Class II	Yes	455	108
SBR069 UNT Tice Run	Alternate	8-3J	Intermittent	3	3	HHEI	40	-	Modified Class II	Yes	355	114
SBR066 UNT Tice Run	Alternate	8-3J	Ephemeral	1.5	0.4	HHEI	24	-	Class I	No	300	43
SBR067 UNT Haught Run	Alternate	8-3J	Ephemeral	4	0.4	HHEI	30	-	Class II	Yes	718	199
SBR068 Haught Run	Alternate	8-3J	Intermittent	11	18	QHEI	54	WWH	Fair	Yes	351	101
SBR083 UNT Haught Run	Alternate	8-3K	Intermittent	20	2	HHEI	58	-	Class III	No	711	5
SBR082 UNT Haught Run	Alternate	8-3K	Ephemeral	2.5	0	HHEI	18	-	Class I	No	257	57
SBR081 UNT Haught Run	Alternate	8-3K	Ephemeral	10	0	HHEI	40	-	Class II	No	262	0
SBR080 UNT Haught Run	Alternate	8-3K	Intermittent	18	18	HHEI	64	-	Class III	Yes	307	102
SBR079 UNT Haught Run	Alternate	8-3K	Intermittent	8	2	HHEI	40	-	Rheocrene Potential	Yes	908	394

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
SBR078 UNT Haught Run	Alternate	8-3K	Ephemeral	2	0	HHEI	24	-	Class I	No	132	132
SBR077 UNT Haught Run	Alternate	8-3K	Ephemeral	2	0	HHEI	24	-	Class I	No	129	17
SBR076 UNT Haught Run	Alternate	8-3K	Ephemeral	3.5	0	HHEI	24	-	Class I	No	114	8
SBR075 UNT Haught Run	Alternate	8-3K	Ephemeral	4	1.6	HHEI	30	-	Modified Class II	No	160	47
SMT026 UNT Elk Run	Alternate	8-3L	Ephemeral	2	0	HHEI	21	-	Class I	Yes	470	470
SMT027 UNT Elk Run	Alternate	8-3L	Ephemeral	4	1	HHEI	31	-	Class II	No	148	1
SMT025 UNT Elk Run	Alternate	8-3L	Ephemeral	6	1	HHEI	51	-	Class II	Yes	385	127
SMT024 UNT Elk Run	Alternate	8-3L	Ephemeral	4	0	HHEI	21	-	Class I	Yes	362	192
SMT024A UNT Elk Run	Alternate	8-3L	Ephemeral	2	0	HHEI	21	-	Class I	No	28	0
SMT023 UNT Elk Run	Alternate	8-3M	Ephemeral	1.5	0	HHEI	21	-	Class I	No	144	86

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
SMT021 UNT Elk Run	Alternate	8-3M	Ephemeral	5	<1	HHEI	30	-	Class II	Yes	1311	703
SMT022 UNT Elk Run	Alternate	8-3M	Ephemeral	2	0	HHEI	21	-	Class I	No	149	0
SMT020 UNT Elk Run	Alternate	8-3M	Ephemeral	12	<1	HHEI	45	-	Class II	No	63	0
SMT019 Elk Run	Alternate	8-3M	Intermittent	14	8	HHEI	75	-	Class III	Yes	368	148
SMT017 UNT Elk Run	Alternate	8-3M	Intermittent	8	6	HHEI	70	-	Class III	Yes	558	240
SMT018 UNT Elk Run	Alternate	8-3M	Ephemeral	2	0	HHEI	23	-	Class I	No	66	0
SBR033 UNT Elk Run	Alternate	8-3M	Intermittent	8	3	HHEI	55	-	Class III	Yes	380	132
SBR032 UNT Elk Run	Alternate	8-3M	Ephemeral	1.5	0	HHEI	25	-	Class I	Yes	113	113
SBR030 UNT Elk Run	Alternate	8-3N	Intermittent	10	2	HHEI	55	-	Modified Class II	Yes	324	118
SBR031 UNT Elk Run	Alternate	8-3N	Ephemeral	1.5	0	HHEI	16	-	Modified Class I	Yes	49	49

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
SBR027 UNT Elk Run	Alternate	8-3O	Ephemeral	2	0	HHEI	24	-	Modified Class I	No	174	56
SBR028 UNT Elk Run	Alternate	8-3O	Ephemeral	2	0	HHEI	24	-	Modified Class I	No	49	0
SBR029 UNT Archer's Fork	Alternate	8-3P	Ephemeral	4	0	HHEI	25	-	Modified Class I	Yes	252	109
SBR025 UNT Archer's Fork	Alternate	8-3P	Intermittent	10	1	HHEI	45	-	Class II	Yes	319	102
SBR026 UNT Archer's Fork	Alternate	8-3P	Intermittent	7	0	HHEI	35	-	Modified Class II	Yes	349	117
SBR023 UNT Little Muskingum River	Alternate	8-3Q	Ephemeral	2.5	0	HHEI	25	-	Modified Class I	Yes	262	115
SBR022 UNT Little Muskingum River	Alternate	8-3Q	Ephemeral	2	0	HHEI	19	-	Class I	No	55	55
SBR024 UNT Little Muskingum River	Alternate	8-3Q	Ephemeral	3	0	HHEI	33	-	Class II	No	194	0

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
SBR021 UNT Little Muskingum River	Alternate	8-3Q	Ephemeral	2	0	HHEI	18	-	Class I	Yes	241	111
SBR019 UNT Little Muskingum River	Alternate	8-3Q	Ephemeral	2	0	HHEI	24	-	Modified Class I	Yes	594	131
SBR015 Archer's Fork	Alternate	8-3Q	Perennial	38	12	QHEI	61	WWH	Good	Yes	309	102
SBR016 UNT Archer's Fork	Alternate	8-3Q	Ephemeral	4	0	HHEI	31	-	Class II	No	381	0
SBR018 UNT Archer's Fork	Alternate	8-3Q	Ephemeral	1.5	0	HHEI	30	-	Class II	Yes	129	78
SBR017 UNT Archer's Fork	Alternate	8-3Q	Ephemeral	2	0	HHEI	37	-	Class II	No	41	27
SME023 UNT Little Muskingum River	Alternate	8-3R	Ephemeral	4	0	HHEI	30	-	Class II	No	198	7
SME027 UNT Little Muskingum River	Alternate	8-3R	Ephemeral	2.5	0	HHEI	30	-	Class II	Yes	178	89

TABLE 8-3

Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within Potential Disturbance Area/ROW ^b
SME024 UNT Little Muskingum River	Alternate	8-3R	Ephemeral	2	0	HHEI	20	-	Modified Class I	Yes	208	183
SME025 UNT Little Muskingum River	Alternate	8-3R	Ephemeral	1.5	0	HHEI	20	-	Modified Class I	Yes	311	103
STQ128K Little Muskingum River	Alternate	8-3S	Perennial	110	18	QHEI	63.5	EWI	Good	Yes	304	101
SBR002 UNT Little Muskingum River	Alternate	8-3S	Ephemeral	4.5	0	HHEI	18	-	Modified Class I	No	67	0
Total											31,827	11,058

Notes:

a The width of the Field Survey Area was 300 feet.

b The width of the potential disturbance area and the final maintained ROW is planned to be 100 feet.

UNT = unnamed tributary

(ii) Lakes, Ponds, and Reservoirs

Text provided in the January 9, 2018 Application filing remains unchanged.

(2) Map of Facility, Right-of-Way, and Delineated Resources

Text provided in the January 9, 2018 Application filing remains unchanged.

(3) Construction Impacts on Vegetation and Surface Waters**(a) Construction Impacts on Vegetation**

The construction impacts on woody and herbaceous vegetation along both the Preferred and Alternate Routes will be limited to the initial clearing of vegetation within the 100-foot ROW for the proposed transmission line and access roads. Specific locations for access roads will be identified at the time of AEP Ohio Transco's transmission line easement acquisition process. Trees adjacent to the proposed 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. Vegetative 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. The approximate vegetation impacts, based on GIS analysis, along the Preferred and Alternate Route ROWs are provided in Table 8-5.

TABLE 8-5
Approximate Vegetation Impacts Along the Potential Disturbance Area/ROW

Land Use Type	Length of Route (in feet)	Length of Route (in miles)	Acreage within ROW
Preferred Route			
Agricultural	2,279 <u>4,337</u>	0.43 <u>0.8</u>	7.78 <u>9.2</u>
Industrial/Commercial	0	0.00	0.00
Open Land / Pasture	0 <u>52</u>	0.00 <u><0.1</u>	0.00 <u>0.1</u>
Road / Railroad ROW	678 <u>990</u>	0.13 <u>0.2</u>	2.30 <u>3.1</u>
Utility ROW	12,862 <u>2,256</u>	2.44 <u>0.4</u>	14.95 <u>6.9</u>
Water	0 <u>1,970</u>	0.00 <u>0.4</u>	0.00 <u>4.6</u>
Wayne National Forest	2,591 <u>3,934</u>	0.49 <u>0.7</u>	5.46 <u>9.1</u>
Woodlot	35,136 <u>42,056</u>	6.65 <u>8.0</u>	90.39 <u>93.1</u>
Alternate Route			
Agricultural	3,277	0.62	7.95
Industrial/Commercial	0	0.00	0.14
Open Land / Pasture	0	0.00	0.00
Road / Railroad ROW	910	0.17	3.07
Utility ROW	7,734	1.46	10.68

TABLE 8-5

Approximate Vegetation Impacts Along the Potential Disturbance Area/ROW

Land Use Type	Length of Route (in feet)	Length of Route (in miles)	Acreage within ROW
Water	0	0.00	0.00
Wayne National Forest	8,031	1.52	19.05
Woodlot	40,451	7.66	95.90

(b) Construction Impacts on Wetlands

Preferred Route: During wetland and waterbody delineations, ~~10~~ 16 wetlands were identified along the Preferred Route within the proposed ROW, totaling ~~0.82~~ 0.8 acre. The delineated wetlands are shown on revised Figure 8-2A through 8-2R. Detailed information about each feature can be found in Table 8-2 in Section 4906-05-08(B)(b)(ii). ~~Four~~ Nine of these wetlands are crossed by the Preferred Route centerline, totaling ~~310~~ 291 linear feet. Impacts to the wetlands will be avoided by placing transmission line structures outside of wetland boundaries, where practical. Where temporary construction access through a wetland cannot be avoided, the crossing will occur during dry conditions or protective construction matting will be used to minimize impacts from construction vehicles.

Wetland ORAM categories delineated in the Preferred Route ROW are detailed below:

- Category 1 wetlands: ~~Four~~ Eight Category 1 wetlands with ORAM scores ranging from ~~21~~ 16.5 to ~~27~~ 27.5 were identified within the ROW, totaling ~~0.31~~ 0.2 acre. ~~No One PFO or PSS wetlands~~ wetland will be impacted through the clearing of trees and shrubs during construction.
- Category 1 or 2 Gray Zone wetlands: Two Category 1 or 2 Gray Zone wetlands with ORAM scores of ~~33.5~~ 31.5 and ~~34~~ 33.5 were identified within the ROW, totaling ~~0.44~~ 0.1 acre. No PFO or PSS wetlands will be impacted through the clearing of trees and shrubs during construction.
- Category Modified 2 wetlands: Three Category Modified 2 wetlands with ORAM scores ranging from 38 to ~~39.5~~ 41.0 were identified within the ROW, totaling ~~0.05~~ 0.3 acre. No PFO or PSS wetlands will be impacted through the clearing of trees and shrubs during construction.
- Category 2 wetlands: ~~One~~ Three Category 2 wetlands with ~~an ORAM score~~ scores ranging from ~~of 49 to 55~~ was were identified within the proposed ROW, totaling ~~0.02~~ 0.2 acre. ~~No One PFO or PSS wetlands~~ wetland will be impacted through the clearing of trees and shrubs during construction.
- Category 3 wetlands: No Category 3 wetlands will be crossed; therefore, no construction impacts are anticipated.

Alternate Route: During wetland and waterbody delineations, five wetlands were identified along the Alternate Route ROW, totaling 0.07 acre. The delineated wetlands are shown on Figures 8-3A through 8-3S. Detailed information about each feature can be found in Table 8-2 in Section 4906-05-08(B)(b)(ii). Two wetlands are crossed by the centerline of the proposed Alternate Route, totaling 45 linear feet. Impacts to wetlands will be avoided by placing transmission line structures outside wetland boundaries, where practical. Where temporary construction access through a wetland cannot be avoided, the crossing will occur during dry conditions or matting will be used to minimize impacts.

Wetland ORAM categories delineated in the Alternate Route ROW are detailed below:

- Category 1 wetlands: Five Category 1 wetlands with ORAM scores ranging from 14 to 23 were identified within the proposed ROW, totaling 0.07 acre. No PFO or PSS wetlands will be impacted through the clearing of trees and shrubs during construction.
- Category 1 or 2 Gray Zone: No Category 1 or 2 Gray Zone wetlands will be crossed; therefore, no construction impacts are anticipated.
- Category Modified 2 wetlands: No Category Modified 2 wetlands will be crossed; therefore, no construction impacts are anticipated.
- Category 2 wetlands: No Category 2 wetlands will be crossed; therefore, no construction impacts are anticipated.
- Category 3 wetlands: No Category 3 wetlands will be crossed; therefore, no construction impacts are anticipated.

Through appropriate planning and permitting, care will be taken near wetlands to avoid or minimize filling and sedimentation during construction. AEP Ohio Transco will avoid the placement of pole structures within wetlands to the extent practical. Selective clearing will be required to remove specific types of woody vegetation in wetlands that might impede construction or interfere with operation of the transmission line. Where wooded or forested wetlands occur within the ROW, the trees will be removed.

To minimize soil erosion and sedimentation during construction, BMPs such as utilization of silt fences and construction matting will be implemented as required during construction. Sedimentation potential at wetlands is unlikely because of the plans for structure placement outside of wetlands, and the fact that construction equipment will only cross wetlands if necessary, and will do so using construction matting if wet conditions require.

Disturbance of soils in wetland areas during construction will be minimized. No permanent fill material will be placed in any wetland area. Although not anticipated, if it is necessary to place a pole or guy wires within a wetland, they will be accessed using construction matting if wet conditions exist at the time of construction. No excavation other than the boring or excavation of a hole for pole installation will be performed within the wetland. If pole placement is required

within a wetland, no additional fill will be placed in the wetlands beyond the placement of the pole structure and borehole backfill.

Wetland areas will be clearly staked prior to the commencement of any clearing to minimize incidental vehicle impacts. Other than the remote possibility of pole locations within wetlands discussed above, operation of heavy mechanized equipment is not planned within any identified wetland areas, although some construction equipment may need to cross wetland areas on construction matting if wet conditions exist at the time. Woody vegetation in wetlands will be hand-cut by chain saws or other non-mechanized techniques. When necessary, rubber-wheeled vehicles, or vehicles equipped with tracks, will be used to remove vegetation debris. AEP Ohio Transco will perform all construction work in accordance with the conditions and requirements of regulatory permits obtained for the Project.

(c) Construction Impacts on Waterbodies

The Preferred Route centerline crosses ~~58~~ 59 streams. The Alternate Route centerline crosses 63 streams. Detailed information about each feature can be found in Table 8-3 in Section 4906-05-08(B)(c)(i).

Approximately ~~9,593~~ 9,752 linear feet of stream are located within the Preferred Route ROW, while approximately 11,058 linear feet are located within the Alternate Route ROW.

AEP Ohio Transco will not conduct mechanized clearing within 25 feet of any stream, and will only clear (using hand cutting techniques) those trees in this area that are tall enough to or have the potential to interfere with safe construction and operation of the line. No streams will be filled or permanently impacted. Some streams may have to be crossed by construction vehicles. Exact pole locations have not been fully determined to date although preliminary locations have been identified. Access paths to proposed pole locations will be evaluated when more detailed engineering is performed and landowner negotiations progress. If a new stream crossing were necessary, it would comply with one of the following three proposed methods to cross streams:

- Temporary stream ford
- Temporary culvert stream crossings
- Temporary access bridge

Temporary stream fords are proposed for crossing low quality ephemeral and intermittent streams with a drainage basin less than 1 square mile. This will involve minimum clearing necessary to gain access to the stream and for passage of construction vehicles.

- Disturbance of the stream will be kept to a minimum, stream bank vegetation will be preserved to the maximum extent practical, and the stream crossing width will be kept as narrow as possible. Clearing will be done by hand cutting rather than grubbing.
- Sediment-laden runoff will be prevented from flowing from the access road directly into the stream. Diversions and swales will be used to direct runoff to stormwater management locations. Silt fences will be used as needed according to local topographic conditions.

- Following completion of the work, the areas cleared for the temporary access crossing will be stabilized through plantings of woody species where appropriate. Areas of exposed soil will be stabilized in accordance with the stormwater pollution prevention plan (SWPPP) for the Project.

Culvert stream crossings are proposed for crossing marginal quality perennial, ephemeral, and intermittent streams with a drainage basin of less than 1 mile. These crossings may be removed or remain in place to provide maintenance access to the line (critical if service is to be reliable).

- Disturbance of the stream will be kept to a minimum, stream bank vegetation will be preserved to the maximum extent practical, and the stream crossing width will be kept as narrow as possible. Clearing will be done by hand-cutting techniques rather than grubbing. Roots and stumps will be left in place to aid stabilization and to accelerate re-vegetation.
- Sediment laden runoff controlled to minimize from flowing from the access road directly into the stream. Diversions and swales will be used to direct runoff to stormwater management locations. Silt fence will be used as needed according to local topographic conditions.
- Culvert pipes will be placed on the existing streambed to avoid a drop or waterfall at the downstream end of the pipe, which would be a barrier to fish migration. Crossings will be placed in shallow areas rather than pools.
- Culverts will be sized to be at least three times the depth of the normal stream flow at the crossing location.
- There will be enough culvert pipes to cross the stream completely with no more than a 12-inch space between each one.
- Stone, rock, or aggregate of ODOT number 1 as a minimum size will be placed in the channel, and between culverts. To prevent washouts, larger stone may be used with gabion mattresses. No soil will be placed in the stream channel.
- After completion of construction, some rock aggregate and structures such as culvert pipes used for the crossing will be left in place if approved by the landowner. Care will be taken so that aggregate does not create an impoundment or impede fish passage. Structures such as gabion mattresses will be removed.
- Stream banks will be stabilized and woody species planted as appropriate.

Temporary access bridges or culvert stream crossings will be used for high quality perennial, ephemeral, and intermittent streams and streams with a drainage basin greater than 1 square mile (or possibly less in some cases).

- Disturbance of the stream will be kept to a minimum, stream bank vegetation will be preserved to the maximum extent practical, and the stream crossing width will be kept as

narrow as possible. Clearing will be done by hand cutting rather than grubbing. Roots and stumps will be left in place to aid stabilization and to accelerate re-vegetation.

- Sediment laden runoff will be controlled to minimize flowing from the access road directly into the stream. Diversions and swales will be used to direct runoff to stormwater management locations. Silt fence will be used as needed according to local topographic conditions.
- Bridges will be constructed to span the entire channel. If the channel width exceeds 8 feet, then a floating pier or bridge support may be placed in the channel. No more than one pier, footing, or support will be allowed for every 8 feet of span width. No footings, piers, or supports will be allowed for spans of less than 8 feet.
- No fill other than clean stone, free from soil, will be placed within the stream channel.

These crossings will be addressed in the Project SWPPP. Some of the access routes may be left in place for maintenance activity. Details regarding the proposed access road stream crossing methods will be provided to the OPSB separately.

Impacts to ponds are not anticipated by the construction, operation, or maintenance of the proposed transmission line. BMPs, including utilization of silt fence or filter sock, will be used as appropriate during construction to minimize runoff siltation.

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

Text provided in the January 9, 2018 Application filing remains unchanged.

(5) Mitigation Procedures

Text provided in the January 9, 2018 Application filing remains unchanged.

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

Text provided in the January 9, 2018 Application filing remains unchanged.

(D) SITE GEOLOGY

(1) Site Geology

Both routes are located within the Marietta Plateau region of the greater Allegheny Plateau Province within the greater Appalachian Plateaus physiographic province (ODNR, 1998). The routes are within the unglaciated region of Ohio (ODNR, 2003). The Marietta Plateau Section is characterized by high-relief (350 to 600 feet) dissected plateau with elevations 515 to 1,400 feet above mean sea level. This section of the Allegheny Plateau has mostly fine-grained rocks, and red shales and red soils are relatively common. These bedrock units are within the Pennsylvanian-age Upper Conemaugh Group through the Permian-age Dunkard Group in cyclic sequences of red and gray shales, siltstones, sandstones, limestones, and coals. Landslide deposits can also be

found in the Marietta Plateau Section because of the common occurrence of landslides (ODNR, 1998).

Approximately ~~31~~ 27 percent of the area within 1,000 feet of the Preferred Route and approximately 35 percent of the area within 1,000 feet of the Alternate Route occurs atop the Permian-aged Dunkard Group (USGS, 2005).

Approximately ~~51~~ 60 percent of the area within 1,000 feet of the Preferred Route and approximately 63 percent of the area within 1,000 feet of the Alternate Route occurs within the Pennsylvanian-aged Monongahela Group (USGS, 2005).

Approximately ~~18~~ 13 percent of the area within 1,000 feet of the Preferred Route and approximately 2 percent of the area within 1,000 feet of the Alternate Route occurs within the Pennsylvanian-aged Conemaugh Group (USGS, 2005).

(2) Slopes and Foundation Soil Suitability

Slopes exceeding 12 percent, obtained from the NRCS, are identified in revised Figure 8-2A through 8-2R and Figure 8-3A through 8-3S. Approximately ~~73~~ 72 percent of the area within 1,000 feet of the Preferred Route occurs where slopes exceed 12 percent. Slopes exceeding 12 percent occur within approximately 83 percent of the area within 1,000 feet of the Alternate Route. During construction, AEP Ohio Transco will implement a SWPPP and associated BMPs as necessary to control erosion and sedimentation in areas with slopes exceeding 12 percent. Once construction is complete, soils will be revegetated and stabilized. As a result, no erosional impacts resulting from slopes exceeding 12 percent are expected.

