

LETTER OF NOTIFICATION COLE 345/138 KV STATION PROJECT

Appendix D Ecological Features Inventory Report
June 30, 2016

Appendix D Ecological Features Inventory Report

**Cole 345/138 kV Station Project,
Franklin County, Ohio**

**Ecological Features Inventory
Report**



Prepared for:
American Electric Power
700 Morrison Road
Gahanna, OH 43230

Prepared by:
Stantec Consulting Services Inc.
11687 Lebanon Road
Cincinnati, Ohio 45241

June 2, 2016

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FRANKLIN COUNTY, OHIO

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1.0 INTRODUCTION

American Electric Power (AEP) is proposing to construct a new 11.48 acre substation off of Cole Road, Galloway, Franklin County, Ohio (Figure 1, Appendix A). The Cole Station Project area, consisting of the 136.6 acre AEP property, (Figure 1, Appendix A) was surveyed for wetlands, waterbodies, and potential threatened, endangered, and rare species habitat by Stantec Consulting Services Inc. (Stantec) biologists on March 2, 2016.

2.0 METHODS

2.1 WETLAND DELINEATION

Prior to conducting field surveys, a desktop review of the Project area was conducted using U.S. Geological Survey (USGS) topographic mapping, National Wetlands Inventory (NWI) maps, and U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil surveys, and aerial imagery mapping. Stantec completed a wetland delineation study in accordance with the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest* (Version 2.0) (USACE 2012). Wetland categories were classified using the Ohio Rapid Assessment Method (ORAM) for Wetlands Version 5.0 (Mack 2001).

2.2 STREAM DELINEATION

Streams that demonstrated a defined channel (bed and bank), ordinary high water mark (OHWM), and the disturbance of terrestrial vegetation were delineated within the Project area (USACE 2005). Delineated streams were classified as ephemeral, intermittent, or perennial per definitions in the Federal Register/Vol. 67, No. 10 (2002). Functional assessment of streams within the Project area was based on completion of the Ohio Environmental Protection Agency's (OEPA) Headwater Habitat Evaluation Index (HHEI) and/or Qualitative Habitat Evaluation Index (QHEI) (OEPA 2006, 2012). The centerline of each waterway was identified and surveyed using a handheld sub-meter accuracy GPS unit and mapped with GIS software. Upland drainage features were also delineated within the Project area. These features lack a continuously defined bed, bank, and ordinary high water mark.

2.3 RARE SPECIES

Prior to conducting the field surveys, Stantec contacted the Ohio Department of Natural Resources (ODNR) and the U.S. Fish and Wildlife Service (USFWS) for information regarding rare, threatened, or endangered species and their habitats of concern within the vicinity of the Project area (Appendix B – Agency Correspondence). To assess potential impacts to rare, threatened, or endangered species, Stantec scientists conducted a pedestrian reconnaissance of the proposed Project area, collected information on existing habitats within the Project area,

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and assessed the potential for presence of habitats to be used by species identified by these agencies.

3.0 RESULTS

Stantec completed field surveys within the Project area on March 2, 2016, for wetlands, waterbodies, and threatened and endangered species or their habitats. Figure 2 (Appendix A) shows the wetlands and waterbodies identified by Stantec within the Project area. Figure 3 (Appendix A) shows the habitats identified within the Project area during the rare, threatened, and endangered species habitat assessment surveys. Representative photos of the wetlands, streams, open water feature, upland drainage features, and other habitats identified within the Project area are included in Appendix C of this report (photo locations are shown on Figures 2 and 3, Appendix A). Completed HHEI and QHEI data forms are included in Appendix D.

3.1 TERRESTRIAL HABITAT

Table 1. Vegetation Communities and Land Cover Found within the Cole Station Project Area, Franklin County, Ohio

Vegetative Communities and Land Cover Types within the Study Area:	Degree of Human-Related Ecological Disturbance	Unique, Rare, or High Quality?	Acres Within Project area	Acres Within Station Footprint
Agricultural Land	Extreme Disturbance/ Ruderal Community (dominated by opportunistic invaders or native highly tolerant taxa)	No	133.5	17.89
Mesophytic (Deciduous) Forest	Intermediate Disturbance (dominated by plants that typify a stable phase of a native community that persists under some disturbance)	No	2.49	0
Road Right-of-Way	Not Applicable	No	0.61	0
Total			136.6	17.89

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3.2 STREAMS

Table 2. Summary of Stream Resources Found within the Cole Station Project Area, Franklin County, Ohio

Stream Name	Photo Numbers ¹	Receiving Waters	Cowardin Stream Classification	Stream Flow Regime ²	Stream Evaluation Method	Stream Evaluation Score	OHWB Width (feet) ³	Delineated Length (feet)	Length Within Station Footprint
Stream 1 (S-MKJN-01)	1-2	Hamilton Ditch	R4SB3/5	Ephemeral	HHEI	46	3	56	0
Stream 2 (Hamilton Ditch) (S-MKJN-02)	3-4	Hellbranch Run	R4SB3/4	Perennial	QHEI	61	18	1,337	0
¹ Appendix C – Representative Photographs									
² Stream classification is based on Federal Register/Vol. 67, No. 10 (2002)									
³ OHWB = Ordinary High Water Mark									

3.3 RARE, THREATENED, OR ENDANGERED SPECIES HABITAT

Table 3. Summary of Potential Ohio State-Listed Species within the Cole Station Project area, Franklin County, Ohio

Common Name	Scientific Name	State ¹ Listing	Known to Franklin County?	Known Within One Mile of Project Area? ²	Habitat Preference	Habitat Observed in Project Area?	Impact Assessment	ODNR Comments/ Recommendations
Butterfly								
Regal Fritillary	<i>Speyeria idalia</i>	E	Yes	No	Occurs in tall grass prairie remnants (Butterflies and Moths of North America 2016).	No	No suitable habitat occurs in within Project area.	No comment
Mammals								
Indiana Bat	<i>Myotis sodalis</i>	E	Yes	No	This bat is likely distributed throughout Ohio, though not uniformly. It generally forages in openings and edge habitats within upland and floodplain forest, but they also forage over old fields and pastures (Brack et al. 2010). Natural roost structures include trees (live or dead) with exfoliating bark, and exposure to solar radiation. Other important factors for roost trees include relative location to other trees, a permanent water source and foraging areas. Dead trees are preferred as maternity roosts; however, live trees are often used as secondary roosts depending on microclimate conditions (USFWS 2007, USFWS 2015). Roosts have occasionally been cracks and hollows in trees, utility poles, buildings, and bat boxes. Primarily use caves for hibernacula, although are also known to hibernate in abandoned underground mines (Brack et al. 2010).	Yes	Suitable habitat present in the Project area, no trees expected to be cut for station expansion; no impacts expected.	Tree should be conserved where possible, or cut between October 1 and March 31. Net surveys between June 1 and August 15 should be completed prior to summer cutting. If no tree removal is proposed, this project is not likely to impact this species.
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	SC	Yes	No	The northern long-eared bat is found throughout Ohio. This species generally forages in forested habitat and openings in forested habitat and utilizes cracks, cavities, and loose bark within live and dead trees, as well as buildings as roosting habitat (Brack et al. 2010; USFWS 2016). The species utilizes caves and abandoned mines as winter hibernacula. Various sized caves are used providing they have a constant temperature, high humidity, and little to no air current (Brack et al. 2010).	Yes	Suitable habitat present in the Project area, no trees expected to be cut for station expansion; no impacts expected.	No comment
Big Brown Bat	<i>Eptesicus fuscus</i>	SC	Yes	No	During warm months, occurs in variety of habitats including near water, foraging over fields, in forest openings and in urban or suburban areas. Roosting sites can include buildings of various types, under bridges, in bat houses, etc. and winter hibernation sites can include mines and caves (ODNR Division of Wildlife 2016b).	Yes	Suitable habitat present in the Project area, no trees expected to be cut for station expansion; no impacts expected.	No comment
Silver-haired Bat	<i>Lasionycteris noctivagans</i>	SC	Yes	No	Prefers mature northern forests with ponds and/or streams nearby. They roost in trees year round (ODNR Division of Wildlife 2016s).	Yes	Suitable habitat present in the Project area, no trees expected to be cut for station expansion; no impacts expected.	No comment