The bedrock geologies consisting primarily of shales and siltstones and overlaying soils consisting of primarily silt loams and silty clay loams, present along both routes. To obtain further site-specific details on the suitability of the soils for foundation construction, AEP Ohio Transco will conduct detailed engineering design and geotechnical soil borings. Engineering design and geotechnical test drilling will likely be completed soon after the Project is certificated by OPSB and engineering plans and boring logs will be provided to the staff shortly thereafter.

At a minimum, geotechnical soil borings will provide the following information to be utilized for structure placement and foundation design engineering as needed:

- Subsurface Soil Properties
- Static Water Level
- Rock Quality Description
- Percent Recovery
- Depth and Description of Bedrock Contact

AEP Ohio Transco anticipates that foundations will only be required at some angle structures that will be ultimately determined during the engineering design. When required, foundations will be

engineered based on the results of geotechnical soil boring and laboratory test results to ensure they are sited in locations considered suitable based on soil and rock properties and surface slope.

(E) ENVIRONMENTAL AND AVIATION REGULATION COMPLIANCE

Text provided in the January 9, 2018 Application filing remains unchanged.

4906-5-09 REFERENCES

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Figures



Legend

-  Substation
-  Preferred Route
-  Alternate Route
-  Existing Electric Distribution Line
-  Existing Transmission Line
-  County Boundary

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale 1:80,000

June 18, 2019

LOCATOR MAP



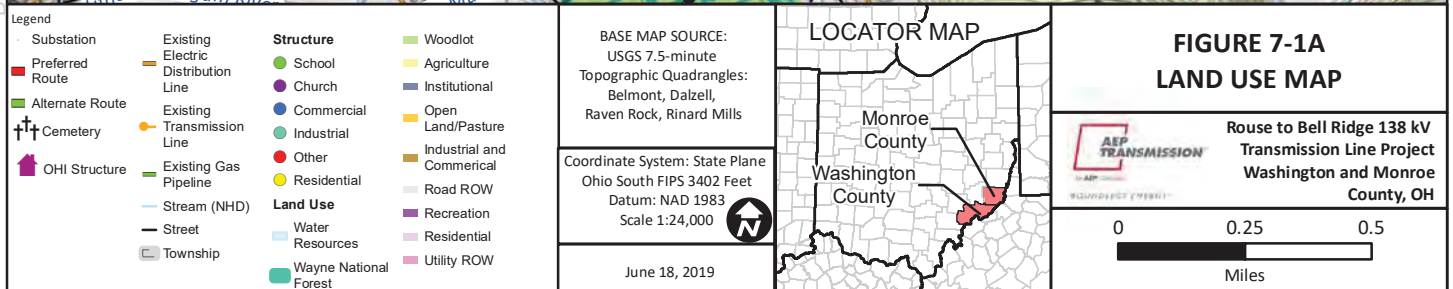
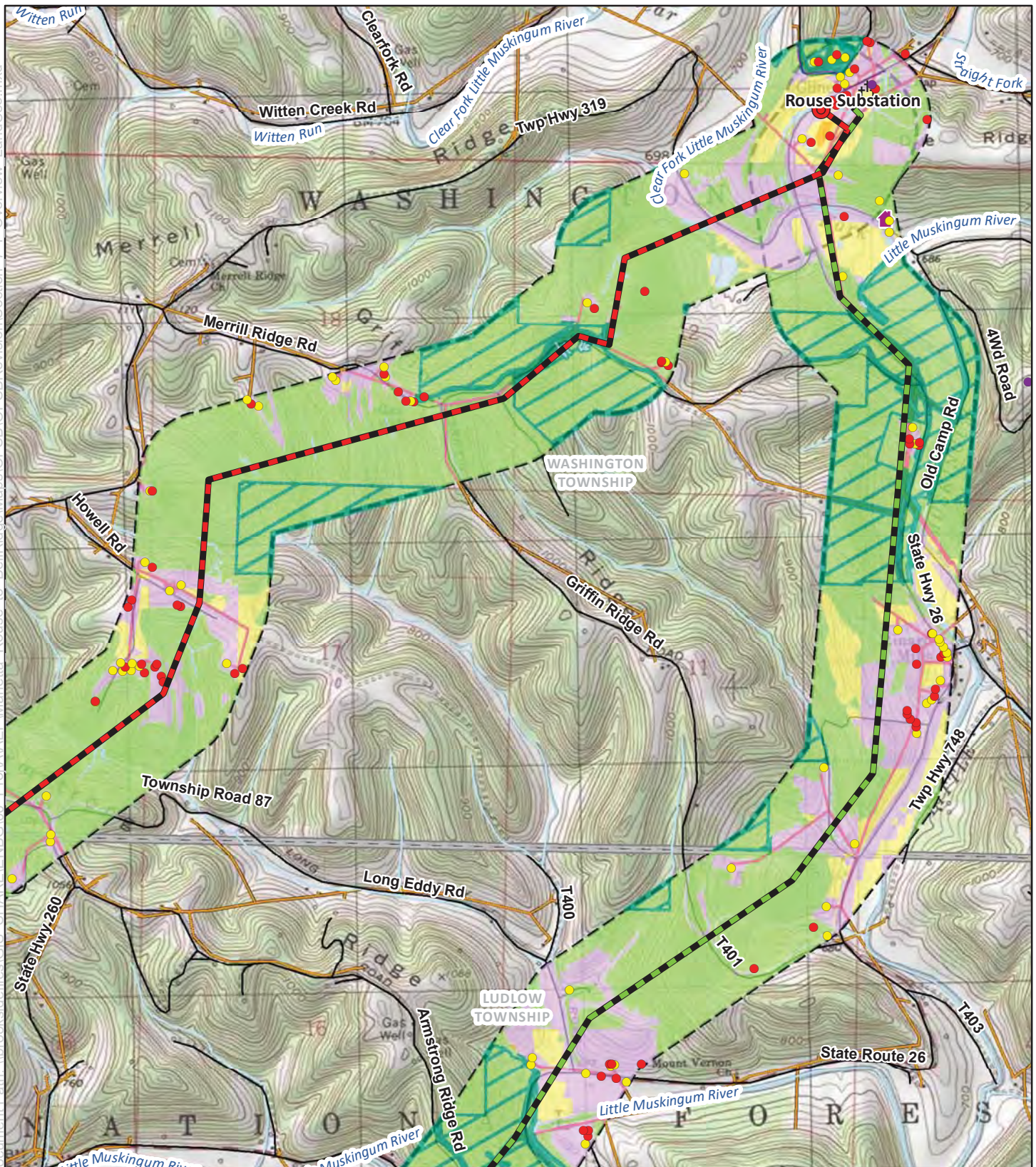
FIGURE 2-1

Project Overview and Area Features

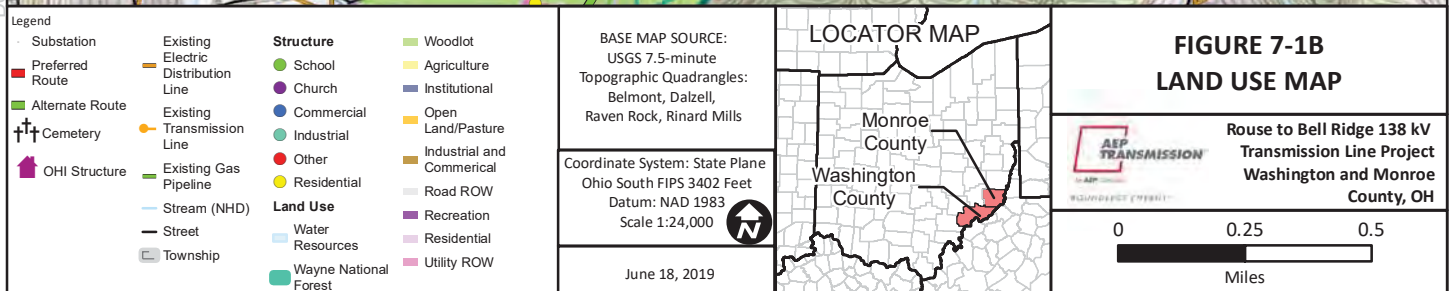
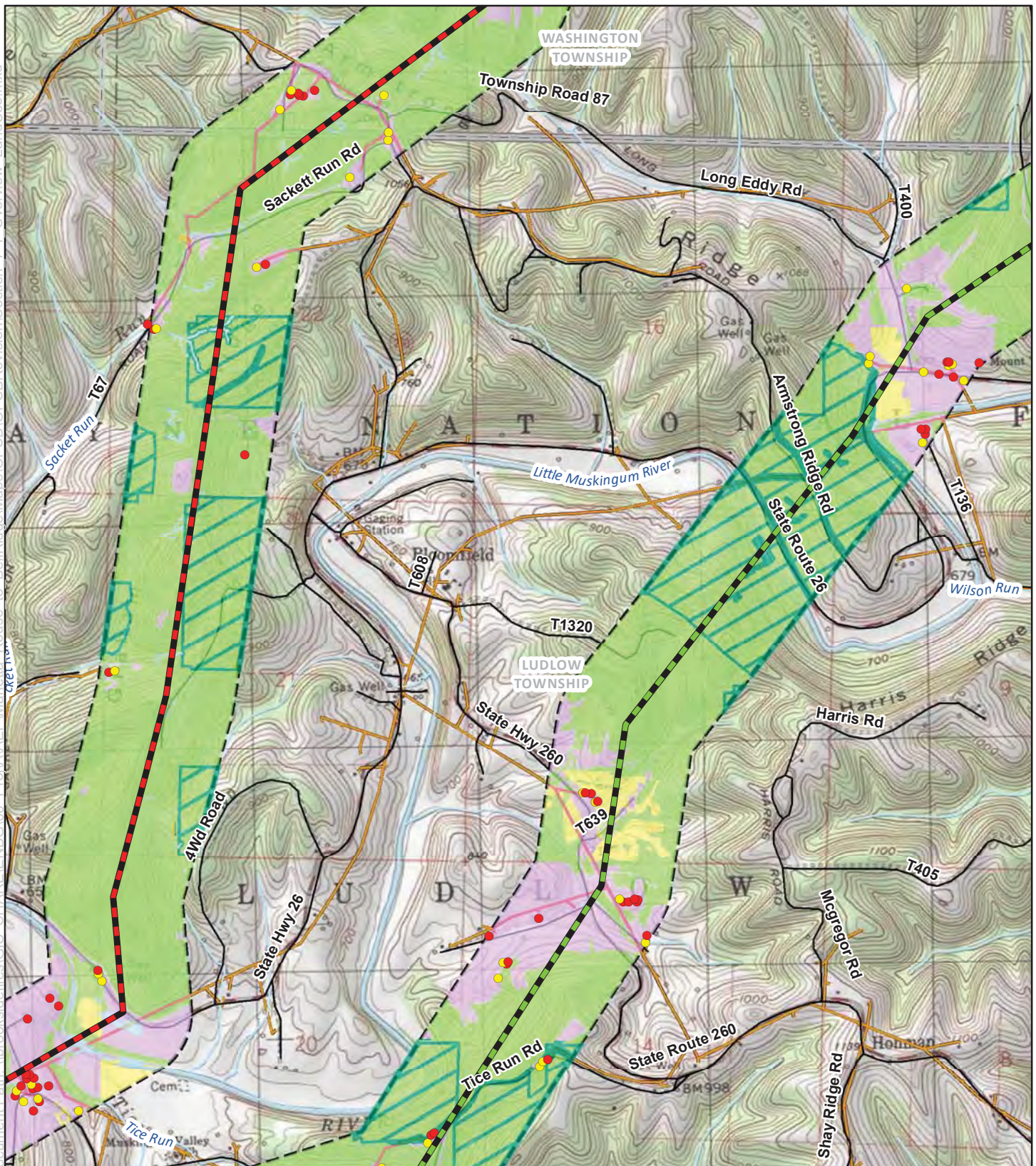


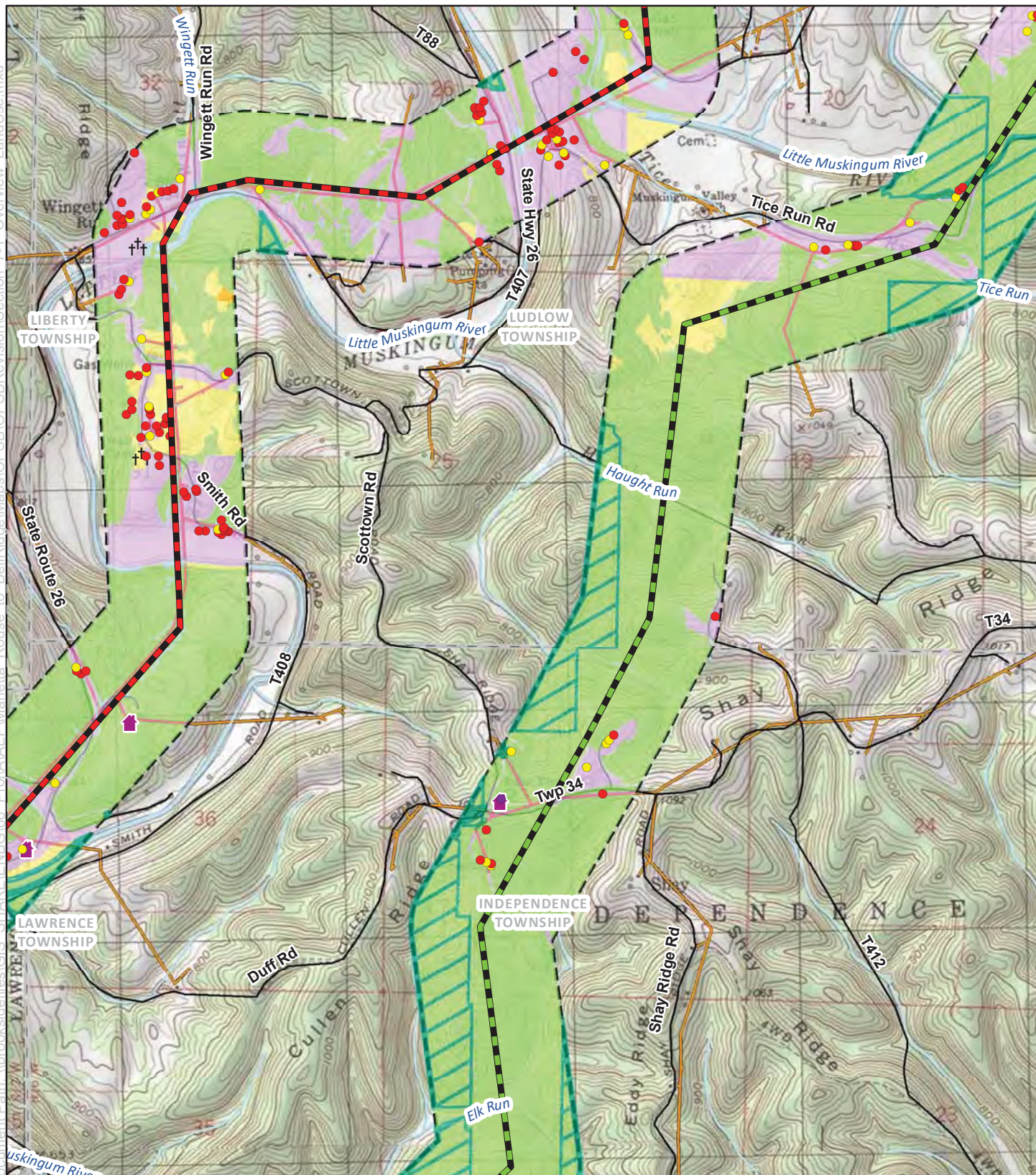
Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
County, OH





June 18, 2019





Legend	
Substation	Existing Electric Distribution Line
Preferred Route	Existing Transmission Line
Alternate Route	Existing Gas Pipeline
Cemetery	Stream (NHD)
OHI Structure	Street
	Township
Structure	
School	Woodlot
Church	Agriculture
Commercial	Institutional
Industrial	Open Land/Pasture
Residential	Industrial and Commercial
Land Use	
Water Resources	Recreation
Wayne National Forest	Residential
	Utility ROW

BASE MAP SOURCE:
USGS 7.5-minute
Topographic Quadrangles:
Belmont, Dalzell,
Raven Rock, Rinard Mills

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale 1:24,000

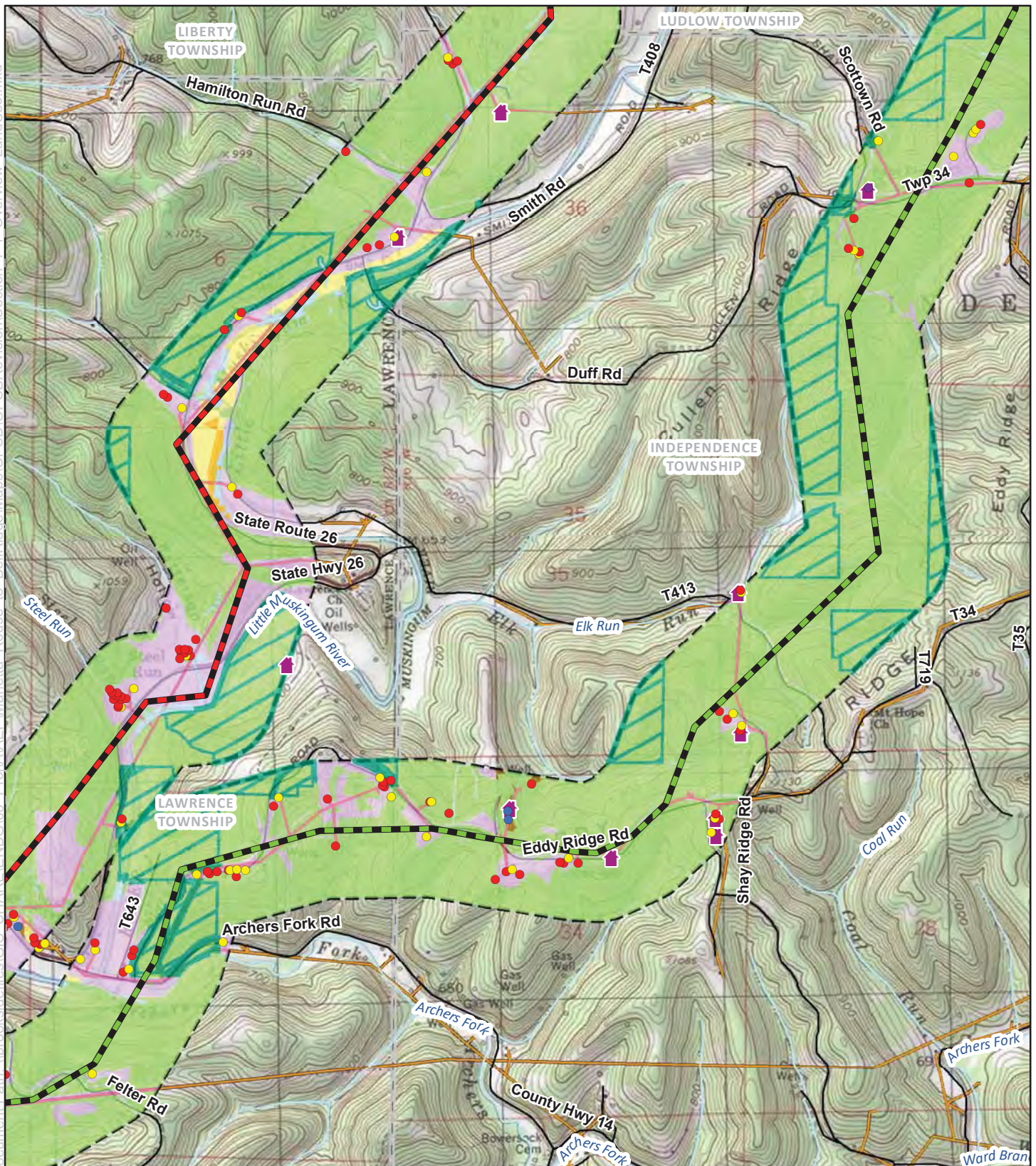
June 18, 2019



FIGURE 7-1C
LAND USE MAP

**Rouse to Bell Ridge 138 kV
Transmission Line Project**
Washington and Monroe
County, OH

0 0.25 0.5
Miles



Legend			
Substation	Existing Electric Distribution Line	Structure	Woodlot
Preferred Route	Existing Transmission Line	School	Agriculture
Alternate Route	Existing Gas Pipeline	Church	Institutional
Cemetery	Stream (NHD)	Commercial	Open Land/Pasture
OHI Structure	Street	Industrial	Industrial and Commercial
	Township	Other	Road ROW
		Residential	Recreation
		Land Use	Residential
		Water Resources	Utility ROW
		Wayne National Forest	

BASE MAP SOURCE:
USGS 7.5-minute
Topographic Quadrangles:
Belmont, Dalzell,
Raven Rock, Rinard Mills

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
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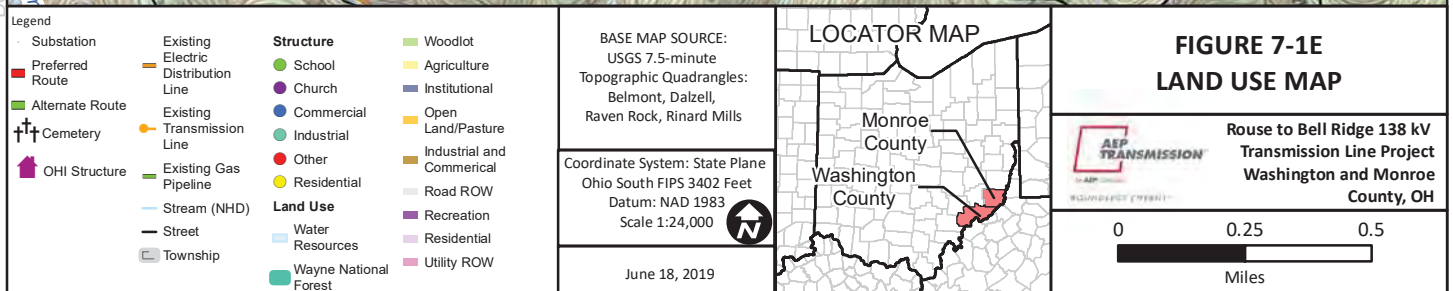
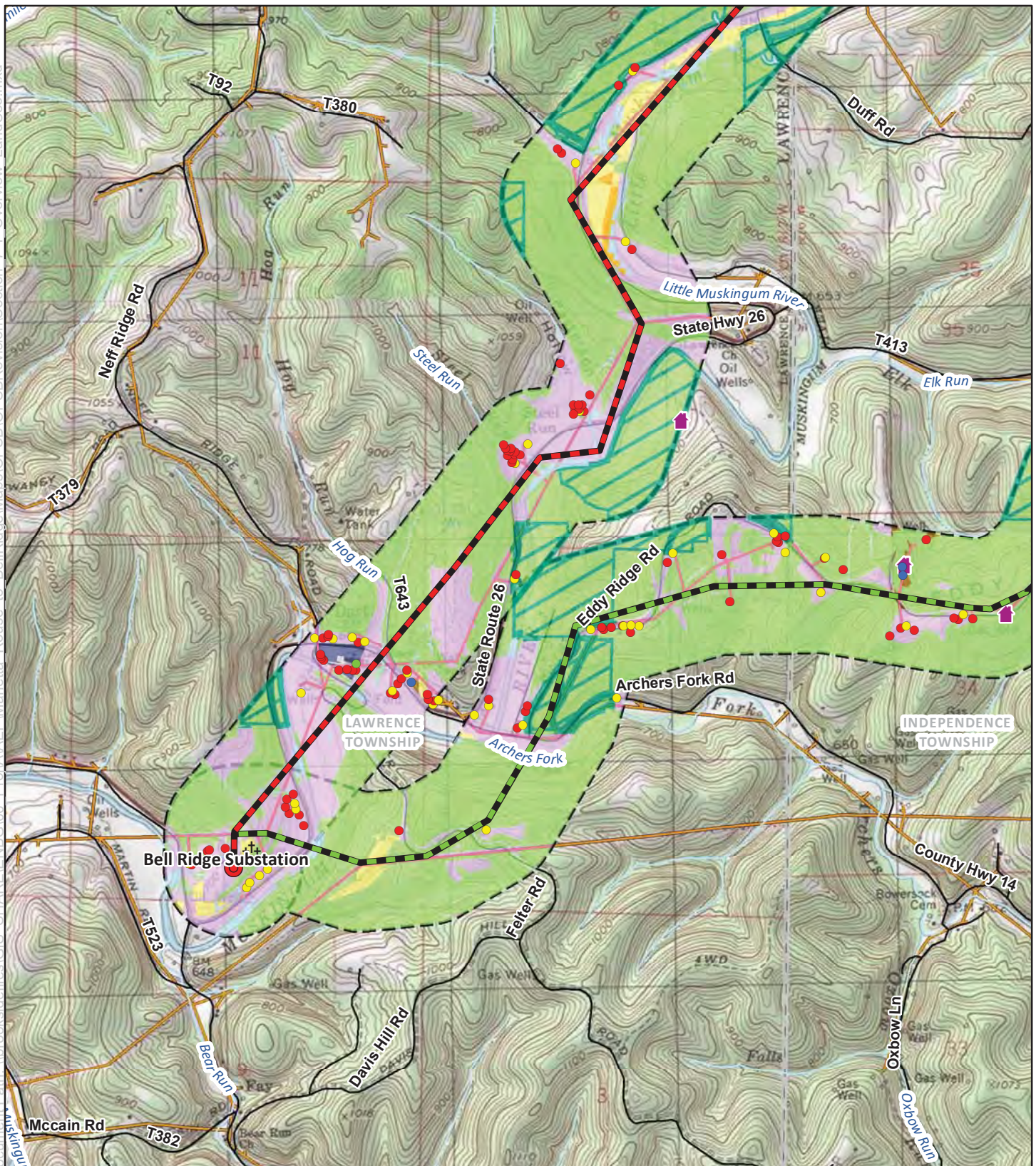
June 18, 2019



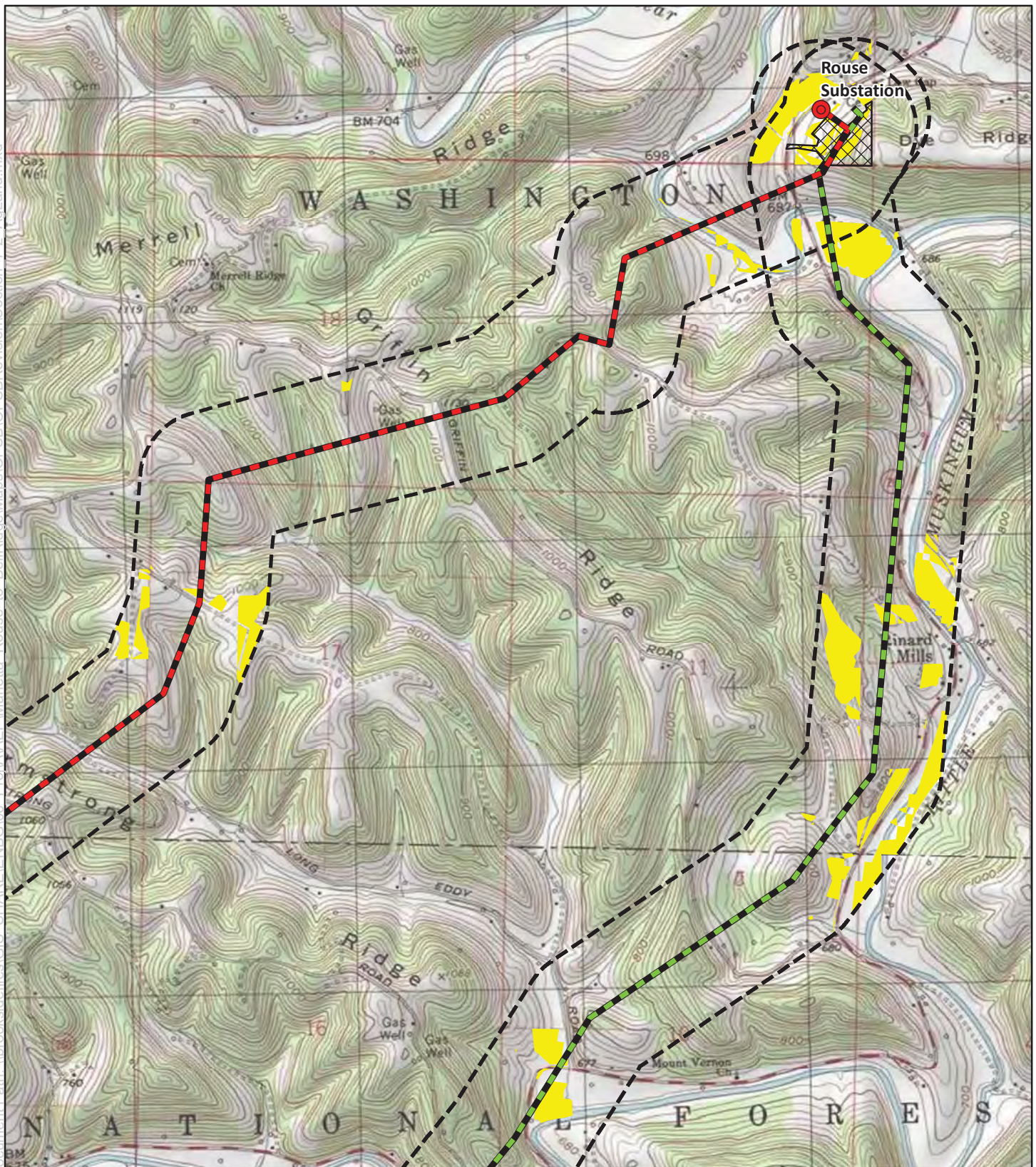
**FIGURE 7-1D
LAND USE MAP**

**Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
County, OH**

0 0.25 0.5
Miles



Document Path: \\brooksidefiles\GIS\SHARE\ENBG\00_Proj\A\AEP\Marietta_Rouse to BellRidge\Maps\OP\SB\OP\SBRevision\Section 7-2_AgLand.mxd



Legend

- Substation
- Preferred Route
- Alternate Route
- 1,000-Foot Buffer
- ⊠ Agricultural District Land within 1,000ft
- Agriculture Land Use

BASE MAP SOURCE:
USGS 7.5-minute
Topographic Quadrangles:
Belmont, Dalzell,
Raven Rock, Rinard Mills

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale 1:24,000

June 18, 2019

LOCATOR MAP



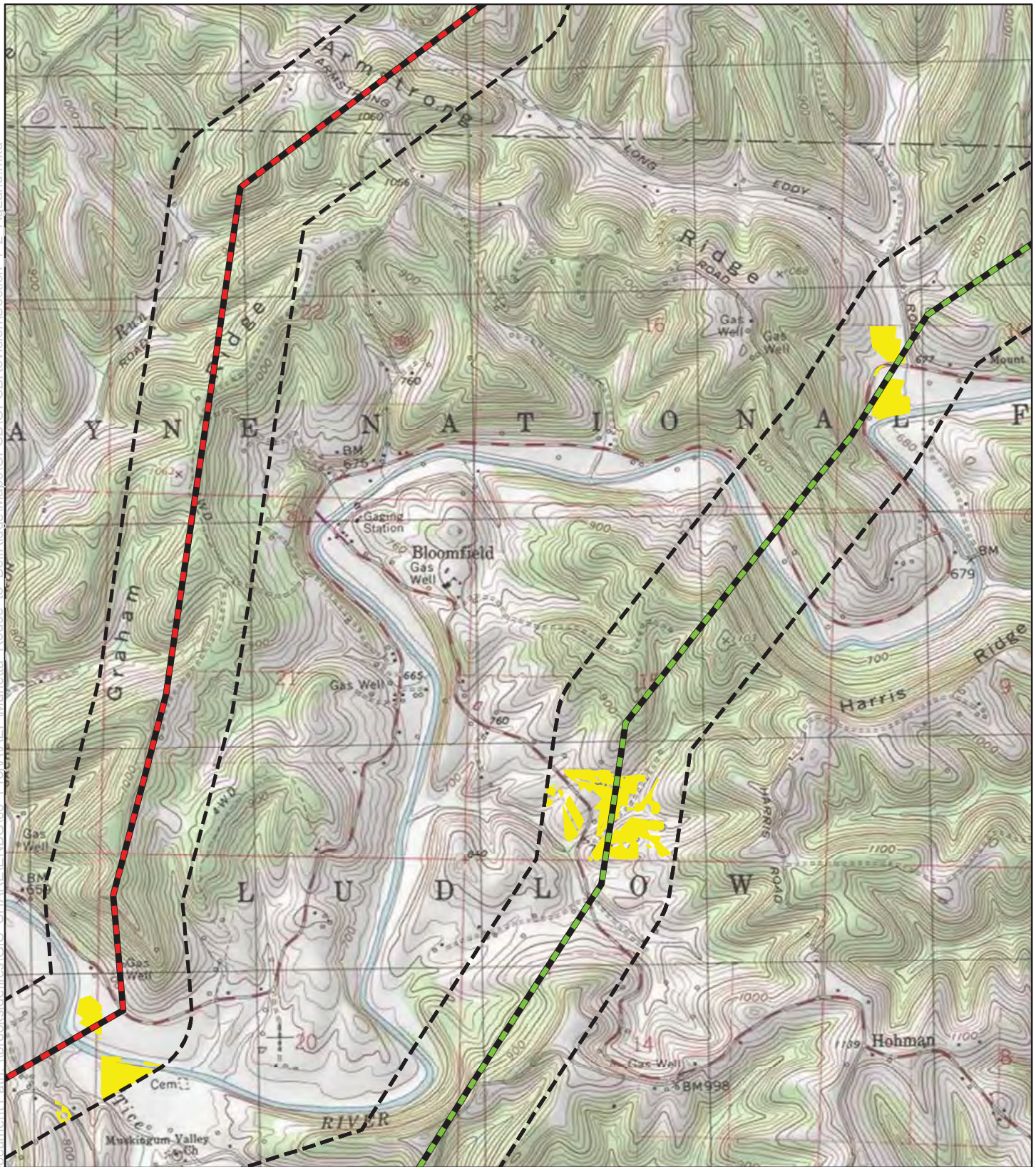
FIGURE 7-2A AGRICULTURAL LAND USE MAP









Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
County, OH



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Legend

-  Substation
-  Preferred Route
-  Alternate Route
-  1,000-Foot Buffer
-  Agricultural District Land within 1,000ft
-  Agriculture Land Use

BASE MAP SOURCE:
USGS 7.5-minute
Topographic Quadrangles:
Belmont, Dalzell,
Raven Rock, Rinard Mills

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale 1:24,000

June 18, 2019

LOCATOR MAP

Monroe
County
Washington
County

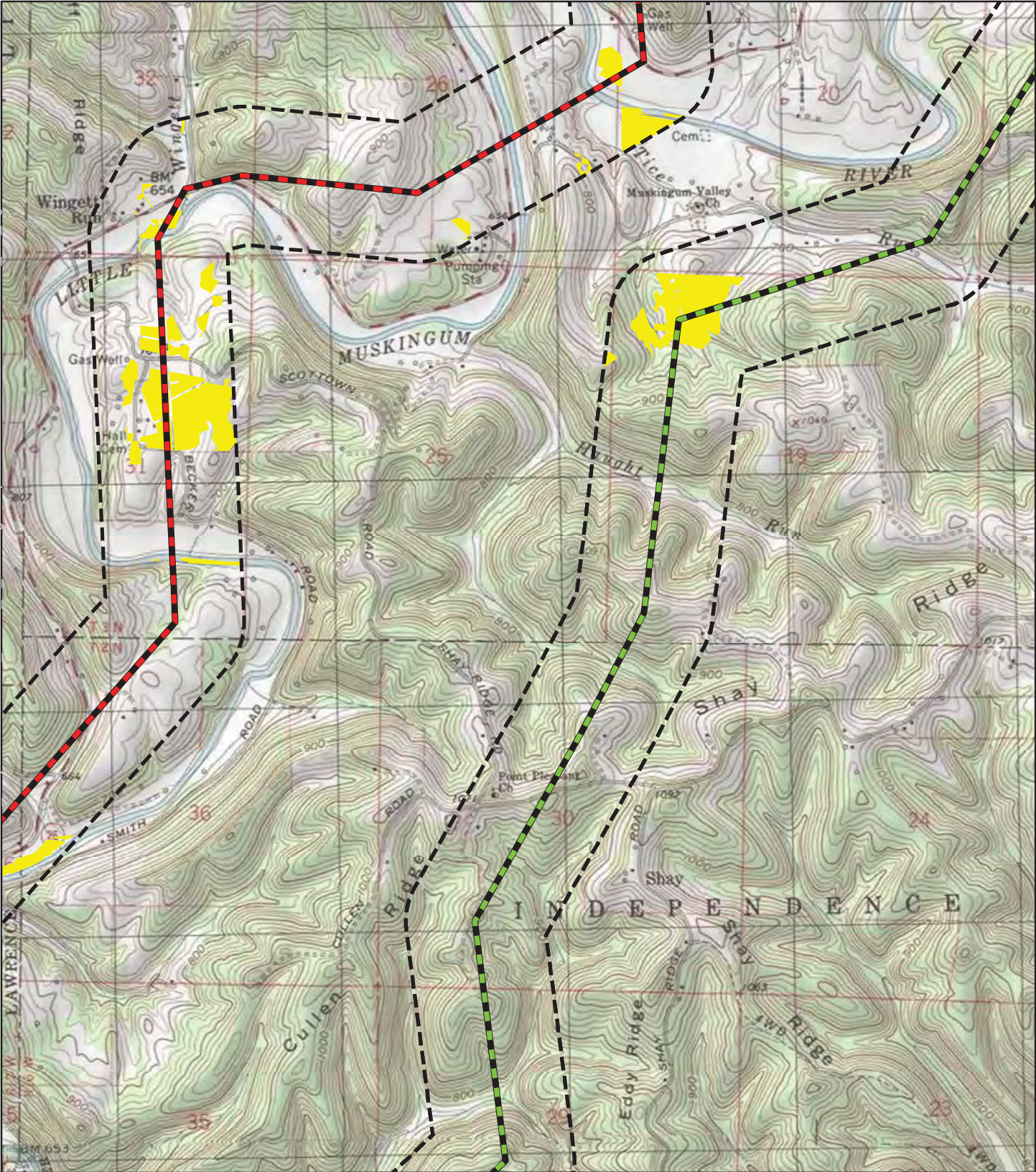
FIGURE 7-2B
AGRICULTURAL LAND USE MAP



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
County, OH



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Legend

- Substation
- Preferred Route
- Alternate Route
- - - 1,000-Foot Buffer
- ⊠ Agricultural District Land within 1,000ft
- Agriculture Land Use

BASE MAP SOURCE:
USGS 7.5-minute
Topographic Quadrangles:
Belmont, Dalzell,
Raven Rock, Rinard Mills

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Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale 1:24,000

June 18, 2019

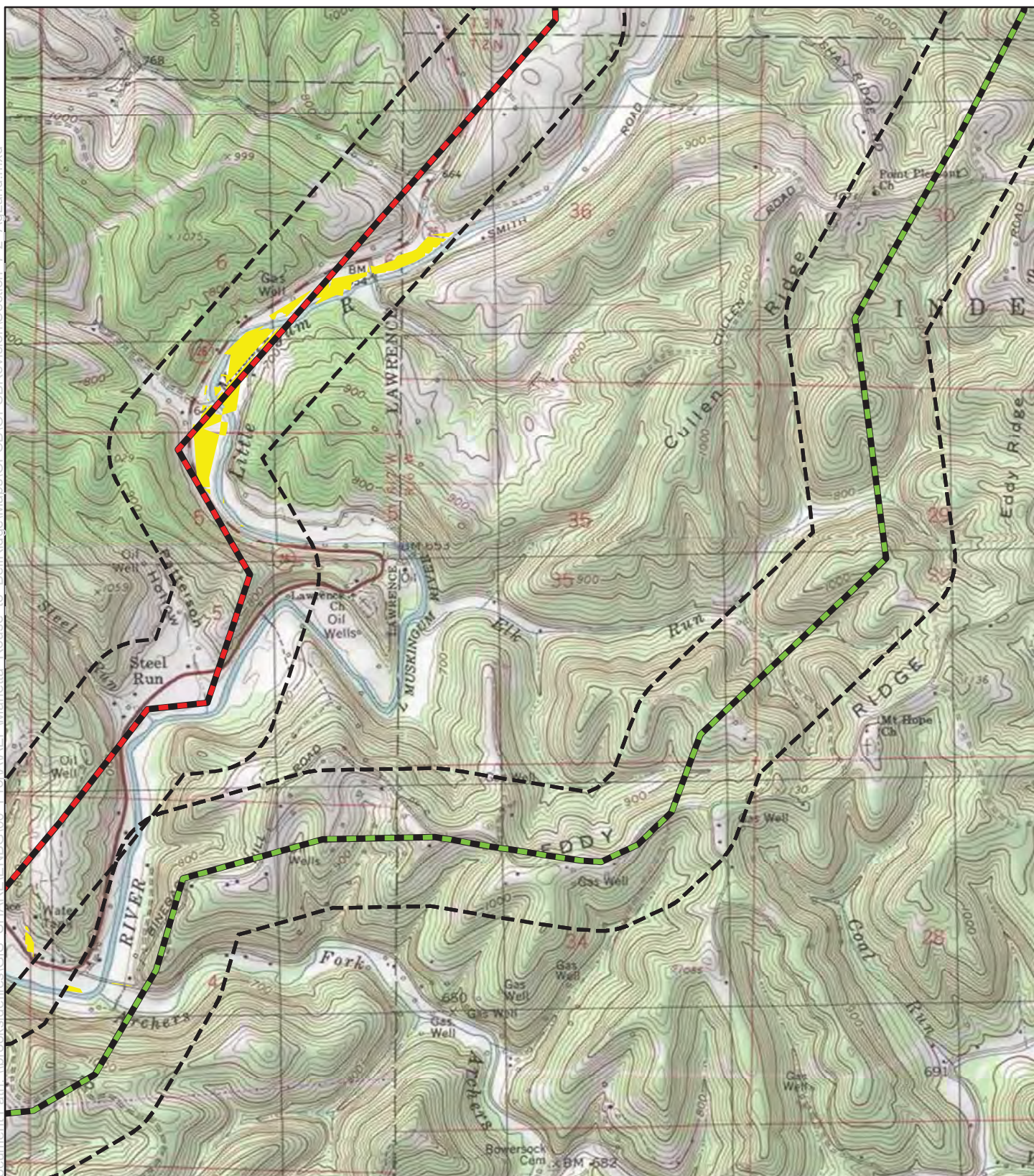


FIGURE 7-2C
AGRICULTURAL LAND USE MAP

AEP TRANSMISSION
Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
County, OH

0 0.25 0.5
Miles

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- Legend**
- Substation
 - Preferred Route
 - Alternate Route
 - 1,000-Foot Buffer
 - Agricultural District Land within 1,000ft
 - Agriculture Land Use

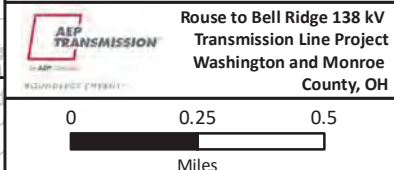
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Topographic Quadrangles:
Belmont, Dalzell,
Raven Rock, Rinard Mills







Coordinate System: State Plane
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Datum: NAD 1983
Scale 1:24,000