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Eastern Red Bat	<i>Lasiurus borealis</i>	SC	Yes	No	These are solitary roosting bats and roost sites include trees, shrubs, and clusters of weeds in summer months. They can hibernate in trees and tree cavities (ODNR Division of Wildlife 2016g).	Yes	Suitable habitat present in the Project area, no trees expected to be cut for station expansion; no impacts expected.	No comment
Hoary Bat	<i>Lasiurus cinereus</i>	SC	Yes	No	Hoary bats roost in the foliage of deciduous and coniferous trees approximately 3-5 m (10-16 ft) from the ground. The roost positions are open from below but otherwise surrounded by dense foliage (SUNY ESF 2016a).	Yes	Suitable habitat present in the Project area, no trees expected to be cut for station expansion; no impacts expected.	No comment
Little Brown Bat	<i>Myotis lucifugus</i>	SC	Yes	No	In the winter months, these bats use caves, mines, etc. for hibernation and in warm months, they use tree cavities, man-made structures, etc. for roosting (ODNR Division of Wildlife 2016i).	Yes	Suitable habitat present in the Project area, no trees expected to be cut for station expansion; no impacts expected.	No comment
Tri-colored Bat	<i>Perimyotis subflavus</i>	SC	Yes	No	In the winter months, these bats use caves, mines, etc. for hibernation and in warm months, they use tree cavities, man-made structures such as bridges, barns, sheds, etc. for roosting (ODNR Division of Wildlife 2016w).	Yes	Suitable habitat present in the Project area, no trees expected to be cut for station expansion; no impacts expected.	No comment
Woodland Vole	<i>Microtus pinetorum</i>	SC	Yes	No	Occurs in deciduous and mixed forests where soils are loose and covered in thick leaf litter (SUNY ESF 2016b).	No	No suitable habitat occurs in within Project area.	No comment
Deer Mouse	<i>Peromyscus maniculatus</i>	SC	Yes	No	Occurs in nearly every dry land habitat within its range, very adaptable. They can be found in forests, grasslands, shrub lands, agriculture fields, and deserts (ODNR Division of Wildlife 2016d).	Yes	Some suitable habitat occurs within Project area. Impacts are possible.	No comment
Southern Bog Lemming	<i>Synaptomys cooperi</i>	SC	Yes	No	Occurs in low, damp bogs and meadows with heavy vegetative growth (ODNR Division of Wildlife 2016t).	No	No suitable habitat occurs in within Project area.	No comment
American Badger	<i>Taxidea taxus</i>	SC	Yes	No	Occurs in grasslands with a preference for short grass areas such as pastures. They burrow in the ground (ODNR Division of Wildlife 2016a).	No	No suitable habitat occurs in within Project area.	No comment
Birds								
Upland Sandpiper	<i>Bartramia longicauda</i>	E	Yes	No	Breed in grasslands, pastures, and unkempt agricultural land with a mosaic of old fields and crop lands, and sometimes the grassy expanses of airports (ODNR Division of Wildlife 2016y)	No	No impact due to lack of suitable habitat within the Project area.	If no suitable habitat will be impacted, this project is not likely to impact this species.
Sharp-shinned Hawk	<i>Accipiter striatus</i>	SC	Yes	No	Nests are platforms made of twigs and bark; typically located in conifer trees and high off the ground (ODNR Division of Wildlife 2015).	No	No suitable habitat occurs in within	No comment

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							Project area.	
Northern Bobwhite	<i>Colinus virginianus</i>	SC	Yes	No	Northern bobwhite is a forest edge species and historically in Ohio, they lived where woodlands and prairie overlap or in areas of cleared timber (ODNR Division of Wildlife 2016g).	No	No suitable habitat occurs in within Project area.	No comment
Cerulean Warbler	<i>Dendroica cerulea</i>	SC	Yes	No	Breeding occurs in mature deciduous forests. They prefer large tracts of forests of at least 50-75 acres and oak-hickory forests. They normally avoid small, isolated tracts of forest. They tend to breed in the interior of forests but have also been found near the edge (ODNR Division of Wildlife 2016c).	No	No suitable habitat occurs in within Project area.	No comment
Prothonotary Warbler	<i>Protonotaria citrea</i>	SC	Yes	No	Nests are built within cavities and inhabit wooded wetlands (ODNR Division of Wildlife 2016o).	No	No suitable habitat occurs in within Project area.	No comment
Amphibians								
Eastern Hellbender	<i>Cryptobranchus alleganiensis alleganiensis</i>	E	Yes	No	Found mostly in unglaciated (south and east) Ohio, hellbenders prefer large, swift flowing streams where they hide during the day under large rocks. It typically feeds on crayfish, snails, minnows, insects, and worms (ODNR Division of Wildlife 2016a)	No	No suitable habitat occurs in within Project area.	Pending Agency Response Submitted on March 8, 2016.
Midland Mud Salamander	<i>Pseudotriton montanus diastictus</i>	T	Yes	No	This salamander is often observed under large, flat stones. They prefer muddy areas (ODNR Division of Wildlife 2016j)	No	No suitable habitat occurs in within Project area.	Pending Agency Response Submitted on March 8, 2016.
Eastern Cricket Frog	<i>Acris crepitans crepitans</i>	SC	Yes	No	This frog inhabits weed-choked permanent ponds and streams (ODNR Division of Wildlife 2016e).	No	No suitable habitat occurs in within Project area.	Pending Agency Response Submitted on March 8, 2016.
Four-toed Salamander	<i>Hemidactylium scutatum</i>	SC	Yes	No	This salamander lives close to boggy woodland ponds and swamps where it hides beneath logs, rocks, slabs or bark, and even leaves (ODNR Division of Wildlife 2016h).	No	No suitable habitat occurs in within Project area.	Pending Agency Response Submitted on March 8, 2016.
Mussels								
Fanshell	<i>Cyprogenia stegaria</i>	E	Yes	No	This mussel is found in medium to large streams with gravel substrates and strong current, in both deep and shallow water (NatureServe 2016c).	Yes	No in-water work is proposed; no impacts to fanshell are anticipated.	No comment
Butterfly	<i>Ellipsaria lineolata</i>	E	Yes	No	This mussel is found in large rivers and stretches with pronounced current and substrate of course sand and gravel. It can also be found in deep impoundment areas (NatureServe 2016d).	Yes	No in-water work is proposed; no impacts to butterfly are anticipated.	No comment
Elephant-ear	<i>Elliptio crassidens crassidens</i>	E	Yes	No	This mussel is found in muddy sand, sand, and rocky substrates in moderate currents. In some areas, it is common in large creeks to rivers with moderate to swift currents primarily on sand and limestone or rock substrates (NatureServe 2016e).	Yes	No in-water work is proposed; no impacts to elephant-ear are anticipated.	Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.
Purple Catpaw	<i>Epioblasma obliquata obliquata</i>	E	Yes	No	This mussel can be found in medium to large rivers with moderate gradient and riffles. Substrates can be sand to gravel (NatureServe 2016f).	Yes	No in-water work is proposed; no impacts to purple catpaw are anticipated.	Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.
Northern Riffleshell	<i>Epioblasma torulosa rangiana</i>	E	Yes	No	Habitat includes riffles and firmly packed substrates of fine to coarse gravel. This mussel needs highly oxygenated water (NatureServe 2016g).	Yes	No in-water work is proposed; no impacts to northern	Due to the location, and that there is no in-water work proposed in a perennial

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							riffleshell are anticipated.	stream of sufficient size, this project is not likely to impact this species.
Snuffbox	<i>Epioblasma triquetra</i>	E	Yes	No	Snuffbox is commonly found buried in the substrate. It is found in a wide range of particle sized substrates, however, swift shallow riffles with sand and gravel are where it is typically found (Parmalee and Bogan 1998, Watters et al. 2009).	Yes	No in-water work is proposed; no impacts to snuffbox are anticipated.	Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.
Ebonyshell	<i>Reginaia (Fusconaia) ebena</i>	E	Yes	No	Inhabits large rivers and prefers swift water and stable sand or gravel shoals. Coarse sand and gravel substrate provides the most suitable habitat. It can occur at depths of 10-15 feet with current associated (NatureServe 2016i).	Yes	No in-water work is proposed; no impacts to ebonyshell are anticipated.	No comment
Long-solid	<i>Fusconaia subrotunda subrotunda</i>	E	Yes	No	Occurs in medium to large rivers in sand and gravel with strong current (NatureServe 2016j).	Yes	No in-water work is proposed; no impacts to long-solid are anticipated.	Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.
Pocketbook	<i>Lampsilis ovata</i>	E	Yes	No	This mussel is a generalist, occurring in different sized streams/rivers. Typically occurs in moderate to strong current with substrates of gravel and coarse sand (NatureServe 2016m).	Yes	No in-water work is proposed; no impacts to sharp-ridged pocketbook are anticipated.	Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.
Washboard	<i>Megaloniaias nervosa</i>	E	Yes	No	Occurs in large rivers, typically in main channel or overbank areas of reservoirs. It is found in areas of slow current with muddy to coarse gravel substrates and water can be up to 50 feet (NatureServe 2016o).	Yes	No in-water work is proposed; no impacts to washboard are anticipated.	Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.
Clubshell	<i>Pleurobema clava</i>	E	Yes	No	The clubshell is found in small to medium rivers, but occasionally found in large rivers, especially those having large shoal areas. It is generally found in clean, coarse sand and gravel in runs, often just downstream of a riffle and cannot tolerate mud or slackwater conditions (USFWS 1994). Badra (2001) found the clubshell in gravel/sand substrate, runs having laminar flow (0.06-0.25 m/sec) within small to medium sized streams.	Yes	No in-water work is proposed; no impacts to clubshell are anticipated.	Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.
Ohio pigtoe	<i>Pleurobema cordatum</i>	E	Yes	No	Occurs in medium to large rivers directly above riffles of gravel, cobble, and boulder, but occasionally in muddy or sandy or gravel habitats at great depths (NatureServe 2016q).	Yes	No in-water work is proposed; no impacts to Ohio pigtoe are anticipated.	Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.
Rabbitsfoot	<i>Quadrula cylindrica cylindrica</i>	E	Yes	No	The typical habitat for this species is small to medium rivers with moderate to swift currents, and in smaller streams it inhabits bars or gravel and cobble close to the fast current. Found in medium to large rivers in sand and gravel shoals (NatureServe 2016s).	Yes	No in-water work is proposed; no impacts to rabbitsfoot are anticipated.	Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.