June 18, 2019



FIGURE 7-2D
AGRICULTURAL LAND USE MAP



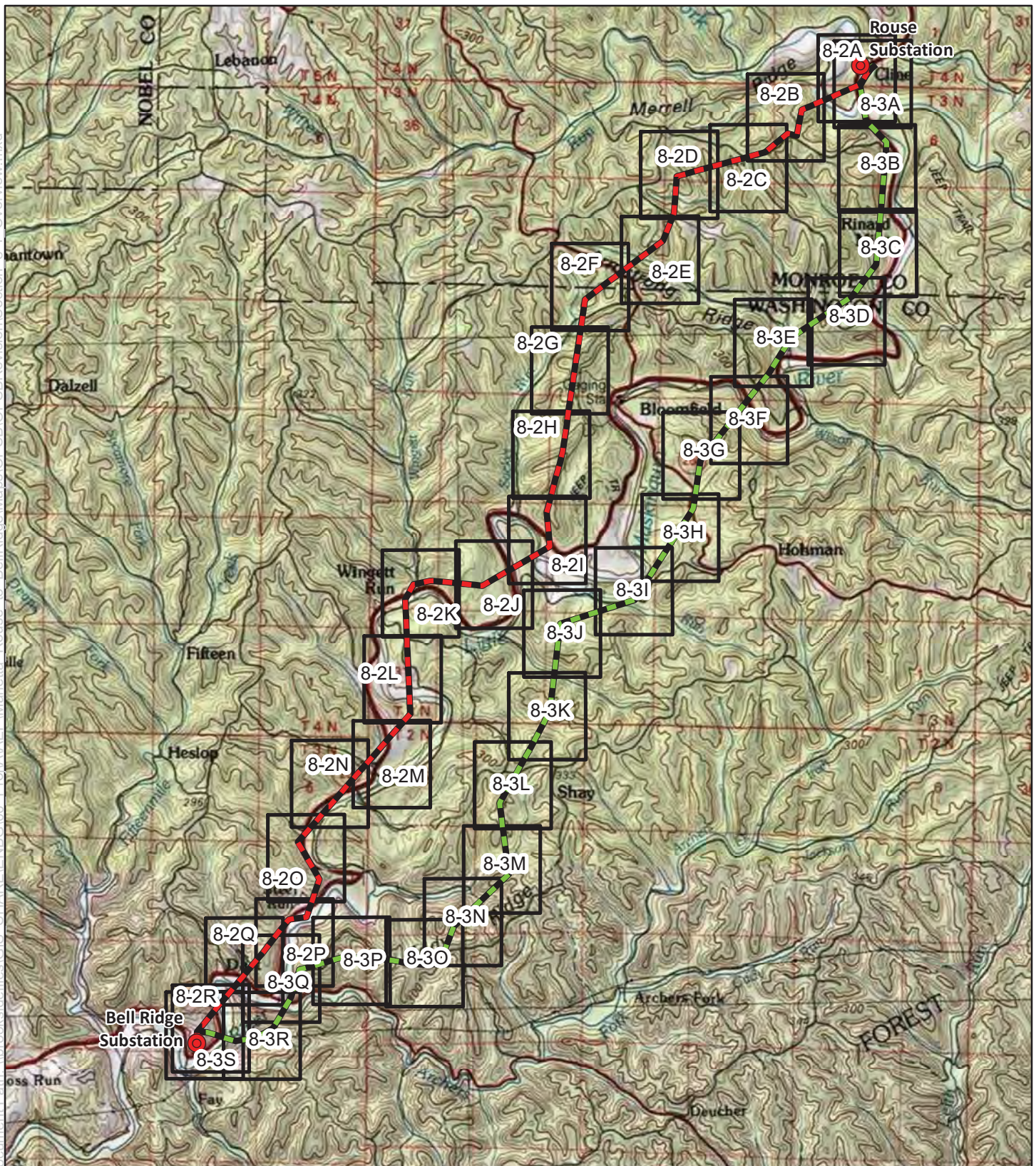
 Substation
 Preferred Route
 Alternate Route
 1,000-Foot Buffer
 Agricultural District Land within 1,000ft
 Agriculture Land Use

A locator map of Louisiana showing the outlines of Monroe and Washington Counties. The study area, located in the southeastern part of Washington County, is highlighted in red. Labels for 'Monroe County' and 'Washington County' are present, with lines pointing to their respective areas. The title 'LOCATOR MAP' is at the top.





AEP TRANSMISSION
AEP TRANSMISSION
Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
County, OH

0 0.25 0.5
Miles

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Legend

-  Substation
-  Preferred Route
-  Alternate Route
-  Figure Key

BASE MAP SOURCE:
USGS 7.5-minute
Topographic Quadrangles:
Belmont, Dalzell,
Raven Rock, Rinard Mills

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale 1:80,000

June 04, 2019

LOCATOR MAP



FIGURE 8-1 Overview Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
County, OH





Legend

- Substations
- Preferred Route
- Access Road
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland
- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale 1:6,000

June 21, 2019

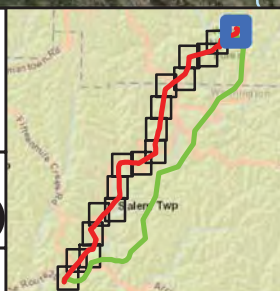
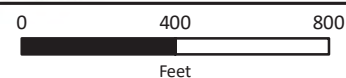
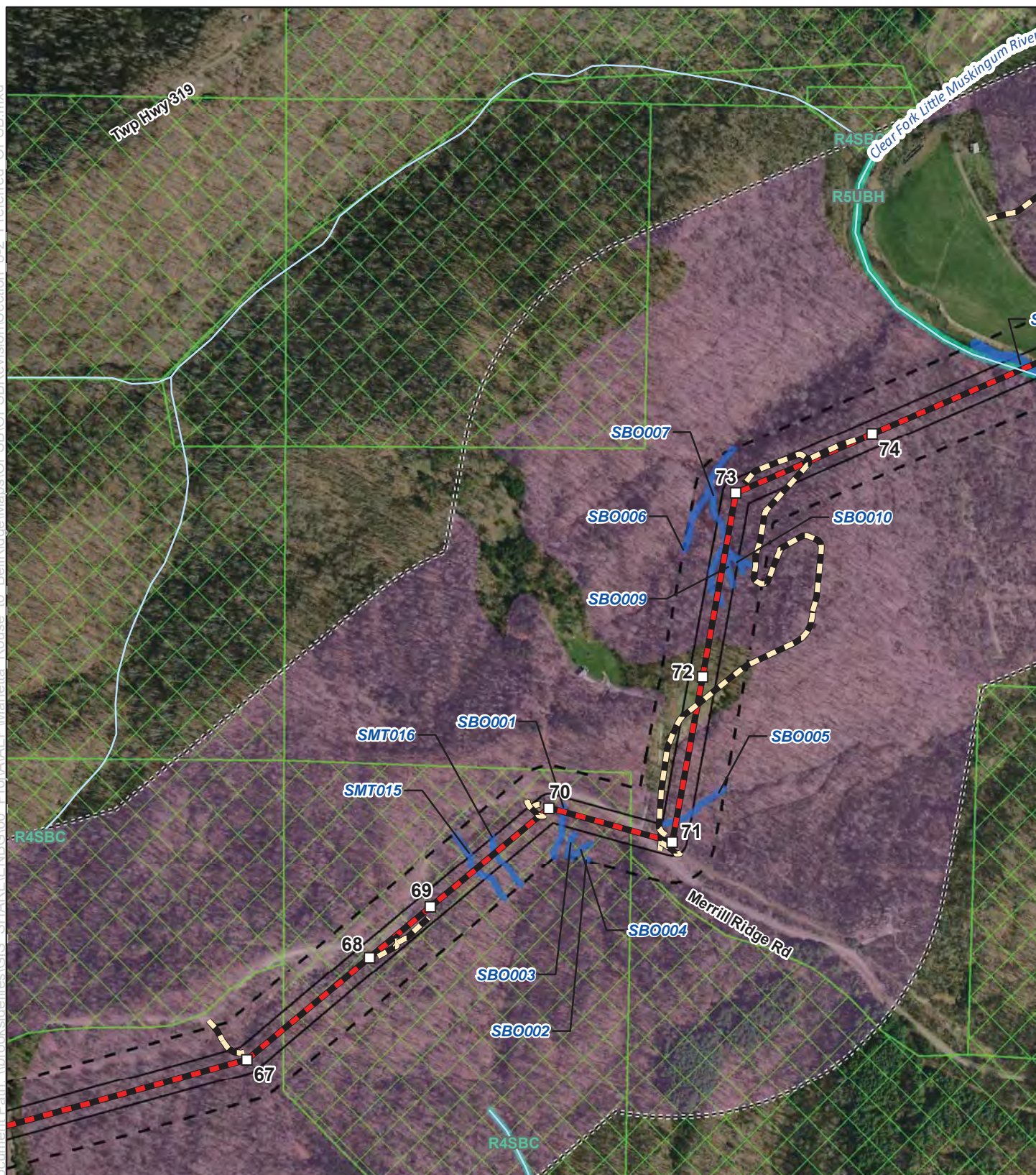


FIGURE 8-2A
Preferred Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
County, OH





Legend

- | | |
|-------------------|------------------------------|
| Substations | Wayne National Forest |
| Preferred Route | Delineated Stream |
| Access Road | Delineated Pond |
| Right-of-Way | Delineated Wetland |
| Survey Corridor | Palustrine Emergent (PEM) |
| 1,000-Foot Buffer | Palustrine Forested (PFO) |
| Stream (NHD) | Palustrine Scrub-Shrub (PSS) |
| Wetland (NWI) | |
| Slope > 12% | |

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
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June 21, 2019

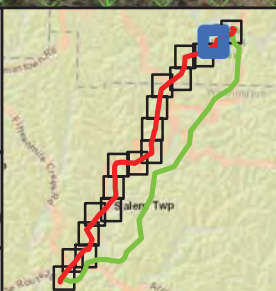
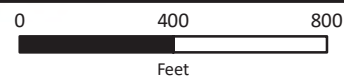
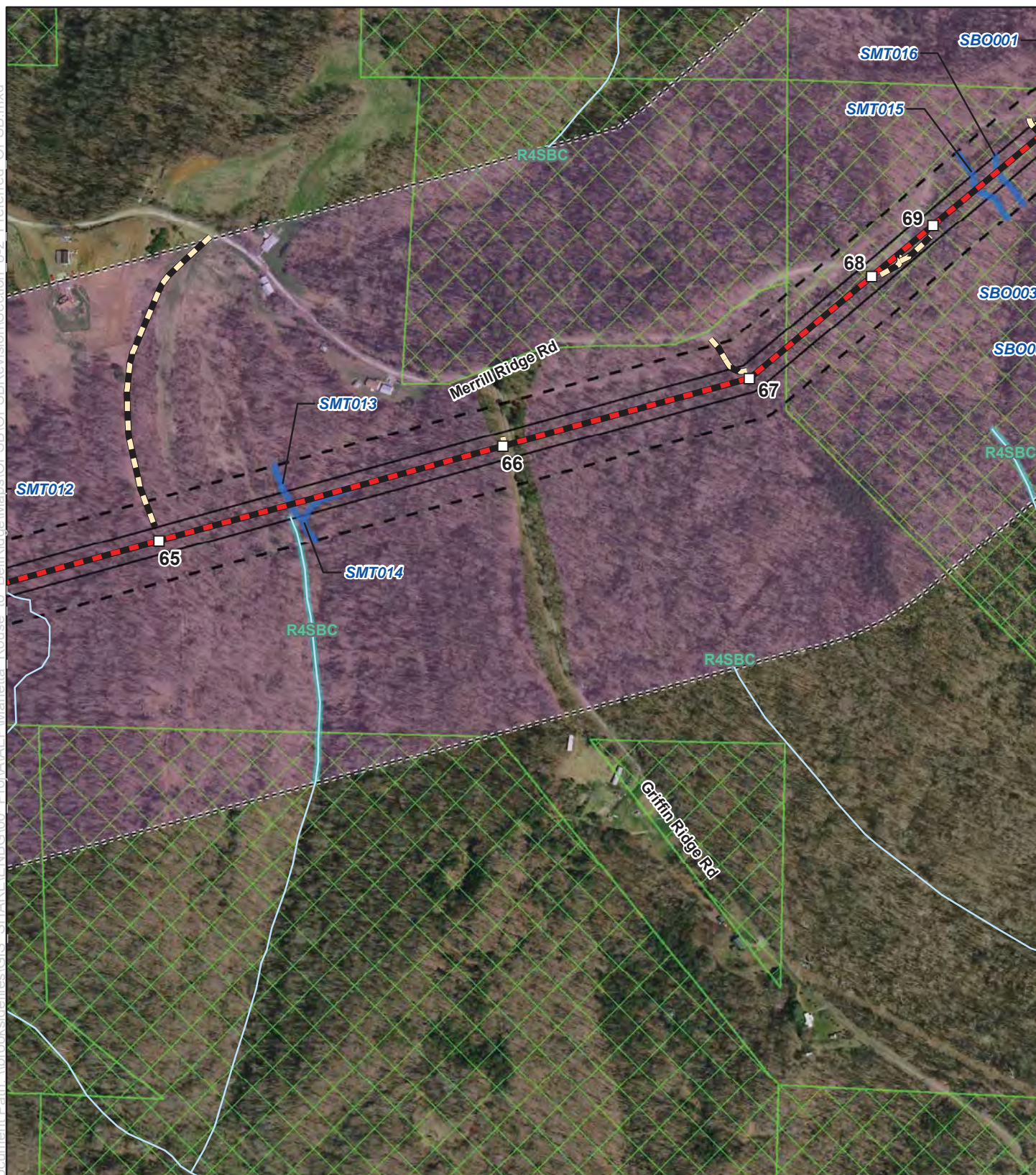


FIGURE 8-2B
Preferred Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
County, OH





Legend

- Substations
- Preferred Route
- Access Road
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland
- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
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June 21, 2019

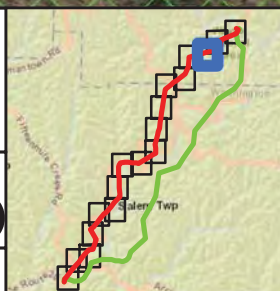
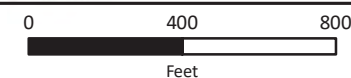
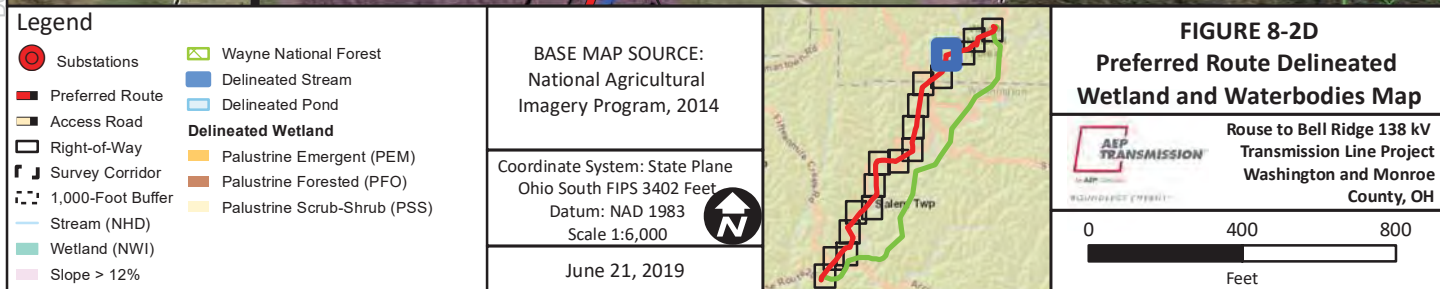


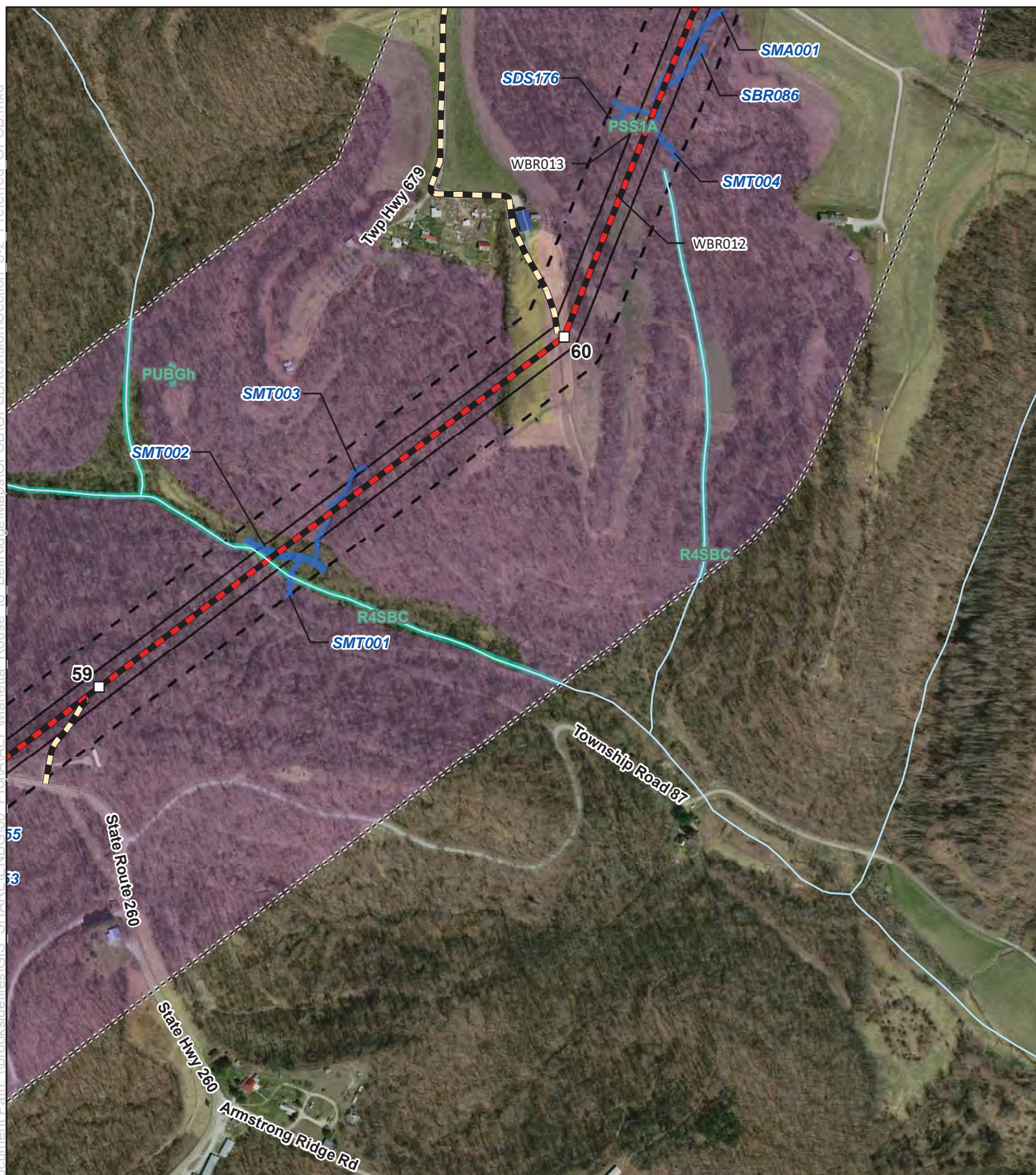
FIGURE 8-2C
Preferred Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
County, OH







Legend

- Substations
- Preferred Route
- Access Road
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NW1)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland
- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale 1:6,000

June 21, 2019

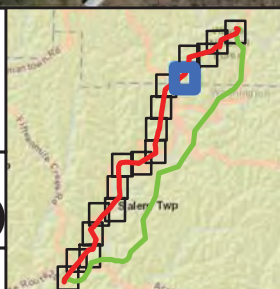
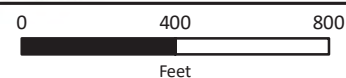
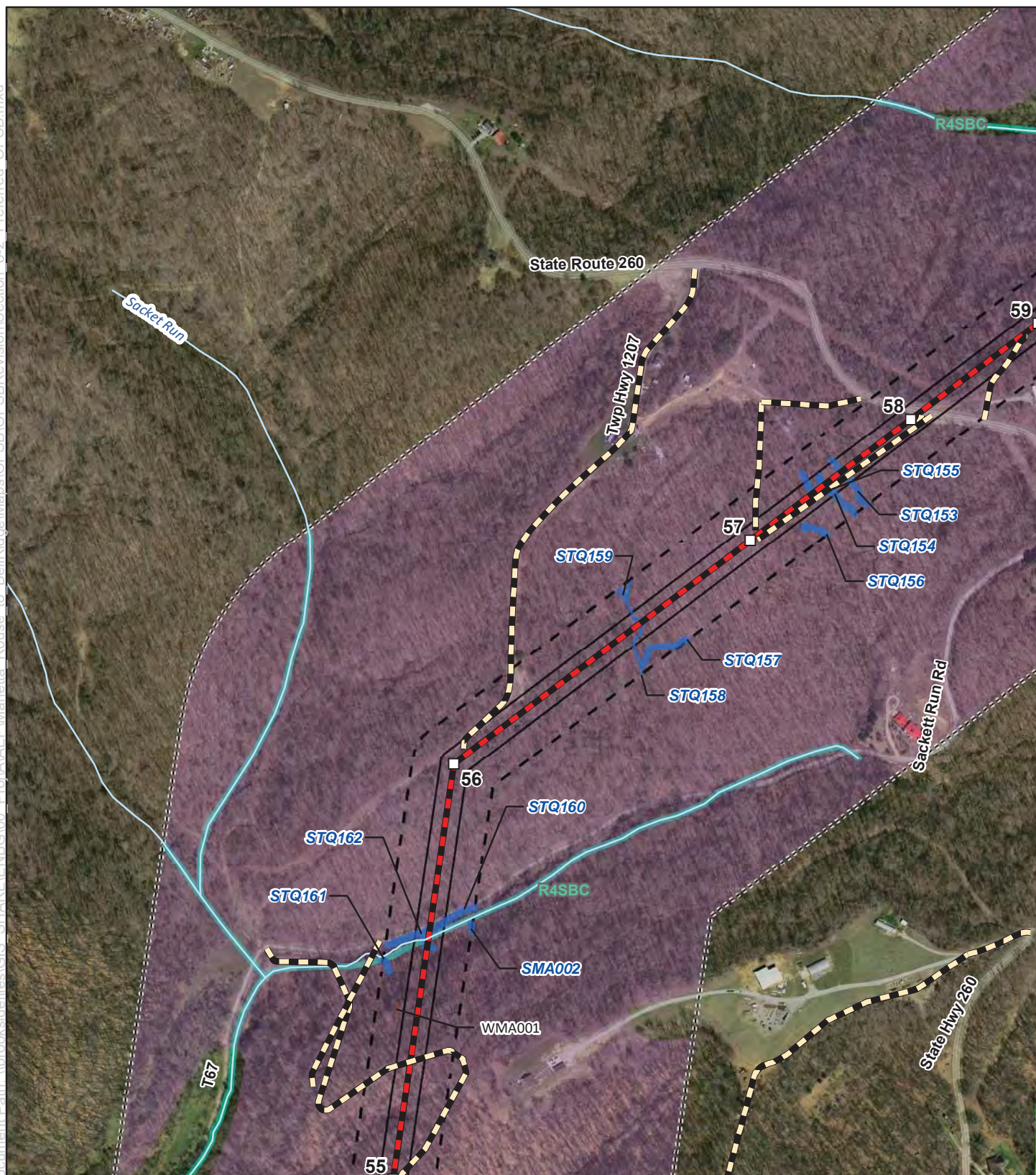


FIGURE 8-2E
Preferred Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
County, OH





Legend

- Substations
- Preferred Route
- Access Road
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland
- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale 1:6,000

June 21, 2019

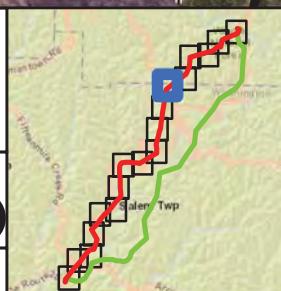
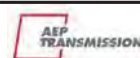
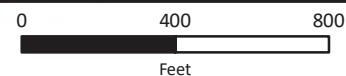


FIGURE 8-2F
Preferred Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
County, OH





Legend

- | | | | |
|--|-------------------|---------------------------|------------------------------|
| | Substations | | Wayne National Forest |
| | Preferred Route | | Delineated Stream |
| | Access Road | | Delineated Pond |
| | Right-of-Way | Delineated Wetland | |
| | Survey Corridor | | Palustrine Emergent (PEM) |
| | 1,000-Foot Buffer | | Palustrine Forested (PFO) |
| | Stream (NHD) | | Palustrine Scrub-Shrub (PSS) |
| | Wetland (NW1) | | |
| | Slope > 12% | | |

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale 1:6,000

June 21, 2019

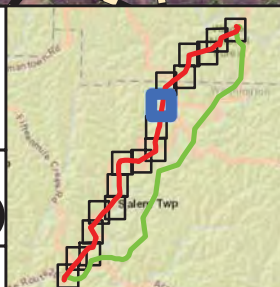
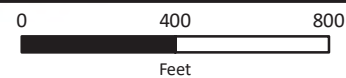
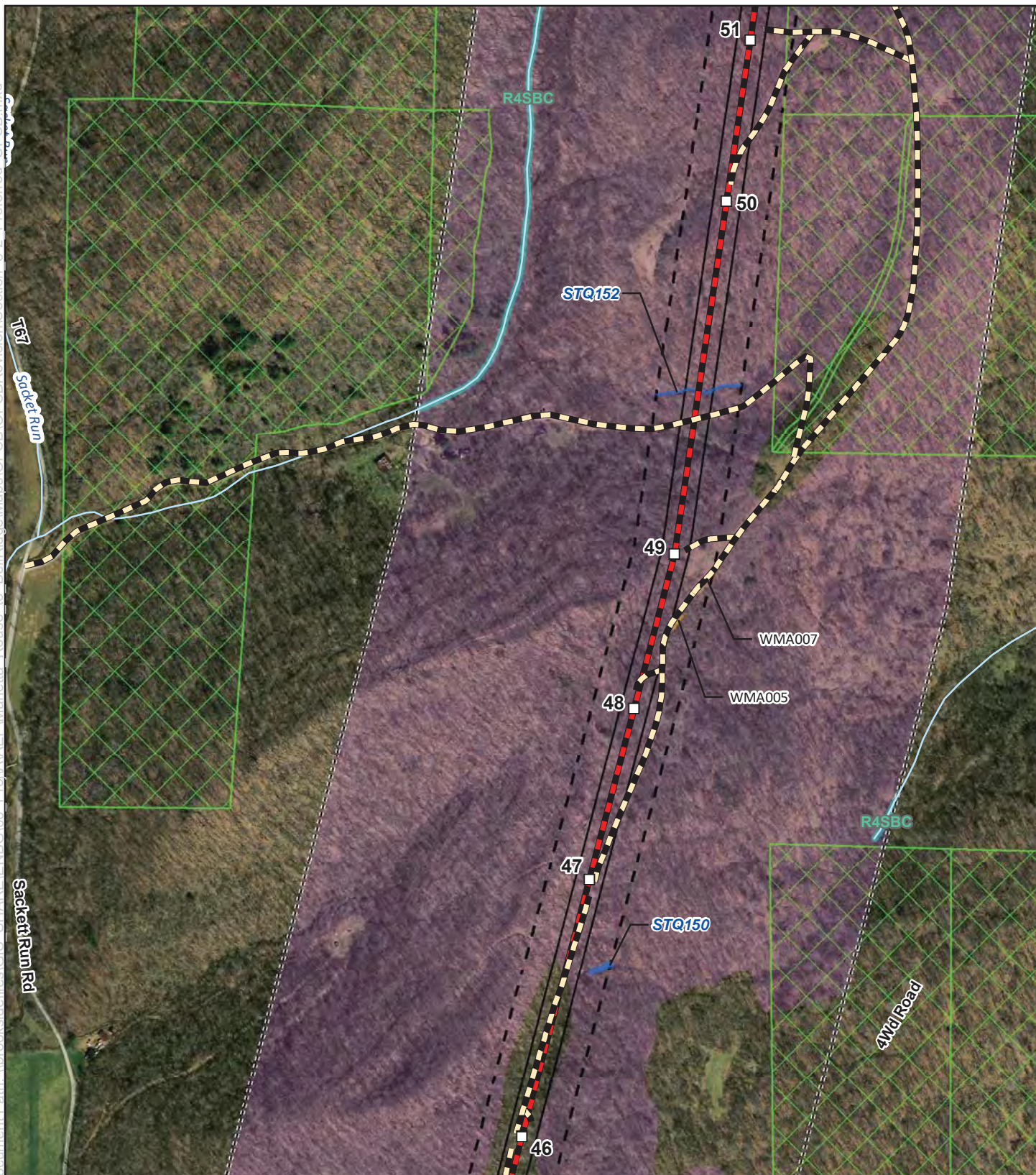


FIGURE 8-2G
Preferred Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
County, OH





Legend

- Substations
- Preferred Route
- Access Road
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland
- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale 1:6,000

June 21, 2019

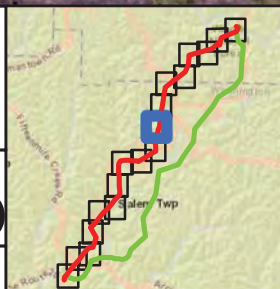
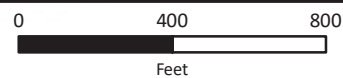
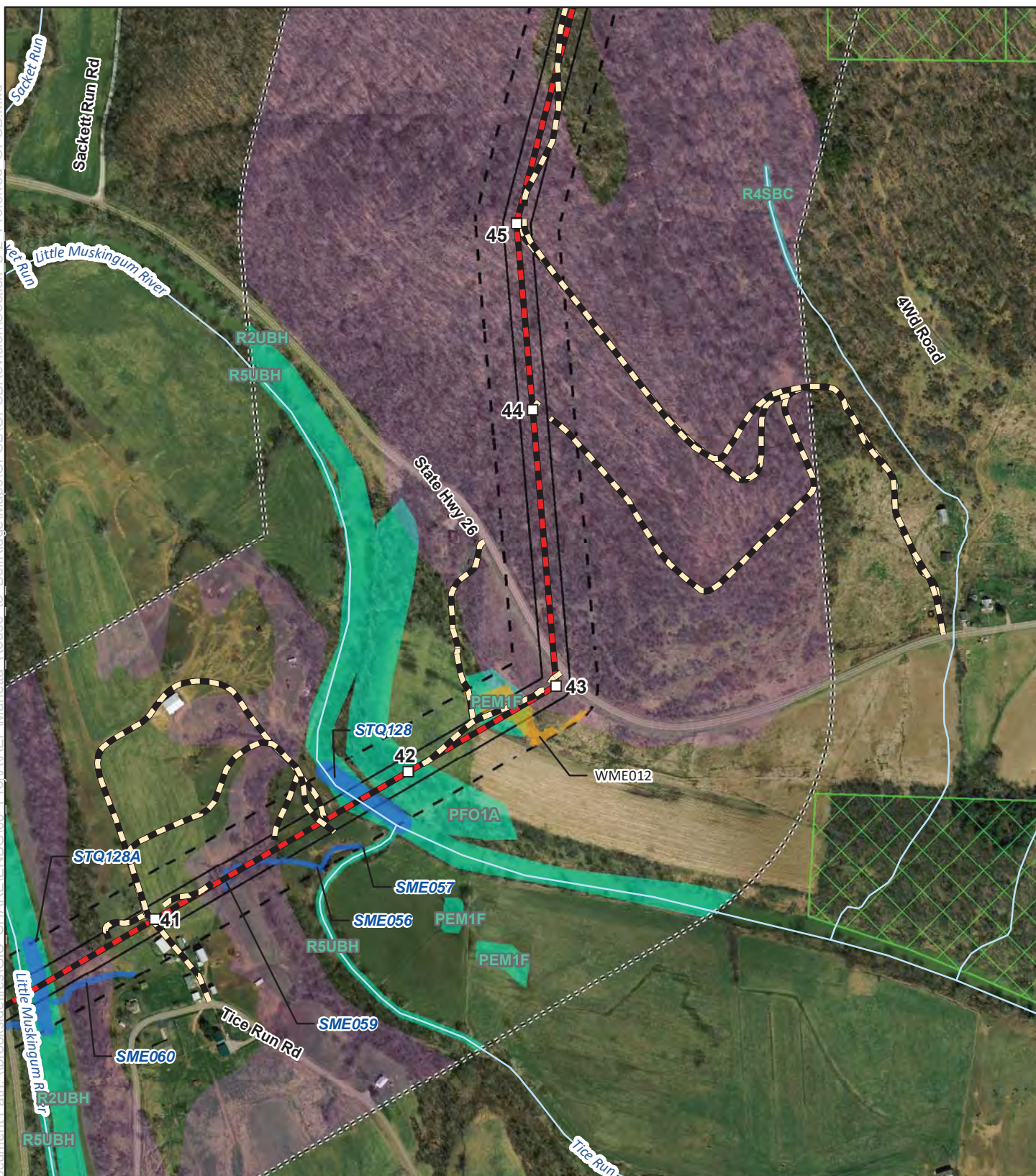


FIGURE 8-2H
Preferred Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
County, OH





Legend

- Substations
- Preferred Route
- Access Road
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland
- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale 1:6,000

June 21, 2019

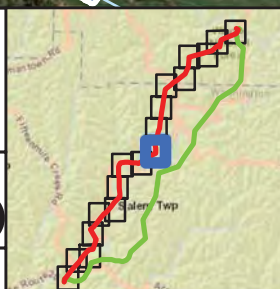
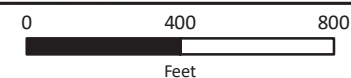


FIGURE 8-21
Preferred Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
County, OH





Legend

- Substations
- Preferred Route
- Access Road
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland
- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale 1:6,000

June 21, 2019

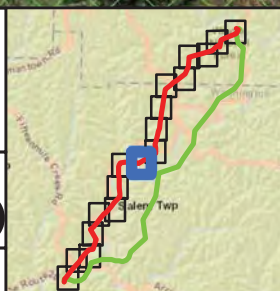
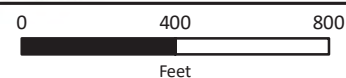
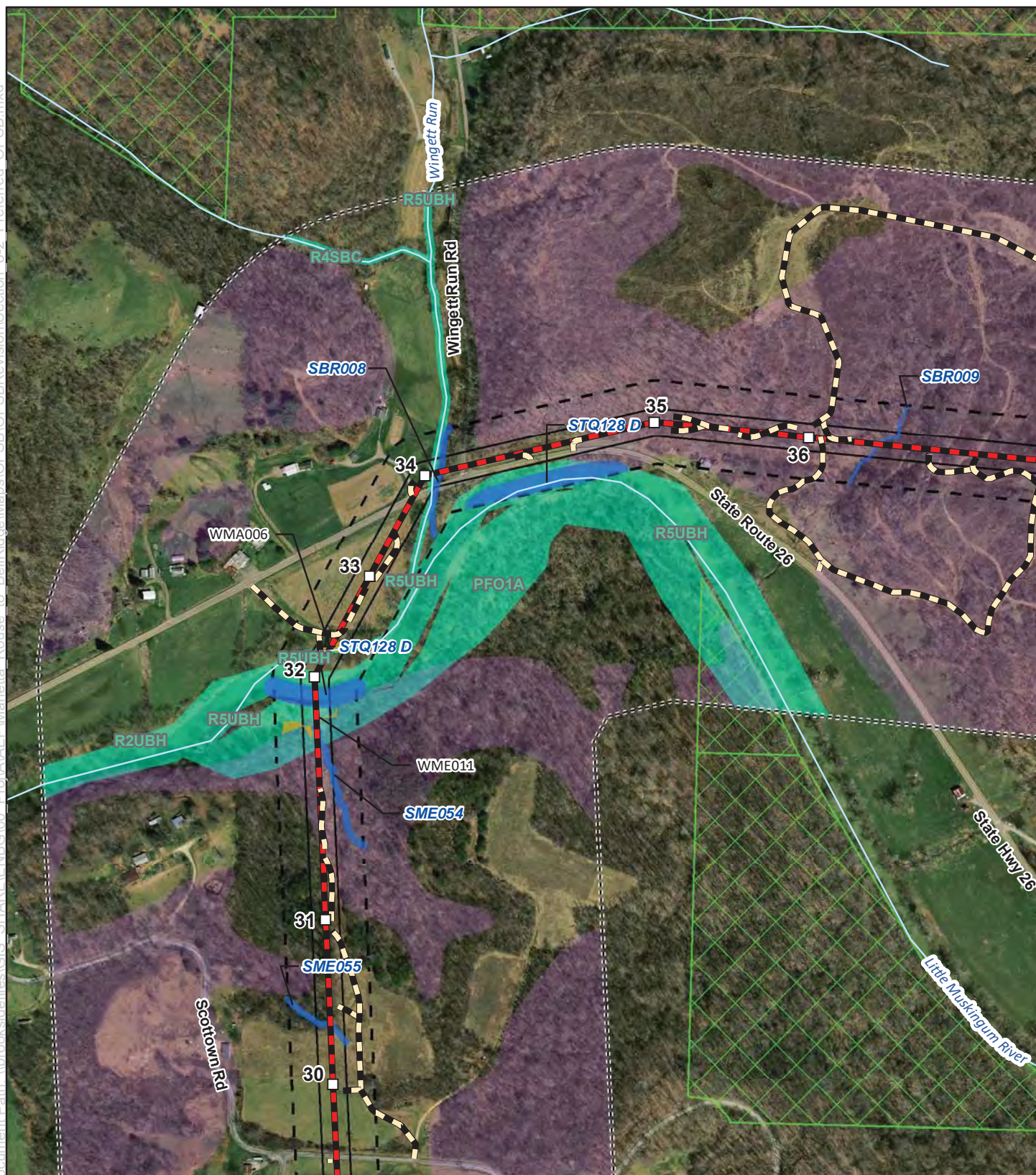


FIGURE 8-2J
Preferred Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
County, OH





Legend

- Substations
- Preferred Route
- Access Road
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- X Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland
- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
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Datum: NAD 1983
Scale 1:6,000

June 21, 2019

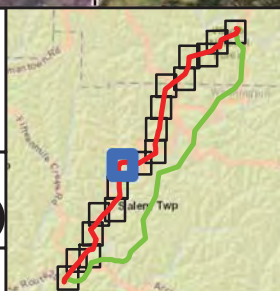
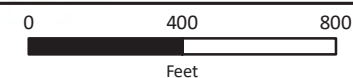


FIGURE 8-2K
Preferred Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
County, OH





Legend

- Substations
- Preferred Route
- Access Road
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland
- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
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June 21, 2019

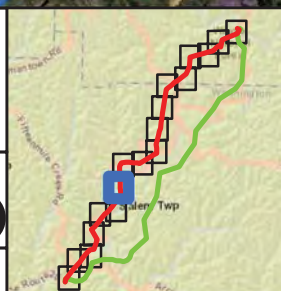
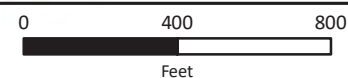


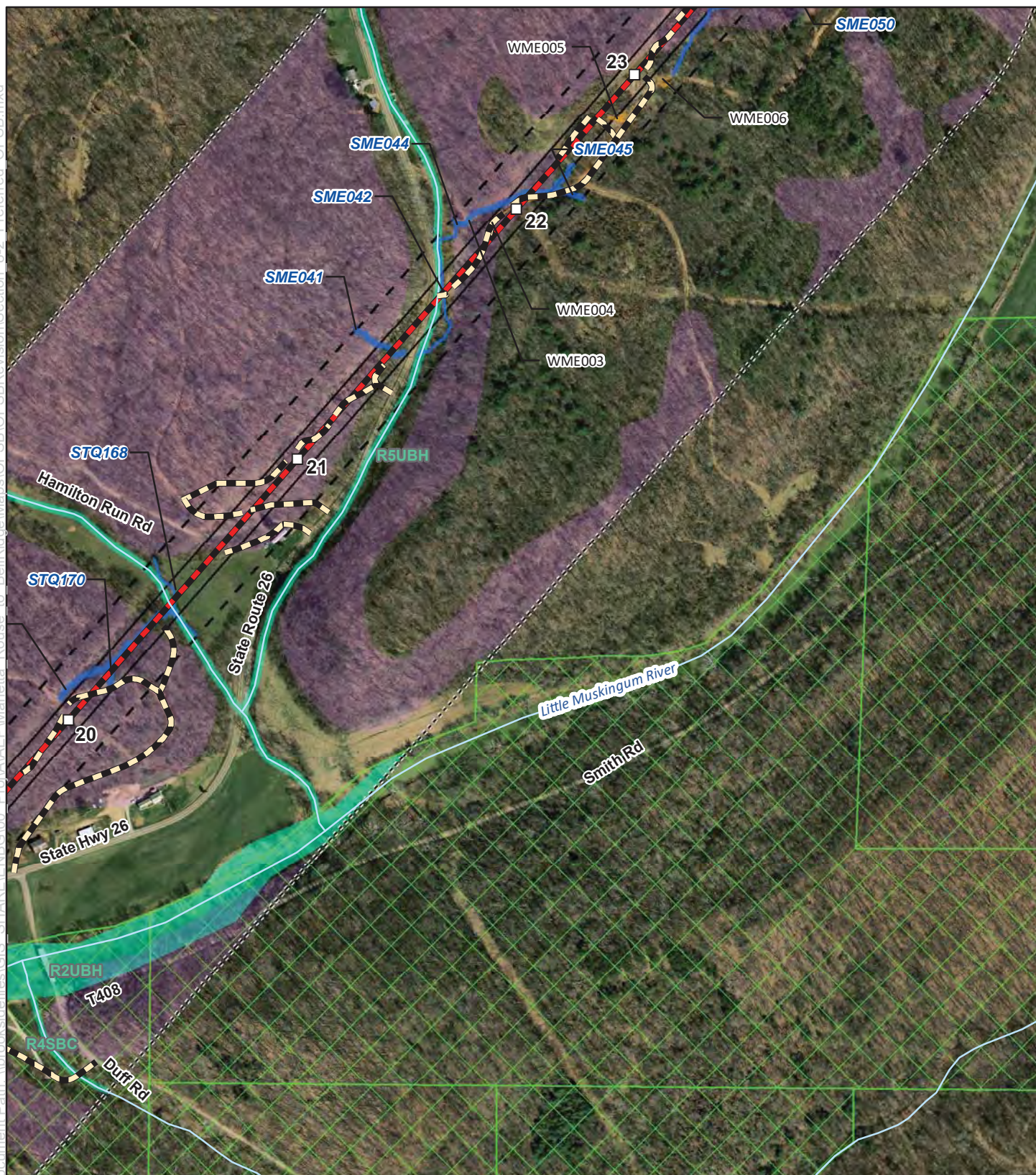
FIGURE 8-2L
Preferred Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
County, OH



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Legend

- Substations
- Preferred Route
- Access Road
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland
- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale 1:6,000

June 21, 2019

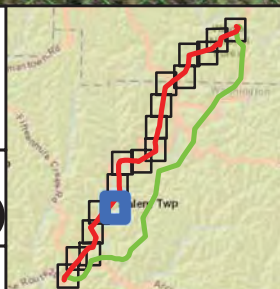
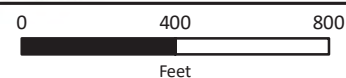


FIGURE 8-2M
Preferred Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
County, OH





Legend

- Substations
- Preferred Route
- Access Road
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NW1)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland
- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale 1:6,000

June 21, 2019

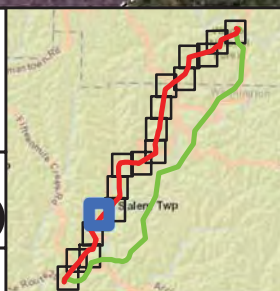
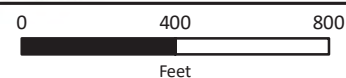


FIGURE 8-2N
Preferred Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
County, OH





Legend

- Substations
- Preferred Route
- Access Road
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland**
 - Palustrine Emergent (PEM)
 - Palustrine Forested (PFO)
 - Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
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Datum: NAD 1983
Scale 1:6,000