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Wartyback	<i>Quadrula nodulata</i>	E	Yes	No	Occurs in medium to large rivers generally in pools with depths up to 15-18 feet. Substrates include sand and mud (NatureServe 2016t).	Yes	No in-water work is proposed; no impacts to wartyback are anticipated.	No comment
Rayed Bean	<i>Villosa fabalis</i>	E	Yes	No	Habitat includes gravel or sandy substrate, especially in areas of thick roots of aquatic plants, increase substrate stability (Butler 2002, Parmalee and Bogan 1998). Rayed bean can be associated with shoal or riffle areas, and in shallow, wave-washed areas of glacial lakes. It is generally found in smaller, headwater creeks, but sometimes in larger rivers and open-water bodies. It can occur in shallow riffles or in lakes with water depths up to four feet. It has been found in riffles, generally in vegetation, and deeply buried in sand and gravel bound together by roots (Parmalee and Bogan 1998).	Yes	No in-water work is proposed; no impacts to rayed bean are anticipated.	Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.
Black Sandshell	<i>Ligumia recta</i>	T	Yes	No	Typically found in medium-sized to large rivers in locations with strong current and substrates of coarse sand and gravel with cobbles in water depths from several inches to six feet or more. Found in sand, gravel, or silt (NatureServe 2016k).	Yes	No in-water work is proposed; no impacts to black sandshell are anticipated.	Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.
Threehorn Wartyback	<i>Obliquaria reflexa</i>	T	Yes	No	Habitat includes large rivers with moderately strong current and stable substrate of gravel, sand, and mud (NatureServe 2016p).	Yes	No in-water work is proposed; no impacts to threehorn wartyback are anticipated.	Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.
Fawnsfoot	<i>Truncilla donaciformis</i>	T	Yes	No	Occurs in medium to large sized streams and rivers at variable depths. Substrates are typically either mud or sand with moderate current (NatureServe 2016w).	Yes	No in-water work is proposed; no impacts to fawnsfoot are anticipated.	Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.
Pondhorn	<i>Unio merus tetralasmus</i>	T	Yes	No	This species typically inhabits the quiet or slow-moving, shallow waters of sloughs, borrow pits, ponds, ditches, and meandering streams. It is tolerant of poor water conditions and can be found well buried in a substrate of fine silt and/or mud. It has been known to survive for extended periods of time when a pond or slough has temporarily dried up by burying itself deep into the substrate (NatureServe 2016y).	Yes	No in-water work is proposed; no impacts to pondhorn are anticipated.	Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.
Elktoe	<i>Alasmidonta marginata</i>	SC	Yes	No	Habitat can be any sized streams and it occurs in riffles with swift current and substrates of firmly packed fine to coarse gravel. Water depths are typically shallow of several inches to two feet. It has also been found in cobble (NatureServe 2016a).	Yes	No in-water work is proposed; no impacts to elktoe are anticipated.	No comment
Purple Wartyback	<i>Cyclonaias tuberculata</i>	SC	Yes	No	Habitat is typically a gravel/mud bottom and it usually occurs at depths of less than two feet but can be found up to 20 feet in depth. Different forms of this mussel inhabit small to medium sized rivers and the main channel of large rivers (NatureServe 2016b).	Yes	No in-water work is proposed; no impacts to purple wartyback are anticipated.	No comment
Wavy-rayed Lampmussel	<i>Lampsilis fasciola</i>	SC	Yes	No	Mainly found in and around riffle areas of clear, hydrologically stable small to medium sized streams and rivers. It has been found at depths up to one meter and in substrates of gravel and sand stabilized by cobble and boulders (NatureServe 2016l).	Yes	No in-water work is proposed; no impacts to wavy-rayed lampmussel are anticipated.	No comment
Creek Heelsplitter	<i>Lasmigona compressa</i>	SC	Yes	No	Occurs in rivers and streams of various sizes and it can be found in substrates of gravel, sand, or mud (NatureServe 2016n).	Yes	No in-water work is proposed; no	No comment

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							impacts to creek heelsplitter are anticipated.	
Round Pigtoe	<i>Pleurobema sintoxia</i>	SC	Yes	No	Occurs in medium to large rivers in mixed mud, sand, and gravel substrates. It occurs in current at a variety of depths (NatureServe 2016r).	Yes	No in-water work is proposed; no impacts to round pigtoe are anticipated.	No comment
Kidneyshell	<i>Ptychobranchnus fasciolaris</i>	SC	Yes	No	Commonly found in small to medium sized rivers. It has also been found in Lake Erie, Lake St. Clair, and Lake Chautauqua. It is found in riffle areas of streams with substrates firmly packed coarse gravel and sand with moderate to swift current (NatureServe 2016u).	Yes	No in-water work is proposed; no impacts to kidneyshell are anticipated.	No comment
Salamander Mussel	<i>Simpsonaias ambigua</i>	SC	Yes	No	Habitat is typically sand or silt, under large, flat stones in areas of swift current in medium to large rivers and lakes (NatureServe 2016v).	Yes	No in-water work is proposed; no impacts to salamander mussel are anticipated.	No comment
Deertoe	<i>Truncilla truncata</i>	SC	Yes	No	Habitat is typically fine gravel mixed with sand and mud, but it is a generalist in terms of river size (NatureServe 2016x).	Yes	No in-water work is proposed; no impacts to deertoe are anticipated.	No comment
Plants								
Spreading Rock Cress	<i>Arabis patens</i>	E	Yes	Yes	Habitat is shaded, calcareous cliffs, bluffs, and talus slopes (ODNR DNAP 2016).	No	No suitable habitat occurs in within Project area.	No comment
Fish								
Spotted Darter	<i>Etheostoma maculatum</i>	E	Yes	No	This fish is found in medium sized rivers and streams. They are typically found in areas of swift current at the top or bottom end of a riffle where there are many very large boulders or flab slabs or rock. They spend most of their time hiding under the upstream edge of these large rocks with their heads sticking out watching for food (ODNR Division of Wildlife 2016u).	Yes	No in-water work is proposed; no impacts to spotted darter are anticipated.	No in-water work in perennial streams between April 15- June 30. If no in-water work is proposed, the project is not likely to impact this aquatic species.
Shortnose Gar	<i>Lepisosteus platostomus</i>	E	Yes	No	This fish is found in large rivers and associated overflow ponds and backwaters (ODNR Division of Wildlife 2016r).	Yes	No in-water work is proposed; no impacts to shortnose gar are anticipated.	No in-water work in perennial streams between April 15- June 30. If no in-water work is proposed, the project is not likely to impact this aquatic species.
Popeye Shiner	<i>Notropis ariommus</i>	E	Yes	No	This fish is found in extremely clear waters in moderate sized streams. These streams usually have slow to moderate flow and many long slow pools (ODNR Division of Wildlife 2016n).	Yes	No in-water work is proposed; no impacts to popeye shiner are anticipated.	No in-water work in perennial streams between April 15- June 30. If no in-water work is proposed, the project is not likely to impact this aquatic species.
Scioto Madtom	<i>Noturus trautmani</i>	E	Yes	No	Prefers tail end of riffles with sand and gravel substrate (ODNR Division of Wildlife 2016q).	Yes	No in-water work is proposed; no impacts to scioto madtom are anticipated.	No in-water work in perennial streams between April 15- June 30. If no in-water work is proposed, the project is not likely to impact this aquatic species.

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Common Name	Scientific Name	State ¹ Listing	Known to Franklin County?	Known Within One Mile of Project Area? ²	Habitat Preference	Habitat Observed in Project Area?	Impact Assessment	ODNR Comments/ Recommendations
Northern Brook Lamprey	<i>Ichthyomyzon fossor</i>	E	Yes	No	Adults of this fish are found in clear, fast-flowing brooks. Juveniles are found in slow moving water buried in soft substrates in medium to large streams (ODNR Division of Wildlife 2016x)	Yes	No in-water work is proposed; no impacts to northern brook lamprey are anticipated.	No in-water work in perennial streams between April 15-June 30. If no in-water work is proposed, the project is not likely to impact this aquatic species.
Tippecanoe Minnow	<i>Etheostoma Tippecanoe</i>	T	Yes	No	This fish prefers medium to large streams in the Ohio River drainage system and are found in riffles of moderate current with substrate of gravel or cobble sized rocks (ODNR Division of Wildlife 2016v).	Yes	No in-water work is proposed; no impacts to tippecanoe minnow are anticipated.	No in-water work in perennial streams between April 15-June 30. If no in-water work is proposed, the project is not likely to impact this aquatic species.
Tonguetied Minnow	<i>Exoglossum laurae</i>	T	Yes	No	Habitat includes rocky pools and runs of cool to warm water. They prefer clear creeks and small to medium sized rivers of moderate gradient with unsilted bottoms of gravel, cobble, and/or boulder. Spawning occurs in gravel nests in slow to moderate current (NatureServe 2016g).	Yes	No in-water work is proposed; no impacts to tonguetied minnow are anticipated.	No in-water work in perennial streams between April 15-June 30. If no in-water work is proposed, the project is not likely to impact this aquatic species.
Paddlefish	<i>Polyodon spathula</i>	T	Yes	No	This fish is found in the Ohio River and its larger tributaries, preferring sluggish pools and backwater areas (ODNR Division of Wildlife 2016m).	No	No suitable habitat occurs in within Project area.	No in-water work in perennial streams between April 15-June 30. If no in-water work is proposed, the project is not likely to impact this aquatic species.
Muskellunge	<i>Esox masquinongy</i>	SC	Yes	No	Prime habitat for this fish is heavily vegetated lakes or streams with large/long pools with a minimum depth of 3-4 feet and abundant woody structures and large debris (ODNR Division of Wildlife 2016k).	No	No suitable habitat occurs in within Project area.	No comment
River Redhorse	<i>Moxostoma carinatum</i>	SC	Yes	No	This fish prefers only the largest rivers in the Ohio and Lake Erie drainages and are found in deep pools with moderate current over bedrock or gravel substrates (ODNR Division of Wildlife 2016p).	No	No suitable habitat occurs in within Project area.	No comment
¹ E= Endangered; T= Threatened; SC= Species of Concern ² According to correspondence from ODNR Natural Heritage Database – Appendix B								

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Table 4. Summary of Potential Federally-Listed Species within the Cole Station Project Area, Franklin County, Ohio

Common Name	Scientific Name	Federal ¹ Listing	Known to Franklin County?	Habitat Preference ²	Habitat Observed in Project Area?	Impact Assessment	USFWS Comments/Recommendations
Indiana bat	<i>Myotis sodalis</i>	E	Yes	This bat is likely distributed throughout Ohio, though not uniformly. It generally forages in openings and edge habitats within upland and floodplain forest, but they also forage over old fields and pastures (Brack et al. 2010). Natural roost structures include trees (live or dead) with exfoliating bark, and exposure to solar radiation. Other important factors for roost trees include relative location to other trees, a permanent water source and foraging areas. Dead trees are preferred as maternity roosts; however, live trees are often used as secondary roosts depending on microclimate conditions (USFWS 2007, USFWS 2015). Roosts have occasionally been cracks and hollows in trees, utility poles, buildings, and bat boxes. Primarily use caves for hibernacula, although are also known to hibernate in abandoned underground mines (Brack et al. 2010).	Yes	Suitable habitat present in the Project area, no trees expected to be cut for station expansion; no impacts expected.	Due to the project type, size, and location, and the proposed implementation of seasonal tree clearing to avoid impacts, USFWS does not anticipate adverse effects to any federally endangered, threatened, proposed or candidate species.
Northern long-eared bat	<i>Myotis septentrionalis</i>	T	Yes	The northern long-eared bat is found throughout Ohio. This species generally forages in forested habitat and openings in forested habitat and utilizes cracks, cavities, and loose bark within live and dead trees, as well as buildings as roosting habitat (Brack et al. 2010; USFWS 2016). The species utilizes caves and abandoned mines as winter hibernacula. Various sized caves are used providing they have a constant temperature, high humidity, and little to no air current (Brack et al. 2010).	Yes	Suitable habitat present in the Project area, no trees expected to be cut for station expansion; no impacts expected.	Due to the project type, size, and location, and the proposed implementation of seasonal tree clearing to avoid impacts, USFWS does not anticipate adverse effects to any federally endangered, threatened, proposed or candidate species.
Scioto Madtom	<i>Noturus trautmani</i>	E	Yes	Prefer tail end of riffles over sand and gravel substrate (ODNR Division of Wildlife 2016q).	Yes	Some suitable habitat occurs within Project area. No in-water work is proposed; no impacts to the Scioto madtom are anticipated.	No comment
Clubshell	<i>Pleurobema clava</i>	E	Yes	The clubshell is found in small to medium rivers, but occasionally found in large rivers, especially those having large shoal areas. It is generally found in clean, coarse sand and gravel in runs, often just downstream of a riffle and cannot tolerate mud or slackwater conditions (USFWS 1994). Badra (2001) found the clubshell in gravel/sand substrate, runs having laminar flow (0.06-0.25 m/sec) within small to medium sized streams.	Yes	No in-water work is proposed; no impacts to clubshell are anticipated.	No comment
Northern Riffleshell	<i>Epioblasma torulosa rangiana</i>	E	Yes	Large streams and small rivers in firm sand of riffle areas; also occurs in Lake Erie (USFWS 2015).	No	No suitable habitat occurs in within Project area.	No comment
Rabbitsfoot	<i>Quadrula cylindrica cylindrical</i>	T	Yes	The typical habitat for this species is small to medium rivers with moderate to swift currents, and in smaller streams it inhabits bars or gravel and cobble close to the fast current. Found in medium to large rivers in sand and gravel shoals (NatureServe 2016c).	Yes	No in-water work is proposed; no impacts to rabbitsfoot are anticipated.	No comment
Rayed bean	<i>Villosa fabalis</i>	E	Yes	Habitat includes gravel or sandy substrate, especially in areas of thick roots of aquatic plants, increase substrate stability (Butler 2002, Parmalee and Bogan 1998). Rayed bean can be associated with shoal or riffle areas, and in shallow, wave-washed areas of glacial lakes. It is generally found in smaller, headwater creeks, but sometimes in larger rivers and open-water bodies. It can occur in shallow riffles or in lakes with water depths up to four feet. It has been found in riffles, generally in vegetation, and deeply buried in sand and gravel bound together by roots (Parmalee and Bogan 1998).	Yes	No in-water work is proposed; no impacts to rayed bean are anticipated.	No comment
Snuffbox	<i>Epioblasma triquetra</i>	E	Yes	Snuffbox is commonly found buried in the substrate. It is found in a wide range of particle sized substrates, however, swift shallow riffles with sand and gravel are where it is typically found (Parmalee and Bogan 1998, Watters et al. 2009).	Yes	No in-water work is proposed; no impacts to snuffbox are anticipated.	No comment

¹E=Endangered; T=Threatened

4.0 CONCLUSIONS AND RECOMMENDATIONS

Stantec conducted a wetland and waterbodies delineation and a preliminary habitat assessment for threatened and endangered species or their habitats within the Project area on March 2, 2016. During the field surveys, one ephemeral stream totaling approximately 56 linear feet in length and one perennial stream (Hamilton Ditch) totaling approximately 1,337 linear feet in length were delineated within the Project area. Neither of the streams identified are within the footprint of the station. No wetlands were identified within the Project area.

The information provided by Stantec regarding wetland and stream boundaries is based on an analysis of the wetland and upland conditions present within the Project area at the time of the fieldwork. The delineations were performed by experienced and qualified professionals using regulatory agency-accepted practices and sound professional judgment.

The Project area includes potential habitat for bat and mussel species listed in Table 3 and 4. However, no occurrences of these species are known to exist within the Project area or a one-mile radius of it, according to correspondence received from the ODNR Natural Heritage Database (Appendix B). No in-water work is expected for the Cole Station project and therefore no impacts to mussels are expected. Due to the presence of potential habitat for bat species, the USFWS and ODNR (Appendix B) recommend clearing trees between October 1 and March 31, or completing net surveys between June 1 and August 15, prior to any cutting. However, no trees are expected to be cleared for construction of Cole Station and therefore no impacts to bats are expected.

The ODNR Natural Heritage Database (Appendix B) also stated that Clover Parkland and Blauser Clean Ohio Parkland are within one mile of the project area. None of these areas should be impacted by the Project.

The ODNR Office of Real Estate noted the project is located within the range of several fish species (Table 3), and recommended that in-water work in perennial stream be avoided April 15 -- June 30 to reduce impacts to aquatic species. No in-water work is proposed, so no impacts to these species are likely. The project is also within the range of the upland sandpiper, however no suitable habitat is located in the project area, so impacts are not anticipated.

The ODNR recommended that impacts to wetlands and other water resources be avoided or minimized to the fullest extent possible, and that best management practices be utilized to minimize erosion and sedimentation.

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Appendix A Figures

A.1 FIGURE 1

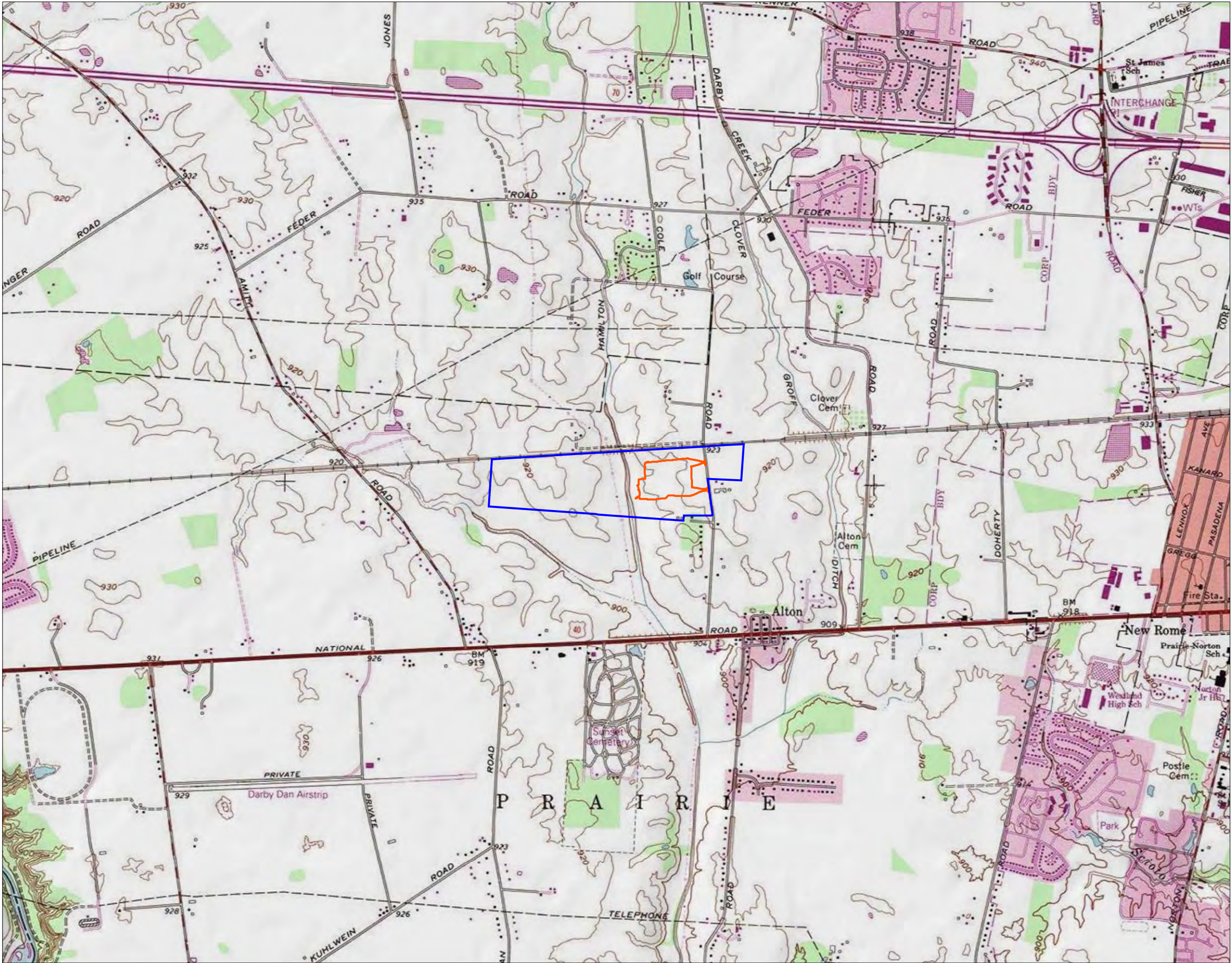
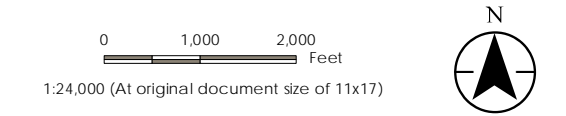