June 21, 2019

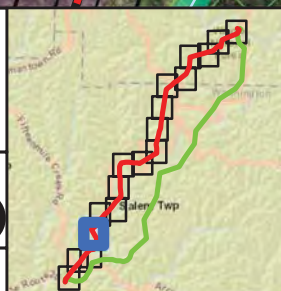
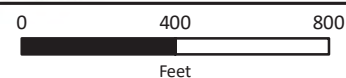
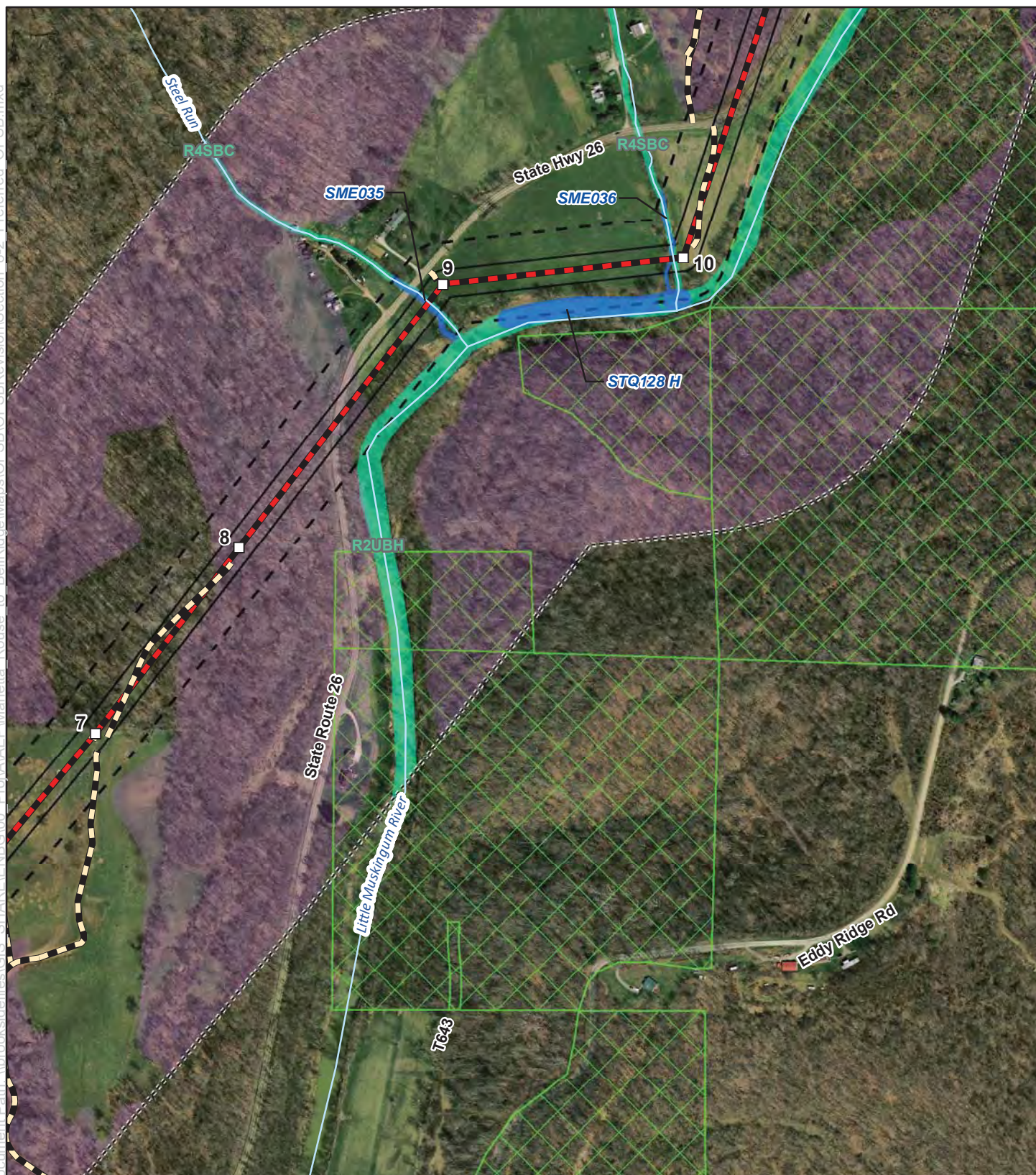


FIGURE 8-20
Preferred Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
County, OH





Legend

- Substations
- Preferred Route
- Access Road
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland
- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale 1:6,000

June 21, 2019

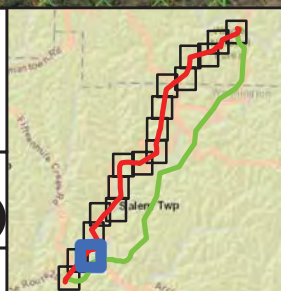
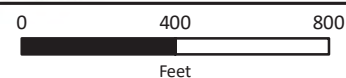
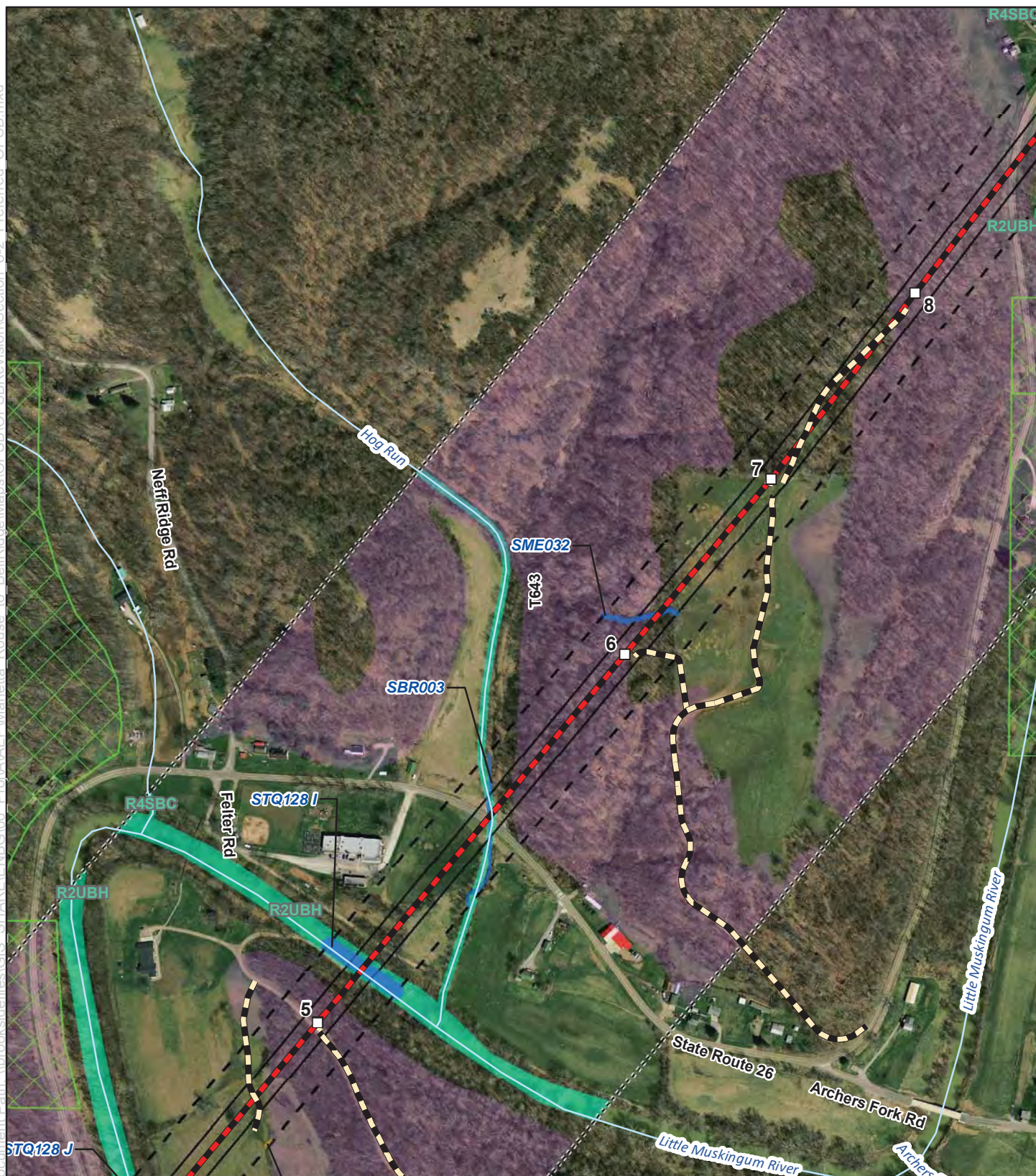


FIGURE 8-2P
Preferred Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
County, OH





Legend

- Substations
- Preferred Route
- Access Road
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland
- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale 1:6,000

June 21, 2019

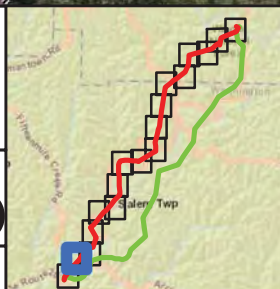
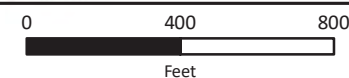
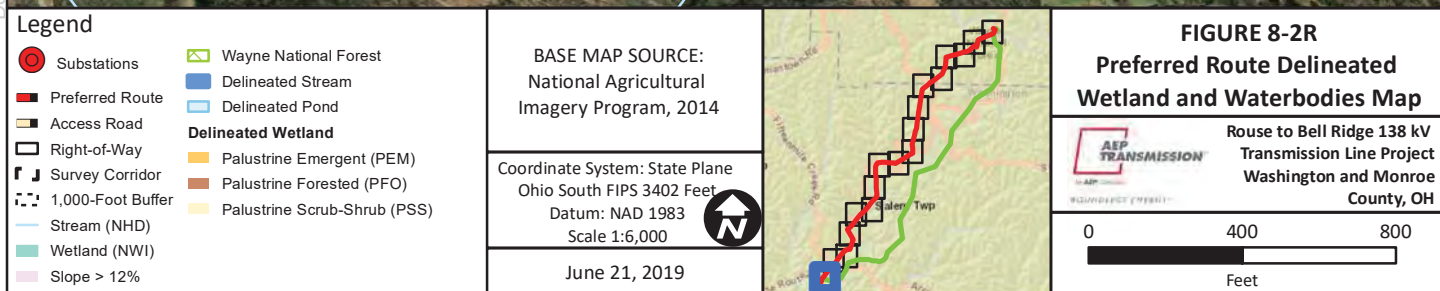
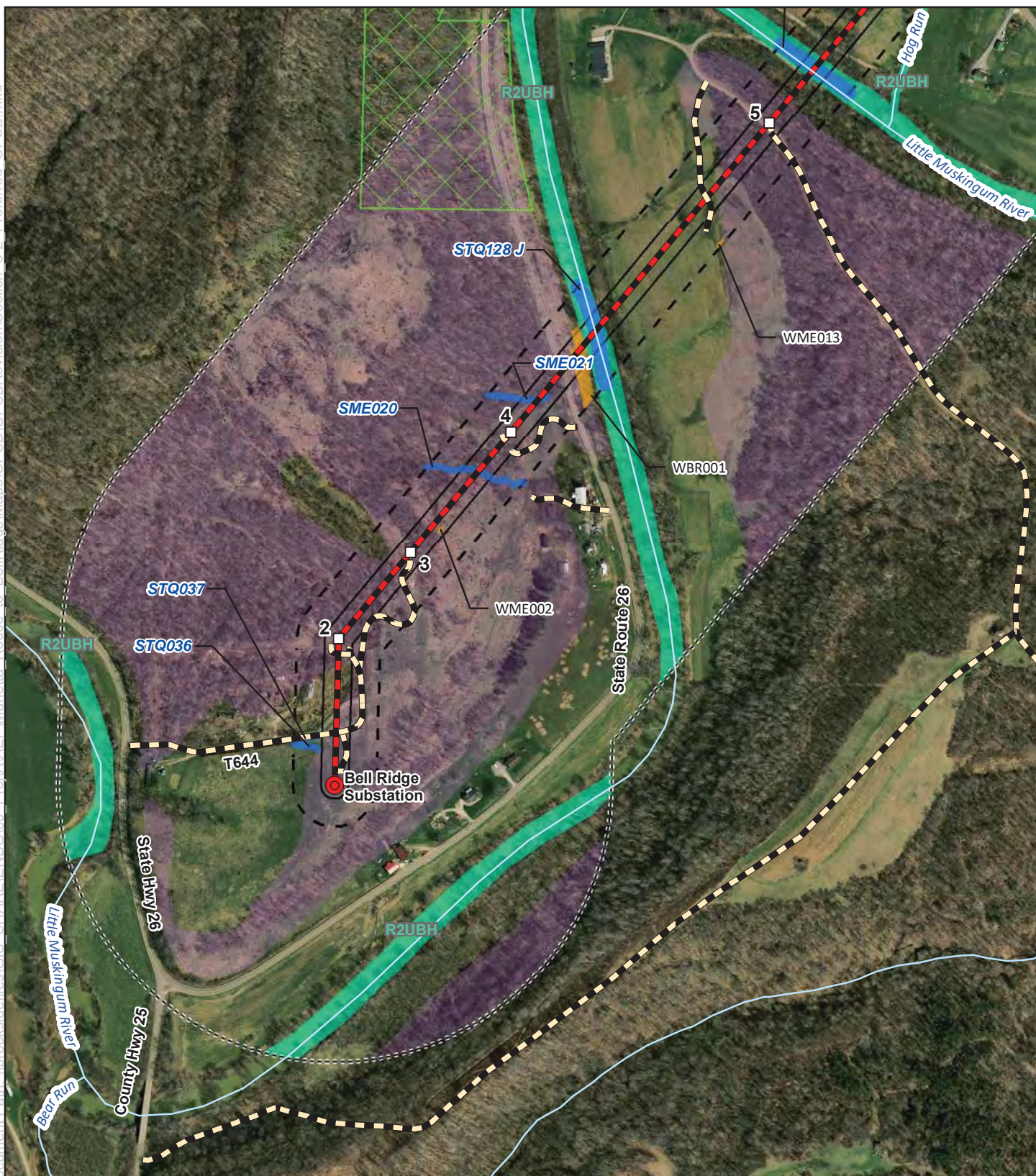


FIGURE 8-2Q
Preferred Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
County, OH







Legend

- | | |
|-------------------|------------------------------|
| Substation | Slope > 12% |
| Preferred Route | Wayne National Forest |
| Alternate Route | Delineated Stream |
| Right-of-Way | Delineated Pond |
| Survey Corridor | Delineated Wetland |
| 1,000-Foot Buffer | Palustrine Emergent (PEM) |
| Stream (NHD) | Palustrine Forested (PFO) |
| Wetland (NWI) | Palustrine Scrub-Shrub (PSS) |

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale: 1:6,000

January 03, 2018

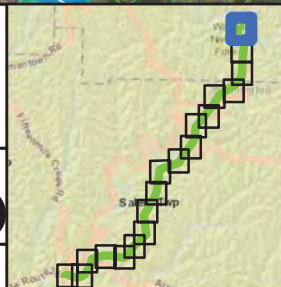
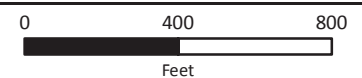


FIGURE 8-3A
Alternate Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
Counties, OH





Legend

- Substation
- Preferred Route
- Alternate Route
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland**
 - Palustrine Emergent (PEM)
 - Palustrine Forested (PFO)
 - Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale: 1:6,000

January 03, 2018

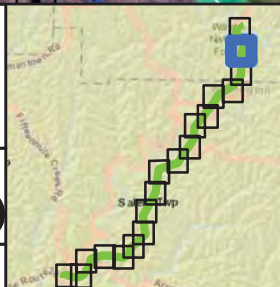
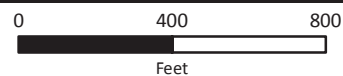


FIGURE 8-3B
**Alternate Route Delineated
Wetland and Waterbodies Map**



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
Counties, OH





Legend

- Substation
- Preferred Route
- Alternate Route
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland**
 - Palustrine Emergent (PEM)
 - Palustrine Forested (PFO)
 - Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale: 1:6,000

January 03, 2018

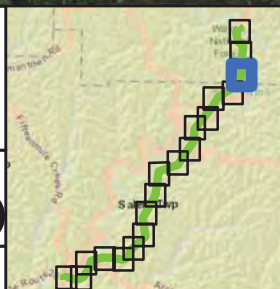
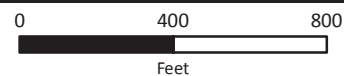


FIGURE 8-3C
Alternate Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
Counties, OH





Legend

- Substation
- Preferred Route
- Alternate Route
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland**
 - Palustrine Emergent (PEM)
 - Palustrine Forested (PFO)
 - Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
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Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale: 1:6,000

January 03, 2018

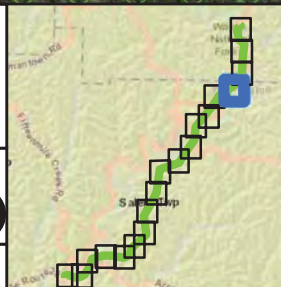
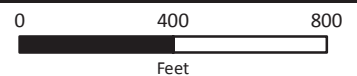
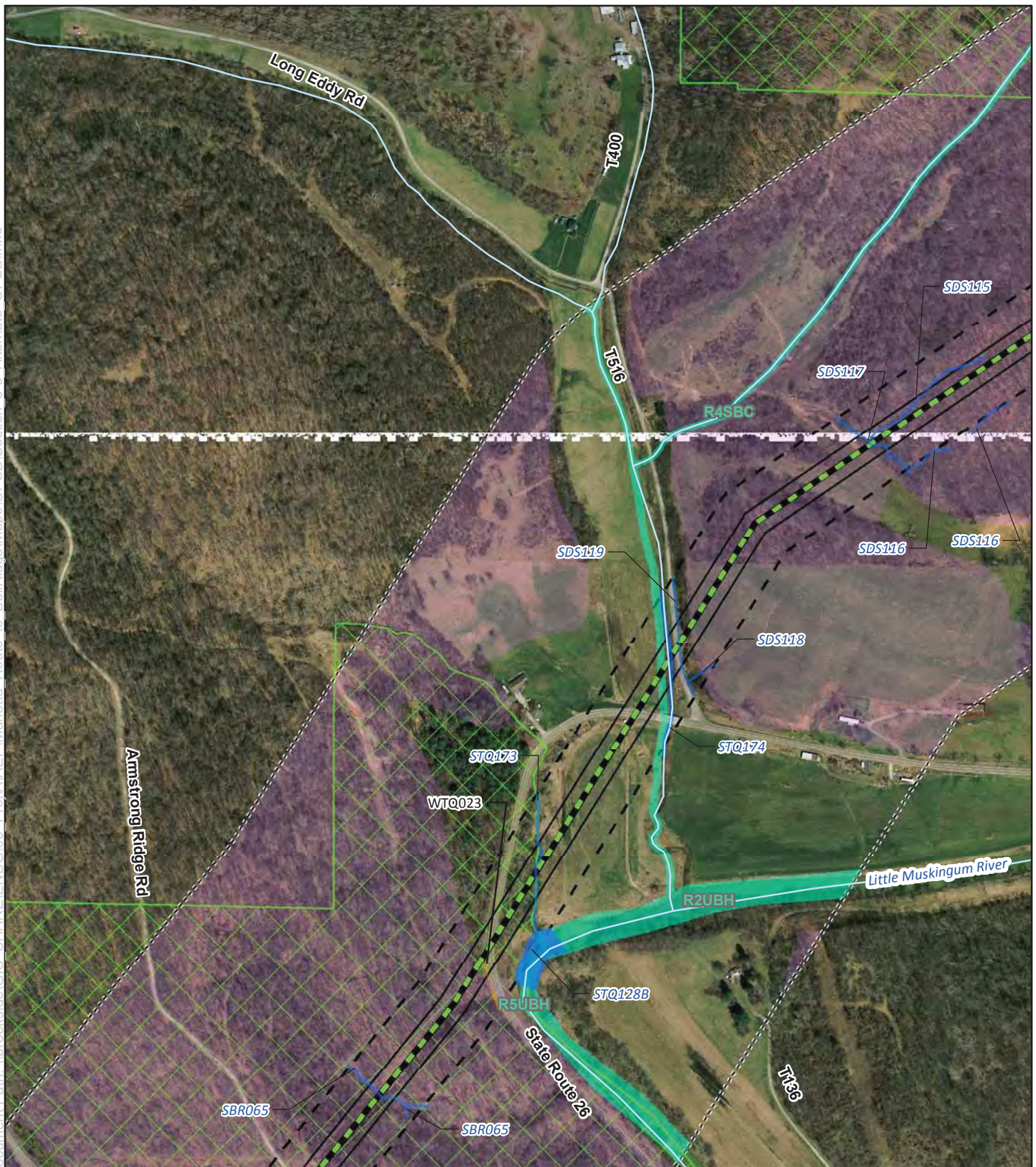


FIGURE 8-3D
**Alternate Route Delineated
Wetland and Waterbodies Map**



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
Counties, OH





Legend

- Substation
- Preferred Route
- Alternate Route
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland**
 - Palustrine Emergent (PEM)
 - Palustrine Forested (PFO)
 - Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
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Scale: 1:6,000