Figure No. 1
Title
Project Location Map

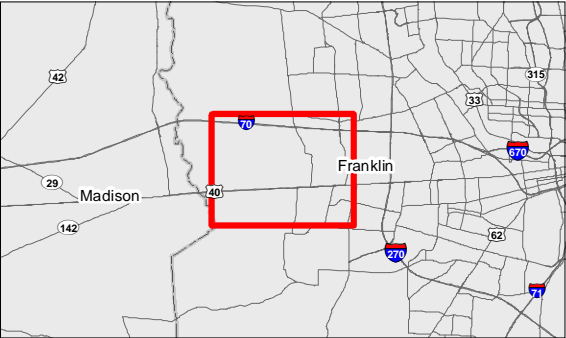
Client/Project
American Electric Power
Cole Substation

Project Location
Township of Prairie,
Franklin County, Ohio

193704277
Prepared by MCP on 2016-02-17
Technical Review by BJ on 2016-05-31
Independent Review by JB on 2016-06-01



- Legend
- Study Area
 - Project Construction Limits



- Notes
- Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 - Data Sources Include: Stantec, AEP, NADS
 - Background: USGS 7.5' Topographic Quadrangles



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A.2 FIGURE 2

R:\Data\Other_PCS\193704277_AEP_ColeSubstation\03_data\03s_cad\03s\mxd\03s_Cole_Substation_AEP_figure2.mxd Revised: 2016-06-01 By: mcd/hcr



Figure No.
2

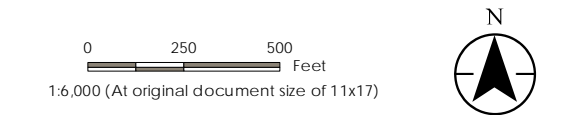
Title
Environmental Features

Client/Project
**American Electric Power
Cole Substation**

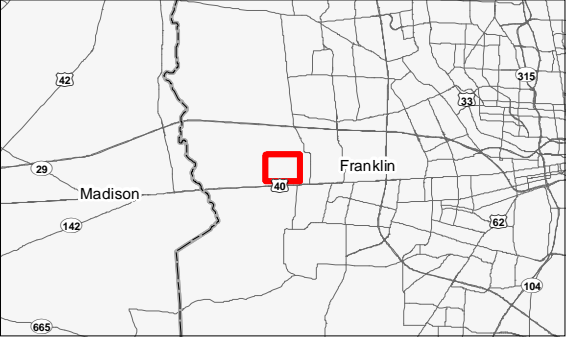
Project Location
Township of Prairie,
Franklin County, Ohio

193704277

Prepared by MCP on 2016-02-17
Technical Review by BJ on 2016-05-31
Independent Review by JB on 2016-06-01



- Legend**
- Study Area
 - Project Construction Limits
 - Culvert
 - Drainage Tile
 - Upland Drainage Feature
 - Field Identified Waterway
 - FEMA Flood Zones
 - 100-year Flood Zone
 - 100-year Floodway
 - Photo Location



Notes

- Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
- Data Sources Include: Stantec, AEP, NADS, FEMA
- Orthophotography: 2015 NAIP



COLE STATION PROJECT,
FRANKLIN COUNTY, OHIO

A.3 FIGURE 3

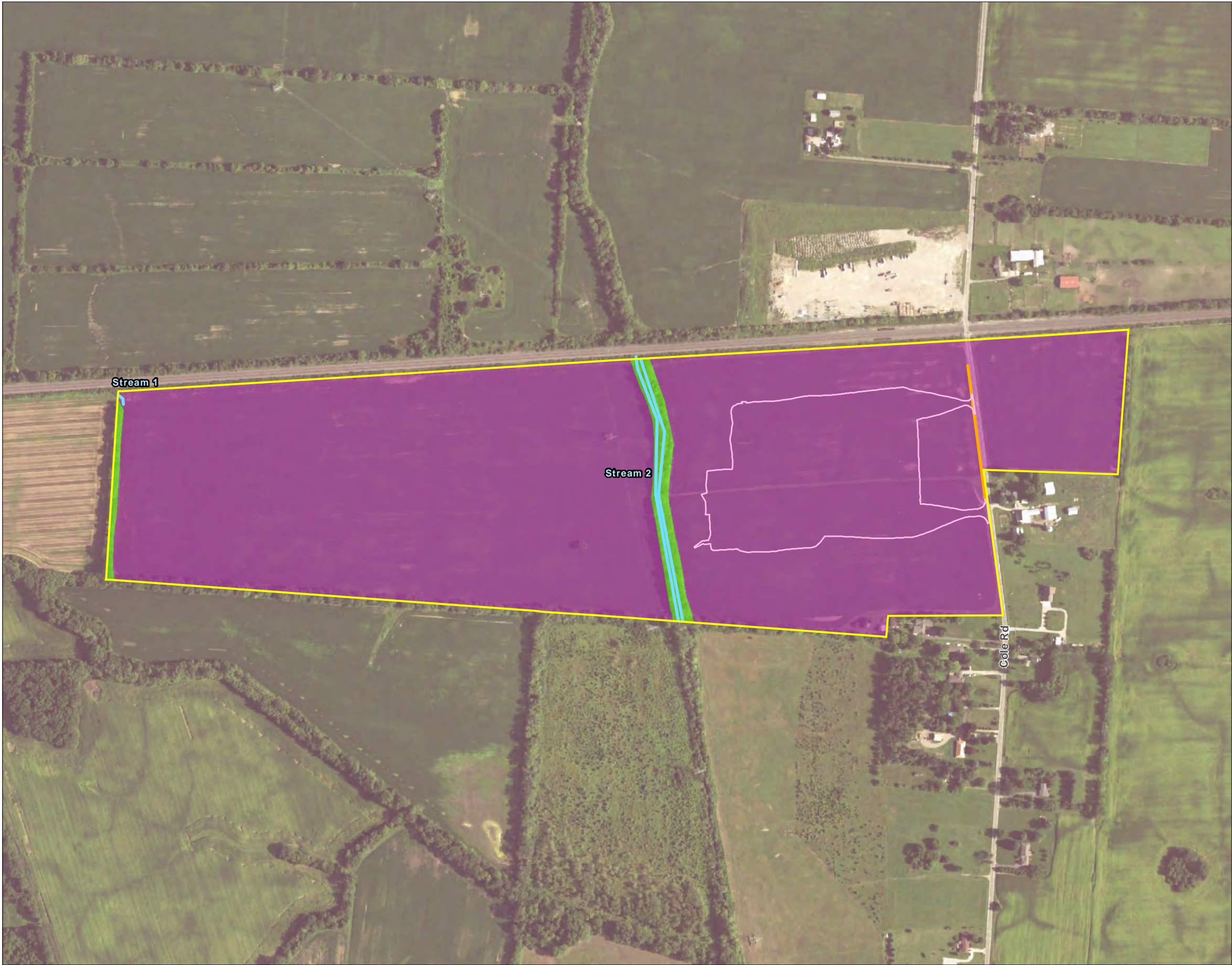
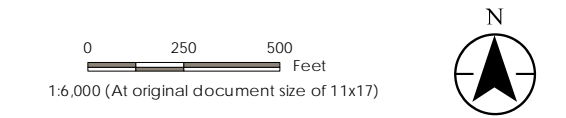


Figure No.
3
Title
Habitat Type Map

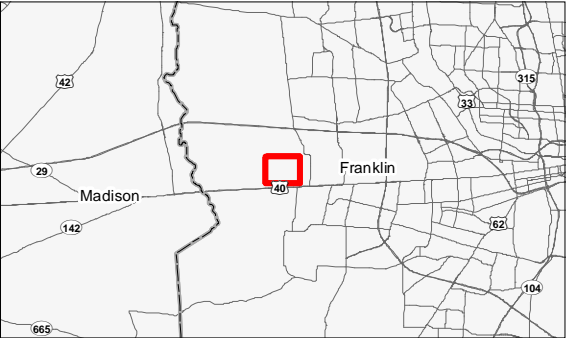
Client/Project
American Electric Power
Cole Substation

Project Location
Township of Prairie,
Franklin County, Ohio

193704277
Prepared by MCP on 2016-02-17
Technical Review by BJ on 2016-05-31
Independent Review by JB on 2016-06-01



- Legend
- Study Area
 - Project Construction Limits
 - Upland Drainage Feature
 - Field Identified Waterway
- Habitat Type
- Agricultural Field
 - Mesophytic Forest



- Notes
- Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 - Data Sources Include: Stantec, AEP, NADS
 - Orthophotography: 2015 NAIP



Appendix B Agency Correspondence



Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR

JAMES ZEHRINGER, DIRECTOR

Office of Real Estate
Paul R. Baldrige, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6649
Fax: (614) 267-4764

April 19, 2016

Kim Carter
Stantec
1500 Lake Shore Drive, Suite 100
Columbus OH 43204-3800

Re: 16-171; Request for Environmental Review, AEP Cole Station Project

Project: The proposed project consists of constructing a new substation off Cole Road

Location: The proposed project is located in Prairie Township, Franklin County, Ohio.

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

Natural Heritage Database: The Natural Heritage Database has the following data at or within a one mile radius of the project area:

Clover Parkland – Columbus Parks & Recreation
Blauser Clean Ohio Parkland - Columbus Parks & Recreation
Clover Parkland - Columbus Parks & Recreation

The review was performed on the project area you specified in your request as well as an additional one mile radius. Records searched date from 1980. This information is provided to inform you of features present within your project area and vicinity. Additional comments on some of the features may be found in pertinent sections below.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Although all types of plant communities have been surveyed, we only maintain records on the highest quality areas.

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

The DOW recommends that impacts to streams, wetlands and other water resources be avoided and minimized to the fullest extent possible, and that best management practices be utilized to minimize erosion and sedimentation.

The project is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species. The following species of trees have relatively high value as potential Indiana bat roost trees to include: shagbark hickory (*Carya ovata*), shellbark hickory (*Carya laciniosa*), bitternut hickory (*Carya cordiformis*), black ash (*Fraxinus nigra*), green ash (*Fraxinus pennsylvanica*), white ash (*Fraxinus americana*), shingle oak (*Quercus imbricaria*), northern red oak (*Quercus rubra*), slippery elm (*Ulmus rubra*), American elm (*Ulmus americana*), eastern cottonwood (*Populus deltoides*), silver maple (*Acer saccharinum*), sassafras (*Sassafras albidum*), post oak (*Quercus stellata*), and white oak (*Quercus alba*). Indiana bat roost trees consists of trees that include dead and dying trees with exfoliating bark, crevices, or cavities in upland areas or riparian corridors and living trees with exfoliating bark, cavities, or hollow areas formed from broken branches or tops. However, Indiana bats are also dependent on the forest structure surrounding roost trees. If suitable habitat occurs within the project area, the DOW recommends trees be conserved. If suitable habitat occurs within the project area and trees must be cut, the DOW recommends cutting occur between October 1 and March 31. If suitable trees must be cut during the summer months, the DOW recommends a net survey be conducted between June 1 and August 15, prior to any cutting. Net surveys should incorporate either nine net nights per square 0.5 kilometer of project area, or four net nights per kilometer for linear projects. If no tree removal is proposed, this project is not likely to impact this species.

The project is within the range of the purple cat's paw (*Epioblasma o. obliquata*), a state endangered and federally endangered mussel, the clubshell (*Pleurobema clava*), a state endangered and federally endangered mussel, the northern riffleshell (*Epioblasma torulosa rangiana*), a state endangered and federally endangered mussel, the rayed bean (*Villosa fabalis*), a state endangered and federally endangered mussel species, the rabbitsfoot (*Quadrula cylindrica cylindrica*), a state endangered and federal candidate mussel, the snuffbox (*Epioblasma triquetra*), a state endangered and federal endangered mussel, the long solid (*Fusconaia maculata maculata*), a state endangered mussel, the Ohio pigtoe (*Pleurobema cordatum*), a state endangered mussel, the pocketbook (*Lampsilis ovata*), a state endangered mussel, the washboard (*Megaloniais nervosa*), a state endangered mussel, the elephant-ear (*Elliptio crassidens crassidens*), a state endangered mussel, the black sandshell (*Ligumia recta*), a state threatened mussel, the threehorn wartyback (*Obliquaria reflexa*), a state threatened mussel, the pondhorn (*Unio merus tetralasmus*), a state threatened mussel, and the fawnsfoot (*Truncilla donaciformis*), a state threatened mussel. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact these species.

The project is within the range of the Scioto madtom (*Noturus trautmani*), a state endangered and federally endangered fish, the popeye shiner (*Notropis ariommus*), a state endangered fish, the northern brook lamprey (*Ichthyomyzon fossor*), a state endangered fish, the spotted darter (*Etheostoma maculatum*), a state endangered fish, the shortnose gar (*Lepisosteus platostomus*), a state endangered fish, the tonguetied minnow (*Exoglossum laurae*), a state threatened fish, the paddlefish (*Polyodon spathula*) a state threatened fish, and the Tippecanoe darter (*Etheostoma tippecanoe*), a state threatened fish. The DOW recommends no in-water work in perennial streams from April 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed, this project is not likely to impact these or other aquatic species.

The project is within the range of the upland sandpiper (*Bartramia longicauda*), a state endangered bird. Nesting upland sandpipers utilize dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and grasslands established through the Conservation Reserve Program (CRP). If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 to July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

Due to the potential of impacts to federally listed species, as well as to state listed species, we recommend that this project be coordinated with the U.S. Fish & Wildlife Service.

ODNR appreciates the opportunity to provide these comments. Please contact John Kessler at (614) 265-6621 if you have questions about these comments or need additional information.

John Kessler
ODNR Office of Real Estate
2045 Morse Road, Building E-2
Columbus, Ohio 43229-6693
John.Kessler@dnr.state.oh.us

From: susan_zimmermann@fws.gov [mailto:susan_zimmermann@fws.gov] **On Behalf Of** Ohio, FW3
Sent: Monday, April 04, 2016 8:34 AM
To: Carter, Kim (Columbus)
Subject: AEP Cole Station Project, Franklin Co. OH



UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. Fish and Wildlife Service
Ecological Services Office
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / Fax (614) 416-8994



TAILS# 03E15000-2016-TA-0870

Dear Ms. Carter,

We have received your recent correspondence regarding potential impacts to federally listed species in the vicinity of the above referenced project. There are no federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area. We recommend that proposed activities minimize water quality impacts, including fill in streams and wetlands. Best management practices should be utilized to minimize erosion and sedimentation.

FEDERALLY LISTED, PROPOSED, AND CANDIDATE SPECIES COMMENTS: Due to the project type, size, location, and the proposed implementation of seasonal tree cutting (clearing of trees ≥ 3 inches diameter at breast height between October 1 and March 31) to avoid impacts to Indiana bats and northern long-eared bats, we do not anticipate adverse effects to any federally endangered, threatened, proposed or candidate species. Should the project design change, or during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the U.S. Fish and Wildlife Service (Service) should be initiated to assess any potential impacts.

If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), no tree clearing should occur on any portion of the project area until consultation under section 7 of the Endangered Species Act (ESA), between the Service and the federal action agency, is completed. We recommend that the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), ESA, and are consistent with the intent of the National Environmental Policy Act of 1969 and the Service's Mitigation Policy. This letter provides technical assistance only and does not serve as a completed section 7 consultation document. We recommend that the project

be coordinated with the Ohio Department of Natural Resources due to the potential for the project to affect state listed species and/or state lands. Contact John Kessler, Environmental Services Administrator, at (614) 265-6621 or at john.kessler@dnr.state.oh.us.

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or ohio@fws.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Dan Everson". The signature is fluid and cursive, with the first name "Dan" being more prominent than the last name "Everson".

Dan Everson

Field Supervisor

Sjollema, Angela

From: Nietz, Jennifer
Sent: Tuesday, March 01, 2016 8:12 AM
To: Carter, Kim (Columbus)
Subject: Cole Station ODNR NHDB Request

Good Morning:

On behalf of American Electric Power (AEP), Stantec Consulting Services Inc. (Stantec) is requesting an Ohio Department of Natural Resources (ODNR) - Natural Heritage Database review for a proposed substation in Franklin County. Please find attached a completed request form (including Lat/Long coordinates), a location map on USGS base (Figure 1), and a shapefile of the project area (see attached .zip file).

If you have any questions regarding this request, please do not hesitate to contact me via email at jesse.binau@stantec.com or via phone at the numbers listed below.

Thank you for your assistance!

Jennifer Nietz

Ecologist
Stantec
Phone: 614-643-4389
Cell: 614-653-2418
Fax: (614)-485-5016
Jennifer.Nietz@stantec.com



The content of this email is the confidential property of Stantec and should not be copied, modified, retransmitted, or used for any purpose except with Stantec's written authorization. If you are not the intended recipient, please delete all copies and notify us immediately.

Please consider the environment before printing this email.



NATURAL HERITAGE DATA REQUEST FORM

ODNR Division of Wildlife
Ohio Natural Heritage Program
2045 Morse Rd., Bldg. G-3
Columbus, OH 43229-6693
Phone: 614-265-6818
Email: obdrequest@dnr.state.oh.us

INSTRUCTIONS:

Please complete all the information on both sides of this form, sign (required) and email it to the address given above. Please provide a description of the work to be performed at the project site, and a map detailing your project site boundaries. If you have GIS capabilities or request a GIS response, please also submit a shapefile of your project site (unbuffered). Data requests will be completed within approximately 30 days, usually sooner. There is currently no charge to process requests.

WHAT WE PROVIDE:

As applicable to your project, the Ohio Natural Heritage Database (ONHD) will provide records for state and federally listed plants and animals, high quality plant communities, geologic features, breeding animal concentrations, scenic rivers, protected natural areas (managed areas), and significant unprotected natural areas (conservation sites). A one mile radius around the project site will automatically be searched. Because the ONHD contains sensitive information, it is our policy to provide only the data needed to complete your project.