January 03, 2018

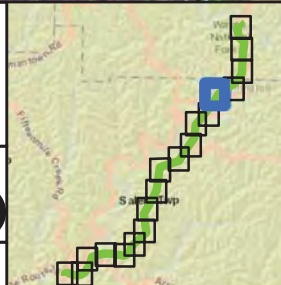
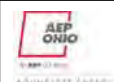
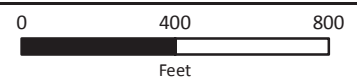
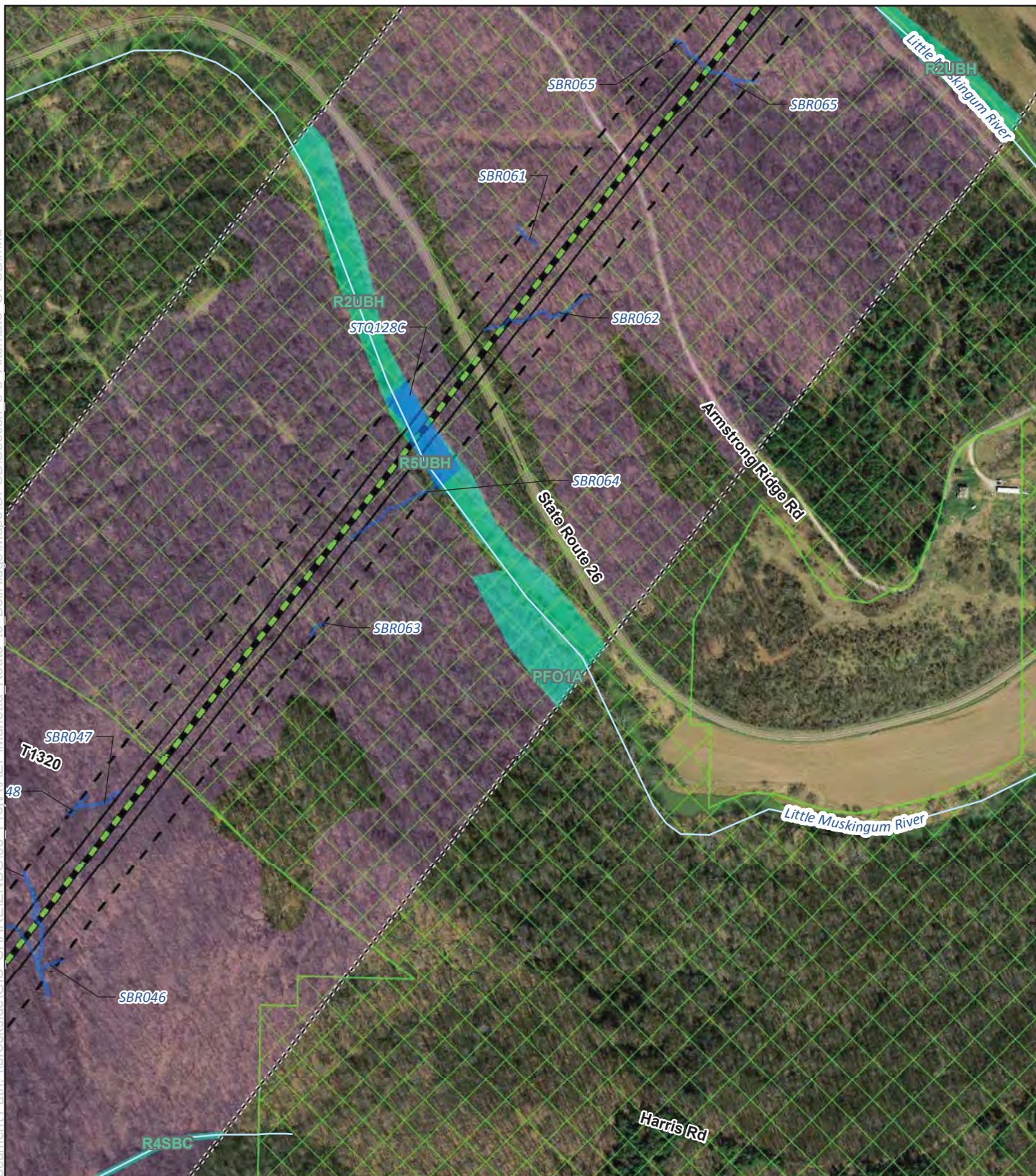


FIGURE 8-3E
**Alternate Route Delineated
Wetland and Waterbodies Map**



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
Counties, OH





Legend

- Substation
- Preferred Route
- Alternate Route
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland**
 - Palustrine Emergent (PEM)
 - Palustrine Forested (PFO)
 - Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale: 1:6,000

January 03, 2018

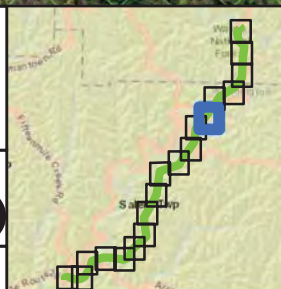
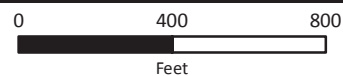
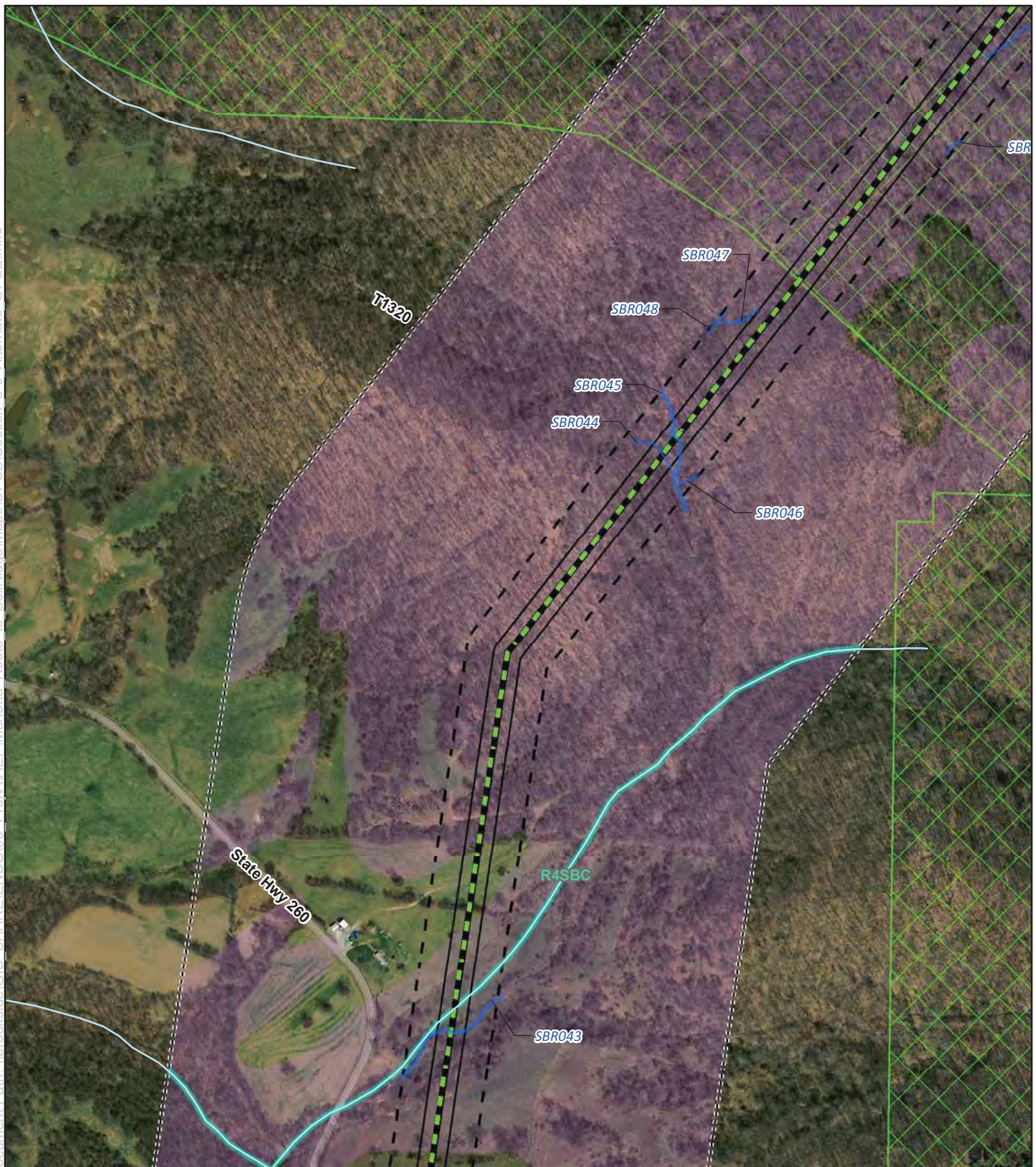


FIGURE 8-3F
Alternate Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
Counties, OH





Legend

- Substation
- Preferred Route
- Alternate Route
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland**
 - Palustrine Emergent (PEM)
 - Palustrine Forested (PFO)
 - Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
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Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale: 1:6,000

January 03, 2018

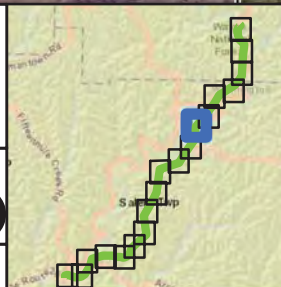
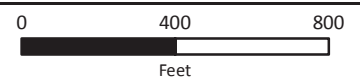
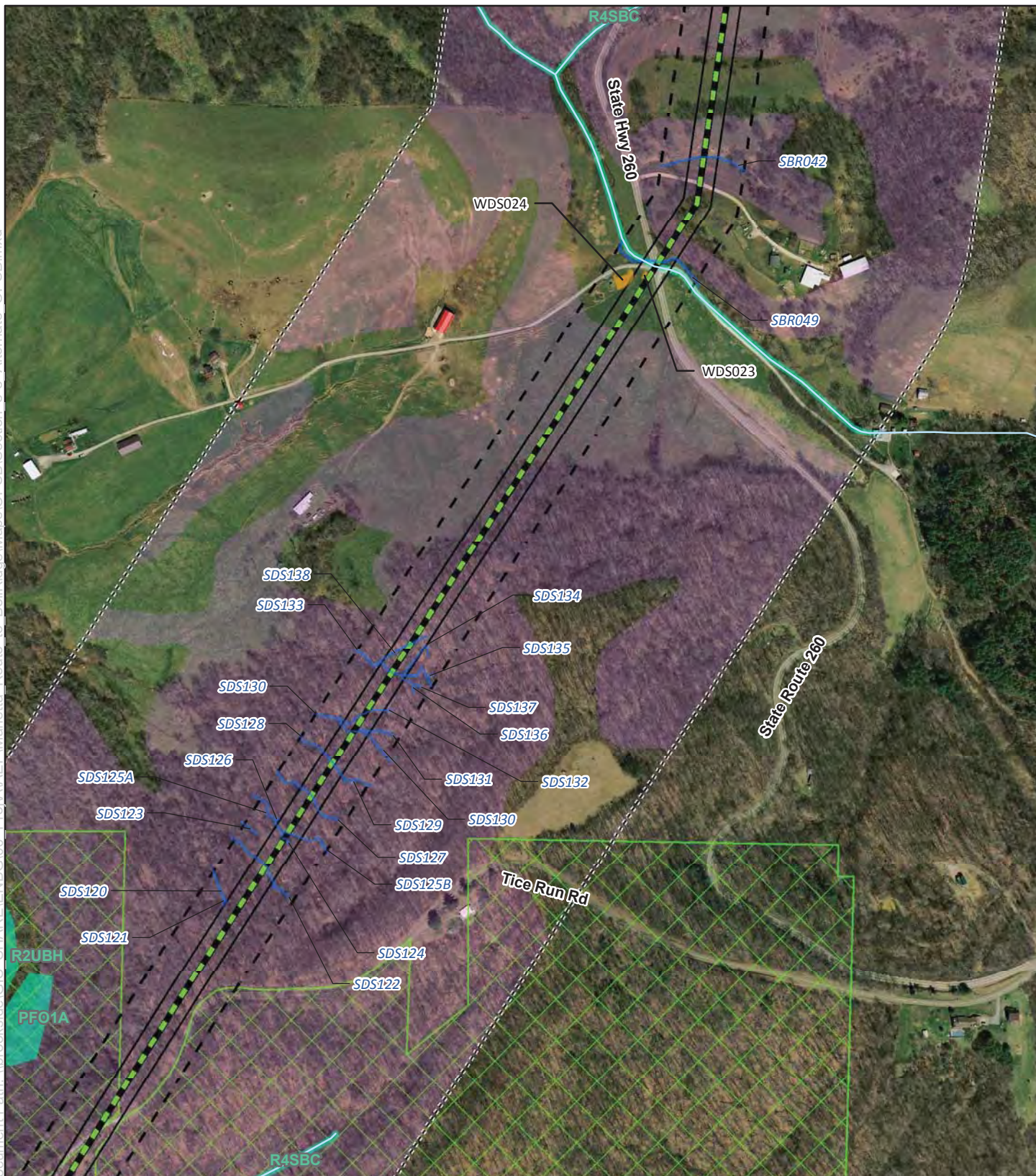


FIGURE 8-3G
**Alternate Route Delineated
Wetland and Waterbodies Map**



Route to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
Counties, OH





Legend

- Substation
- Preferred Route
- Alternate Route
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland**
 - Palustrine Emergent (PEM)
 - Palustrine Forested (PFO)
 - Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale: 1:6,000

January 03, 2018

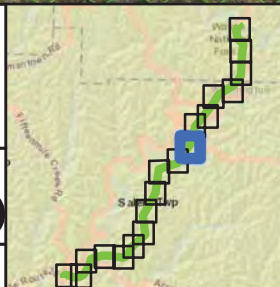
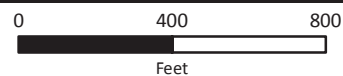
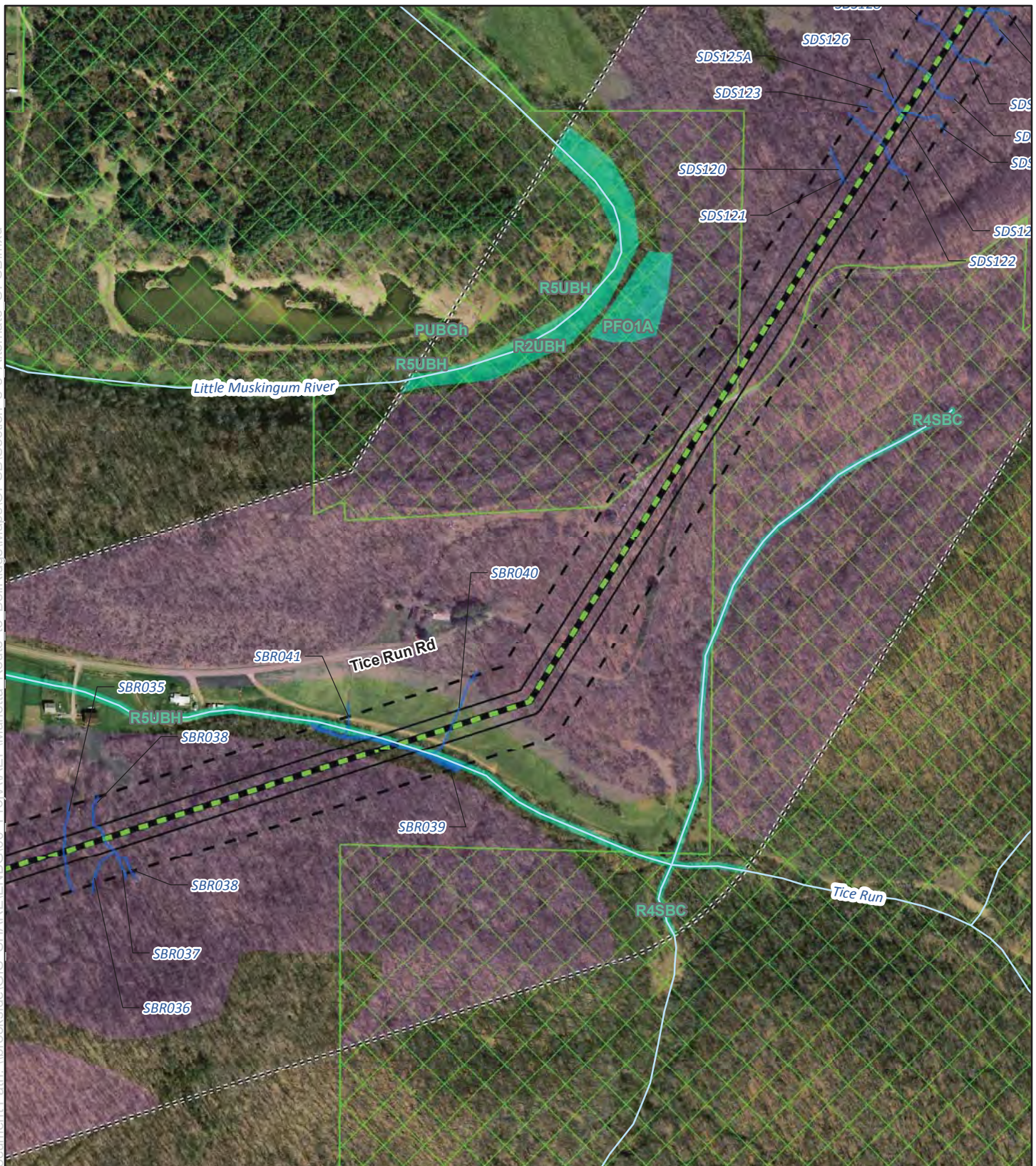


FIGURE 8-3H
Alternate Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
Counties, OH





Legend

- Substation
- Preferred Route
- Alternate Route
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland**
 - Palustrine Emergent (PEM)
 - Palustrine Forested (PFO)
 - Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale: 1:6,000

January 03, 2018

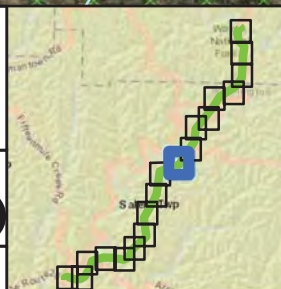
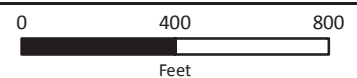


FIGURE 8-31
Alternate Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
Counties, OH





Legend

- Substation
- Preferred Route
- Alternate Route
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland**
 - Palustrine Emergent (PEM)
 - Palustrine Forested (PFO)
 - Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale: 1:6,000

January 03, 2018

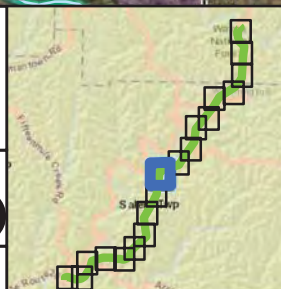
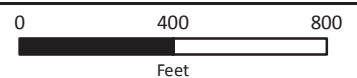
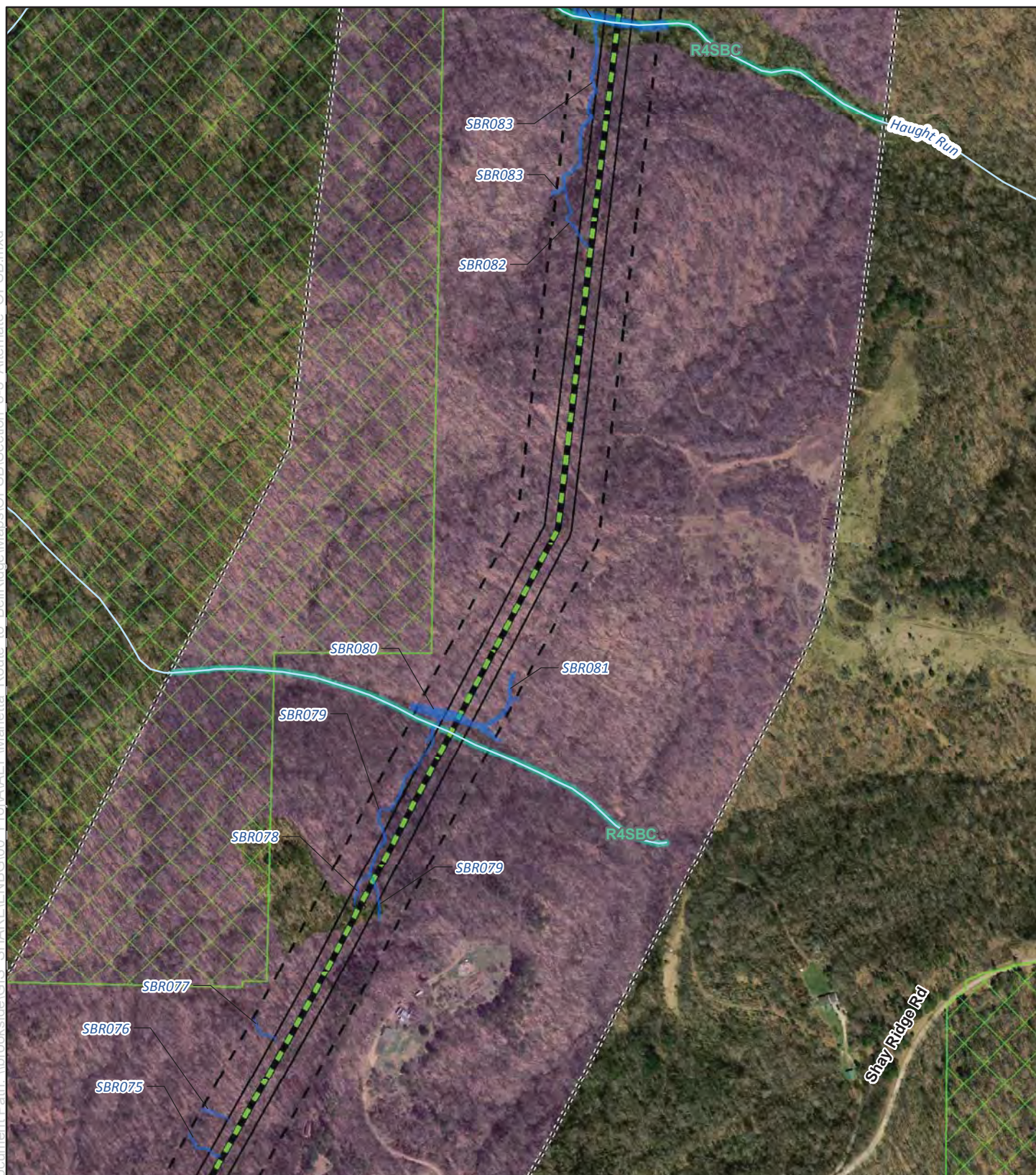


FIGURE 8-3J
**Alternate Route Delineated
Wetland and Waterbodies Map**



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
Counties, OH





Legend

- Substation
- Preferred Route
- Alternate Route
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland**
 - Palustrine Emergent (PEM)
 - Palustrine Forested (PFO)
 - Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale: 1:6,000