Please note that this information is provided without comment on potential impacts to the species and their habitats, and therefore does not constitute coordination with ODNR under NEPA, the Fish & Wildlife Coordination Act, the Federal Water Pollution Control Act and other laws. If your project requires ODNR coordination, please submit it for a more extensive environmental review to environmentalreviewrequest@dnr.state.oh.us. Additional information on the environmental review process is available at <http://realestate.ohiodnr.gov/environmental-review>. If you have questions, please contact John Kessler at 614-265-6621 or john.kessler@dnr.state.oh.us. A ONHD search is included as part of the environmental review process.

Date: 3/8/2016 Company name: Stantec Consulting Services Inc

Name of person response letter should be addressed to:

Mr. ☐ Ms. ☒ Kim Carter

Address: 1500 Lake Shore Drive

City/State/Zip: Columbus, Ohio 43204

Phone: 614-643-4357

E-mail address: kim.carter@stantec.com

Project Name: AEP Cole Station Project

Project Site Address: 279 Cole Road, Galloway, Ohio 43119

Project County: Franklin

Project City or Township: Galloway, Ohio

Project site is located on the following USGS 7.5 minute topographic quad(s):

Galloway, Ohio

Project latitude and longitude: 39.958922°N, -83.181095°W

Description of work to be performed at the project site:

American Electric Power (AEP) will be constructing a new substation off of Cole Road.

How do you want your data reported? (Both formats provide the same data. The manual search is most appropriate for small scale projects or for those without GIS capabilities. With this option we will send you a list of records and a map showing their location. If you request a GIS shapefile, we will send you a shapefile of data layers. You will then need to make your own map and list of data for your report. You must have GIS capabilities. If you choose this option, please email your project shapefile with your request. If you do not make a selection, a manual search will be performed. Please choose only one option below.)

☒ **Printed list and map (manual search)** **OR** ☐ **GIS shapefile (computer search)**

Other than the standard data (see "what we provide" at top of form), additional information you require:

Please provide us with a map showing records of state and federally listed plants and animals, high quality plant communities, geologic features, breeding animal concentrations, scenic rivers, protected natural areas (managed areas), and significant unprotected natural areas (conservation sites) within the project area and a one mile radius around it.

How will the information be used?

The information will be included in a rare, threatened and endangered species habitat assessment report that is being prepared for the project. The information will also be used to assist with demonstrating compliance with the Endangered Species Act, if applicable.

The chief of the Division of Wildlife has determined that the release of the ONHD information you have requested could be detrimental to the conservation of a species or unique natural feature. Pursuant to section 1531.04 of the Ohio Revised Code, this information is not subject to section 149.43 of the Revised Code. By signing below, you certify that the data provided will not be disclosed, published, or distributed beyond the scope of your specific project.

Signature 

Date: 3/8/2016

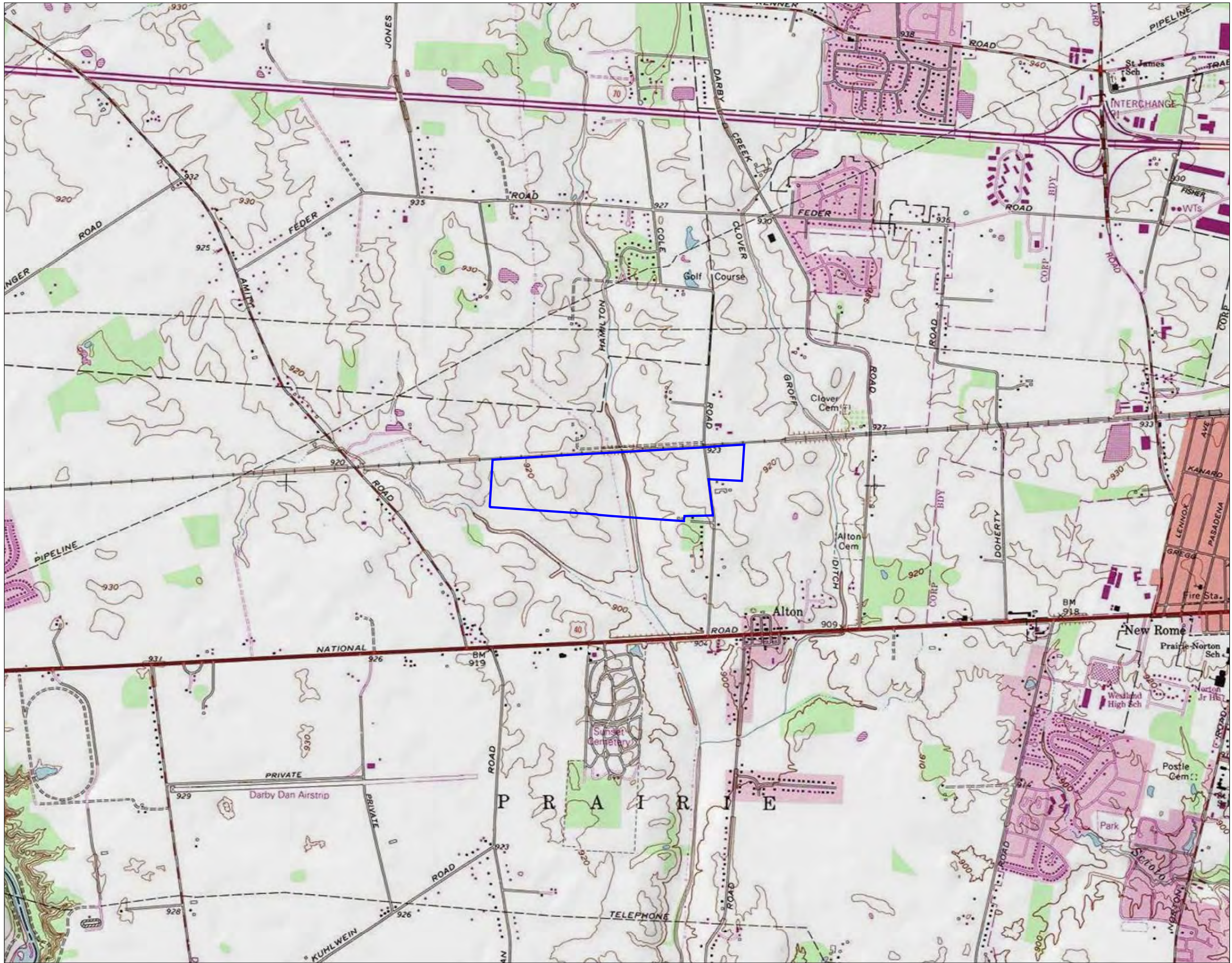


Figure No. 1

Title

Project Location Map

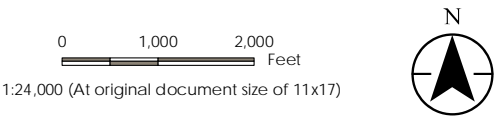
Client/Project

American Electric Power
Cole Station Project


Project Location

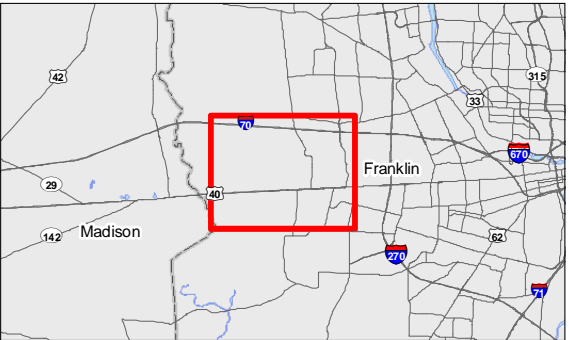
Prairie Township
Franklin County, Ohio

193704277
Prepared by BT on 2016-03-01
Technical Review by MP on 2016-03-01
Independent Review by KC on 2016-03-07



Legend

 Study Area



- Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 2. Data Sources Include: Stantec, AEP, NADS
 3. Background: USGS 7.5' Topographic Quadrangles





Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR

JAMES ZEHRINGER, DIRECTOR

Ohio Division of Wildlife

Raymond W. Petering, Chief
2045 Morse Rd., Bldg. G
Columbus, OH 43229-6693
Phone: (614) 265-6300

March 8, 2016

Kim Carter
Stantec Consulting Services, Inc.
1500 Lake Shore Dr.
Columbus, OH 43204

Dear Ms. Carter,

I have reviewed the Natural Heritage Database for the AEP Cole Station project area, including a one mile radius, in Prairie Township, Franklin County, Ohio. We have no records for rare or endangered species or other significant features within the project area or a one mile radius. The letters on the list below correspond to the managed areas marked on the accompanying map.