January 03, 2018

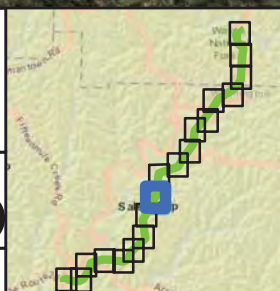
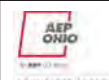
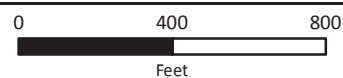


FIGURE 8-3K
Alternate Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
Counties, OH





Legend

- Substation
- Preferred Route
- Alternate Route
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland**
 - Palustrine Emergent (PEM)
 - Palustrine Forested (PFO)
 - Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
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Scale: 1:6,000

January 03, 2018

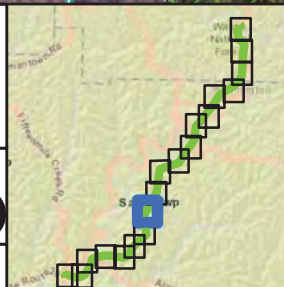
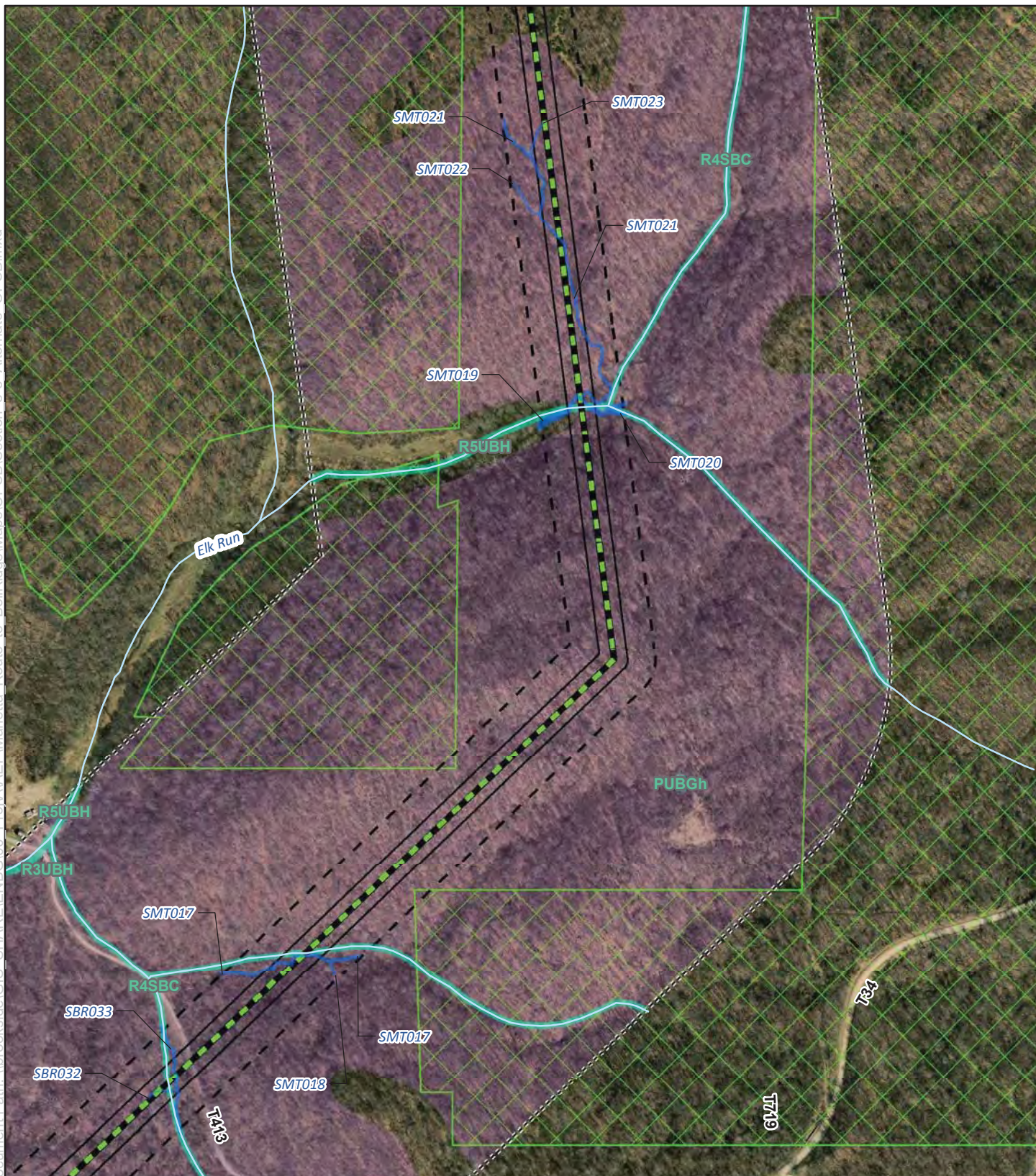


FIGURE 8-3L
**Alternate Route Delineated
Wetland and Waterbodies Map**



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
Counties, OH

0 400 800
Feet



Legend

- Substation
- Preferred Route
- Alternate Route
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland**
 - Palustrine Emergent (PEM)
 - Palustrine Forested (PFO)
 - Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
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Scale: 1:6,000

January 03, 2018

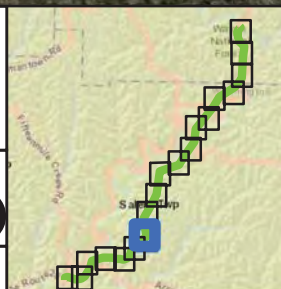
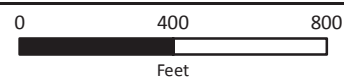


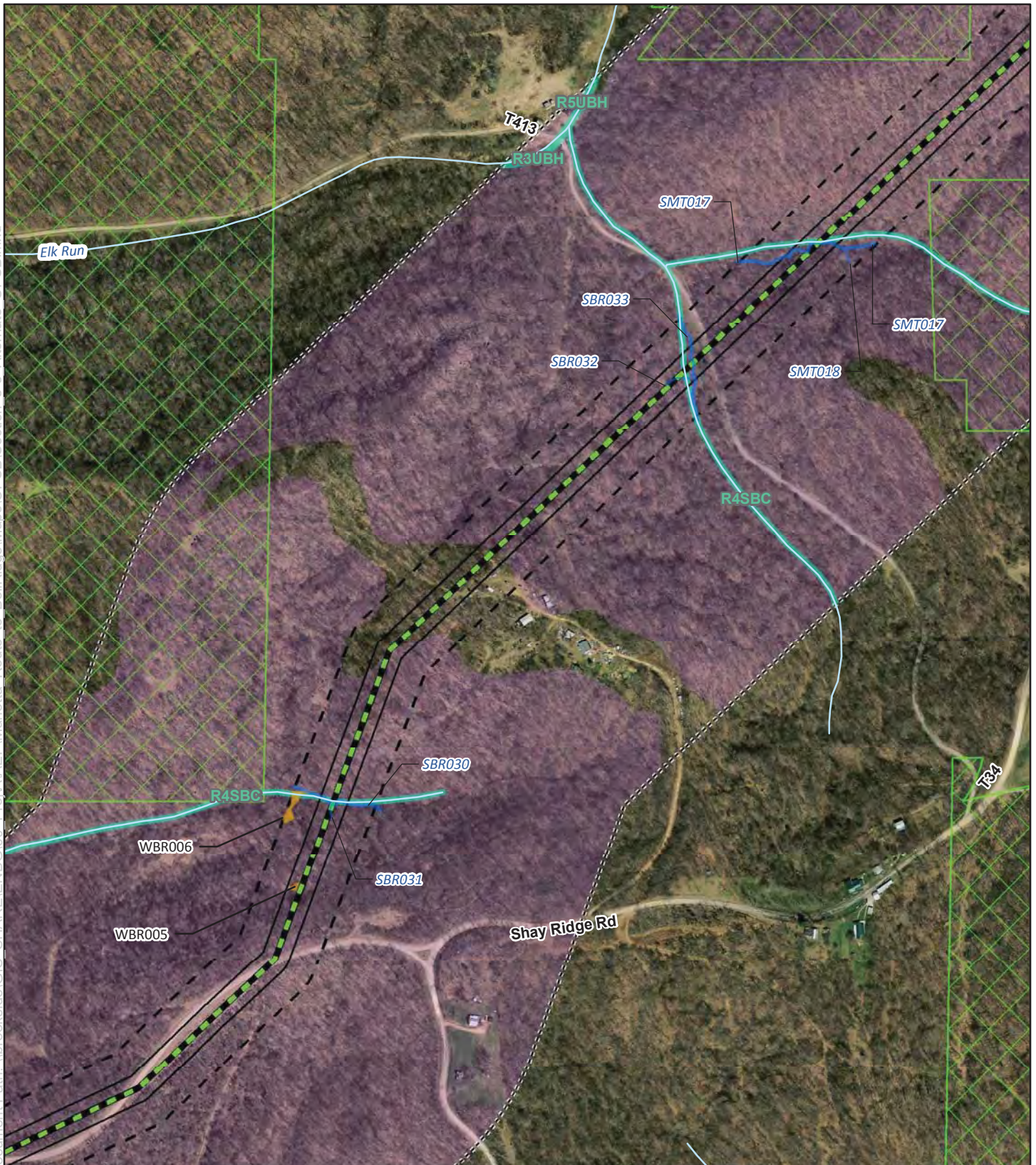
FIGURE 8-3M
Alternate Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
Counties, OH



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Legend

- Substation
- Preferred Route
- Alternate Route
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland**
 - Palustrine Emergent (PEM)
 - Palustrine Forested (PFO)
 - Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale: 1:6,000

January 03, 2018

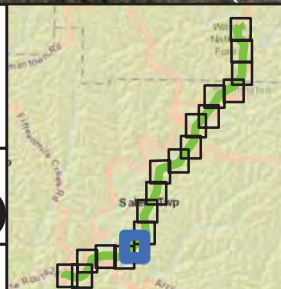
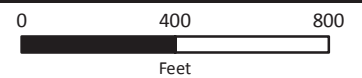


FIGURE 8-3N
**Alternate Route Delineated
Wetland and Waterbodies Map**



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
Counties, OH





Legend

- Substation
- Preferred Route
- - - Alternate Route
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland**
 - Palustrine Emergent (PEM)
 - Palustrine Forested (PFO)
 - Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
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Scale: 1:6,000

January 03, 2018

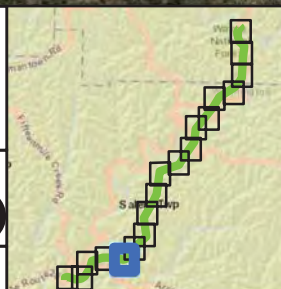
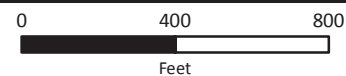


FIGURE 8-30
Alternate Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
Counties, OH



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Legend

- Substation
- Preferred Route
- Alternate Route
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland**
 - Palustrine Emergent (PEM)
 - Palustrine Forested (PFO)
 - Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale: 1:6,000

January 03, 2018

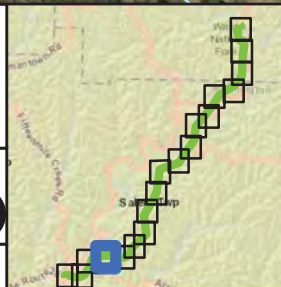
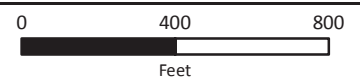
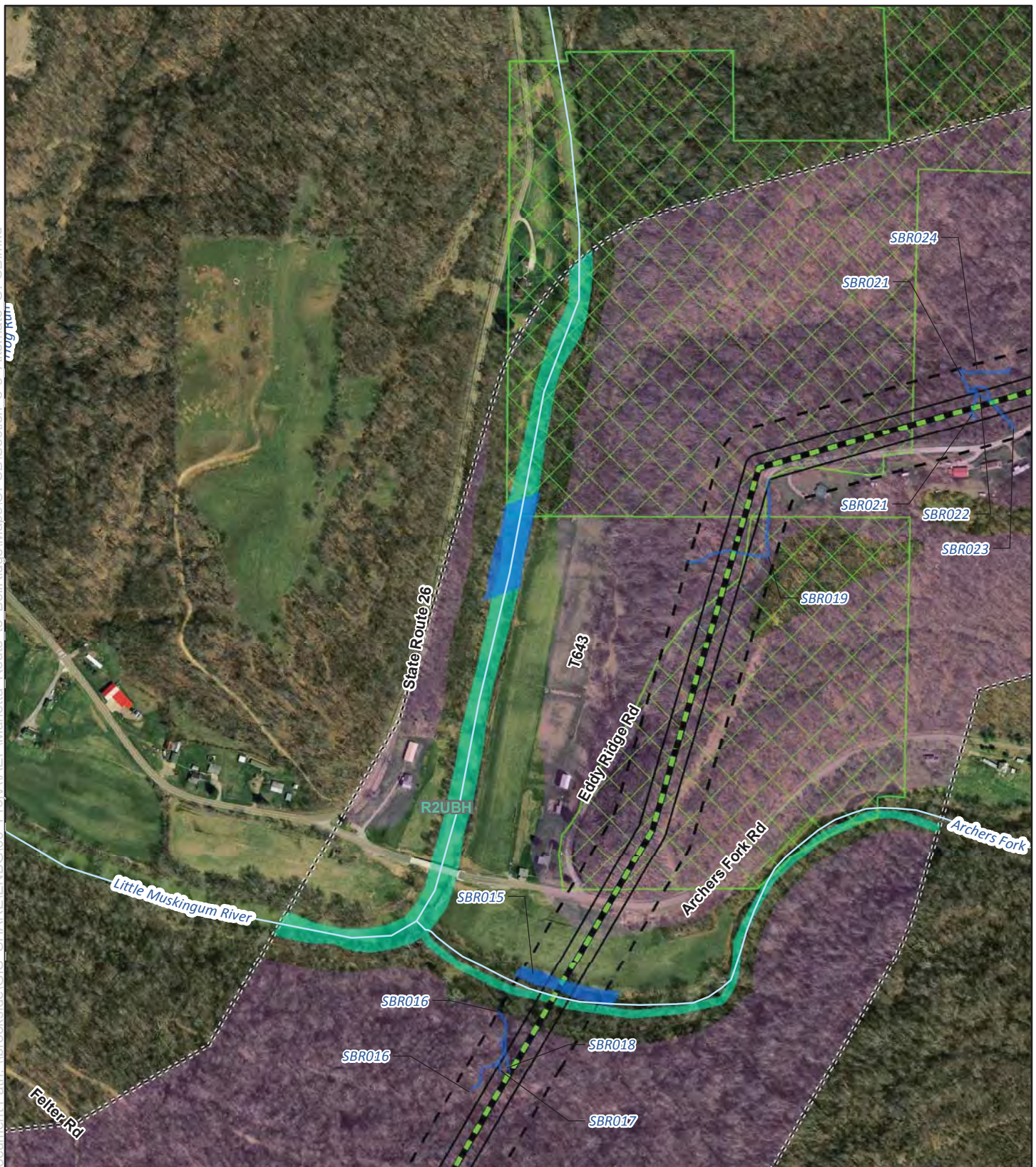


FIGURE 8-3P
Alternate Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
Counties, OH





Legend

- Substation
- Preferred Route
- Alternate Route
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland**
 - Palustrine Emergent (PEM)
 - Palustrine Forested (PFO)
 - Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale: 1:6,000

January 03, 2018

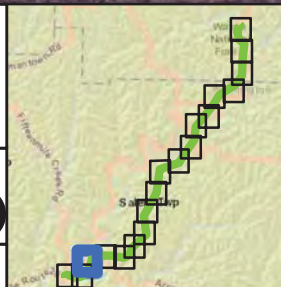
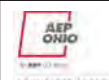
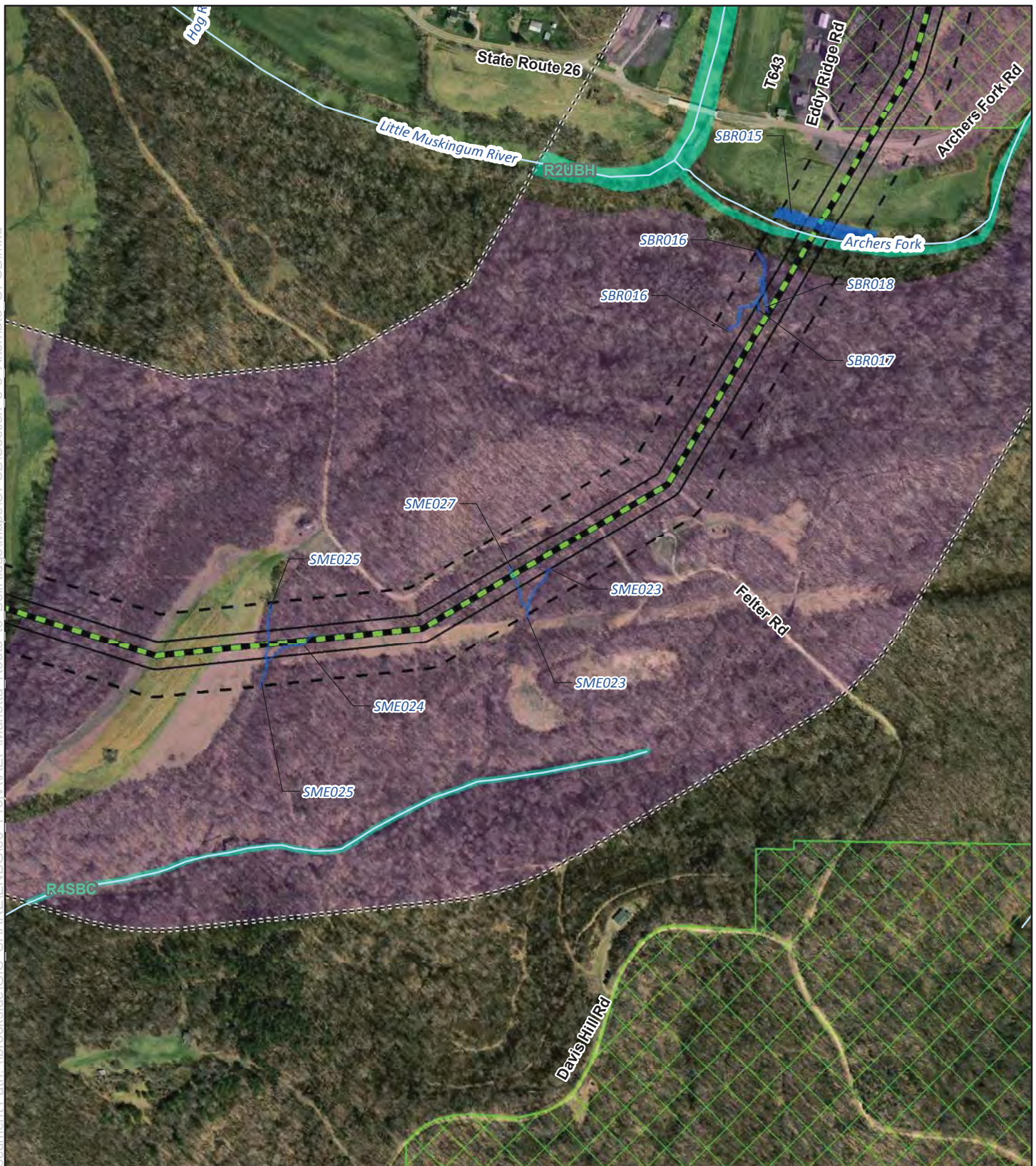


FIGURE 8-3Q
**Alternate Route Delineated
Wetland and Waterbodies Map**



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
Counties, OH

0 400 800
Feet



Legend

- Substation
- Preferred Route
- Alternate Route
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland**
 - Palustrine Emergent (PEM)
 - Palustrine Forested (PFO)
 - Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale: 1:6,000

January 03, 2018

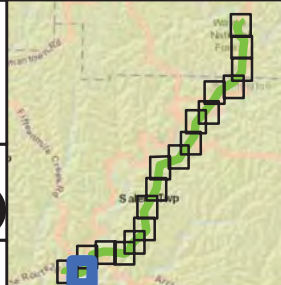
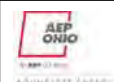
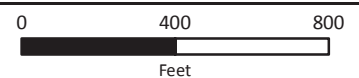


FIGURE 8-3R
**Alternate Route Delineated
Wetland and Waterbodies Map**



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
Counties, OH





Legend

- Substation
- Preferred Route
- Alternate Route
- Right-of-Way
- Survey Corridor
- 1,000-Foot Buffer
- Stream (NHD)
- Wetland (NWI)
- Slope > 12%
- Wayne National Forest
- Delineated Stream
- Delineated Pond
- Delineated Wetland**
 - Palustrine Emergent (PEM)
 - Palustrine Forested (PFO)
 - Palustrine Scrub-Shrub (PSS)

BASE MAP SOURCE:
National Agricultural
Imagery Program, 2014

Coordinate System: State Plane
Ohio South FIPS 3402 Feet
Datum: NAD 1983
Scale: 1:6,000

January 03, 2018

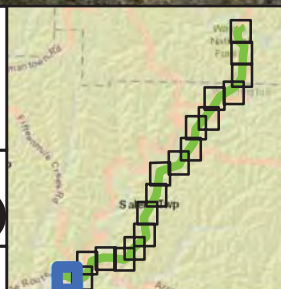
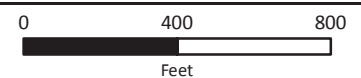


FIGURE 8-3S
Alternate Route Delineated
Wetland and Waterbodies Map



Rouse to Bell Ridge 138 kV
Transmission Line Project
Washington and Monroe
Counties, OH



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in

Case No(s). 19-1307-EL-BTA

Summary: Application In the Matter of the Amendment Application of AEP Ohio Transmission Company, Inc. for a Certificate of Environmental Compatibility and Public Need for the Rouse-Bell Ridge 138 kV Transmission Line Project electronically filed by Ms. Christen M. Blend on behalf of AEP Ohio Transmission Company, Inc.