- A. Clover Parkland – Columbus Parks & Recreation
- B. Blauser Clean Ohio Parkland - Columbus Parks & Recreation
- C. Clover Parkland - Columbus Parks & Recreation

We are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, nature preserves, parks or forests or national wildlife refuges, parks or forests within a one mile radius of the project area.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. This letter only represents a review of rare species and natural features data within the Ohio Natural Heritage Database. It does not fulfill coordination under the National Environmental Policy Act (NEPA) or the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S. C. 661 et seq.) and does not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

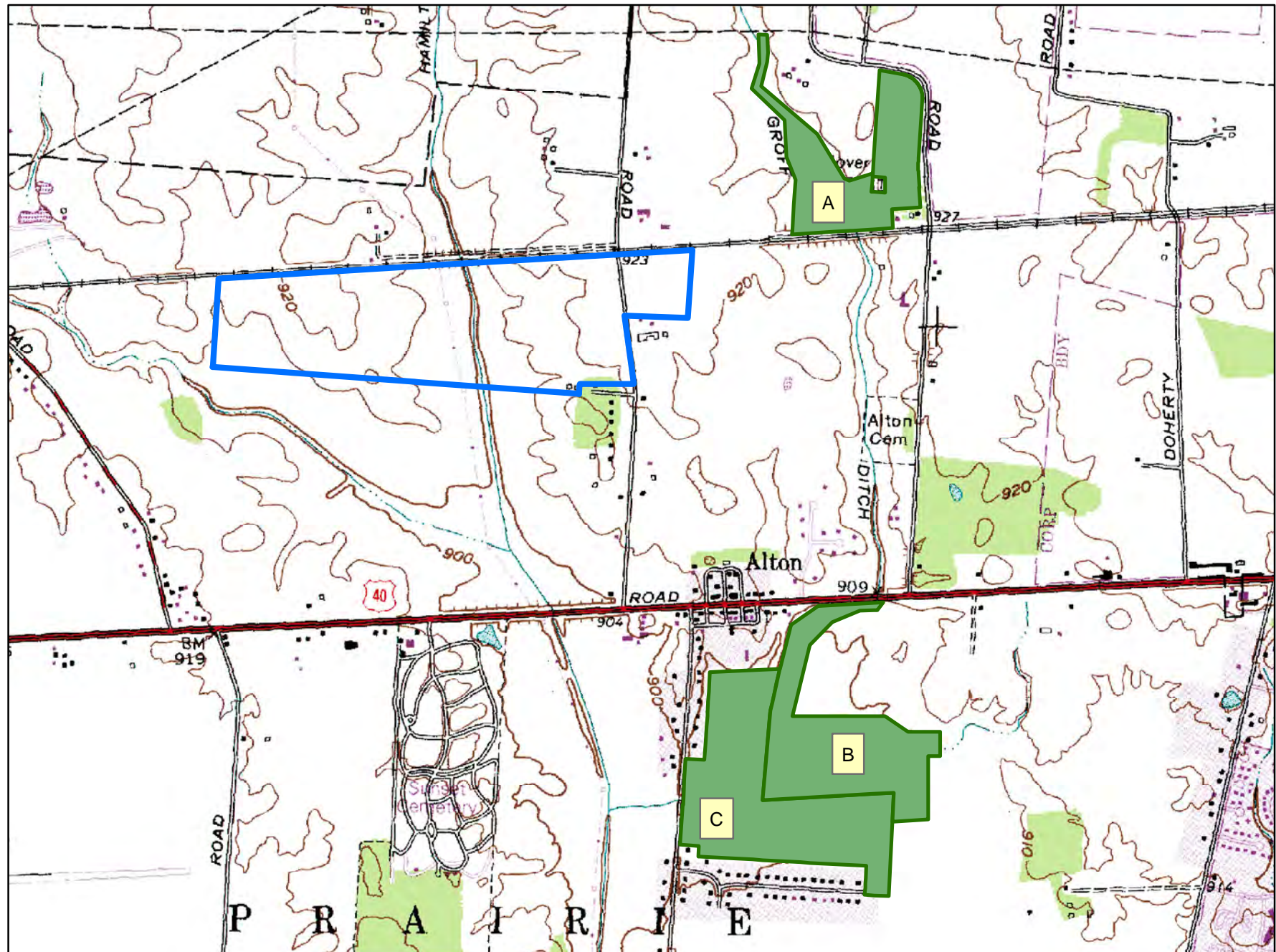
Please contact me at 614-265-6818 if I can be of further assistance.

Sincerely,

A handwritten signature in blue ink that reads "Debbie Woischke".

Debbie Woischke
Ohio Natural Heritage Program

AEP Cole Station Project



Appendix C Representative Photographs

American Electric Power
Cole Station Project
Franklin County, Ohio



Photograph 1. View of Stream 1. Photograph taken facing upstream/northwest.



Photograph 2. View of Stream 1. Photograph taken facing downstream/south.

American Electric Power
Cole Station Project
Franklin County, Ohio



Photograph 3. View of Stream 2. Photograph taken facing upstream/north.



Photograph 4. View of Stream 2. Photograph taken facing downstream/south.

American Electric Power
Cole Station Project
Franklin County, Ohio



Photograph 5. Representative upland drainage feature. Photograph taken facing north.



Photograph 6. Representative agricultural field habitat. Photograph taken facing west.

American Electric Power
Cole Station Project
Franklin County, Ohio



Photograph 7. Representative scrubland/early successional forest habitat. Photograph taken facing north.

Appendix D Data Forms

D.1 HHEI DATA FORMS



Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) :

46

SITE NAME/LOCATION APP - Cole Station

SMKIN-01

SITE NUMBER

RIVER BASIN

DRAINAGE AREA (mi²)

<1

LENGTH OF STREAM REACH (ft)

LAT.

LONG.

RIVER CODE

RIVER MILE

DATE 3/2/14

SCORER M. Keams

COMMENTS ephemeral

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL



NONE / NATURAL CHANNEL



RECOVERED



RECOVERING



RECENT OR NO RECOVERY

MODIFICATIONS:

Flows into drainage tile on edge of field

1. **SUBSTRATE** (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE



BLDR SLABS [16 pts]

BOULDER (>256 mm) [16 pts]

BEDROCK [16 pt]

COBBLE (65-256 mm) [12 pts]

GRAVEL (2-64 mm) [9 pts]

SAND (<2 mm) [6 pts]

PERCENT

15

TYPE



SILT [3 pt]

LEAF PACK/WOODY DEBRIS [3 pts]

FINE DETRITUS [3 pts]

CLAY or HARDPAN [0 pt]

MUCK [0 pts]

ARTIFICIAL [3 pts]

PERCENT

85

Total of Percentages of
Bldr Slabs, Boulder, Cobble, Bedrock

0

(A)

9

(B)

2

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

TOTAL NUMBER OF SUBSTRATE TYPES:

2. **Maximum Pool Depth** (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):



> 30 centimeters [20 pts]

> 22.5 - 30 cm [30 pts]

> 10 - 22.5 cm [25 pts]



> 5 cm - 10 cm [15 pts]

< 5 cm [5 pts]

NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS

MAXIMUM POOL DEPTH (centimeters):

25

3. **BANK FULL WIDTH** (Measured as the average of 3-4 measurements) (Check ONLY one box):



> 4.0 meters (> 13') [30 pts]

> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]

> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]



> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]

≤ 1.0 m (≤ 3' 3") [5 pts]

COMMENTS

AVERAGE BANKFULL WIDTH (meters)

0.9

HHEI Metric Points

Substrate
Max = 40

11

A + B

Pool Depth
Max = 30

30

Bankfull
Width
Max=30

5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY

☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH

L

R

(Per Bank)



Wide >10m



Moderate 5-10m



Narrow <5m



None

COMMENTS

FLOODPLAIN QUALITY

L

R



(Most Predominant per Bank)



Mature Forest, Wetland



Immature Forest, Shrub or Old Field



Residential, Park, New Field



Fenced Pasture

L

R



Conservation Tillage



Urban or Industrial



Open Pasture, Row Crop



Mining or Construction

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):



Stream Flowing

Subsurface flow with isolated pools (Interstitial)

COMMENTS



Moist Channel, isolated pools, no flow (Intermittent)



Dry channel, no water (Ephemeral)

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):



None

0.5



1.0

1.5



2.0

2.5



3.0

>3

STREAM GRADIENT ESTIMATE



Flat (0.5 ft/100 ft)



Flat to Moderate



Moderate (2 ft/100 ft)



Moderate to Severe



Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - ☐ Yes ☒ No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ Distance from Evaluated Stream _____
☐ CWH Name: _____ Distance from Evaluated Stream _____
☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: Franklin Township / City: Hilliard

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: 3/1/16 Quantity: _____

Photograph Information: _____

Elevated Turbidity? (Y/N): N Canopy (% open): 100

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) _____ If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) _____ Voucher? (Y/N) _____ Salamanders Observed? (Y/N) _____ Voucher? (Y/N) _____

Frogs or Tadpoles Observed? (Y/N) _____ Voucher? (Y/N) _____ Aquatic Macroinvertebrates Observed? (Y/N) _____ Voucher? (Y/N) _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



COLE STATION PROJECT,
FRANKLIN COUNTY, OHIO

D.2 QHEI DATA FORMS

Stream & Location: AEP Cole Station

RM: _____

Date: 3/10/21

Stream 2 - Hamilton Ditch

Scorers Full Name & Affiliation: M Kearns / Sante

River Code: _____

STORET #: _____

Lat./ Long.: 39.9583 / 83.1840

Office verified location ☐

1] **SUBSTRATE** Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

Check ONE (Or 2 & average)

BEST TYPES		POOL RIFFLE		OTHER TYPES		POOL RIFFLE		ORIGIN		QUALITY		Substrate Maximum 20
<input type="checkbox"/> BLDR / SLABS [10]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> HARDPAN [4]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> LIMESTONE [1]	<input type="checkbox"/>	<input type="checkbox"/> HEAVY [-2]	<div>16</div>	
<input type="checkbox"/> BOULDER [9]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> DETRITUS [3]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> TILLS [1]	<input type="checkbox"/> MODERATE [-1]			
<input type="checkbox"/> COBBLE [8]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> MUCK [2]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> WETLANDS [0]	<input checked="" type="checkbox"/> NORMAL [0]			
<input checked="" type="checkbox"/> GRAVEL [7]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> SILT [2]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> FREE [1]			
<input checked="" type="checkbox"/> SAND [6]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> SANDSTONE [0]	<input type="checkbox"/> EXTENSIVE [-2]			
<input type="checkbox"/> BEDROCK [5]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(Score natural substrates; ignore sludge from point-sources)				<input type="checkbox"/> RIP/RAP [0]	<input type="checkbox"/> MODERATE [-1]			
								<input type="checkbox"/> LACUSTURINE [0]	<input checked="" type="checkbox"/> NORMAL [0]			
								<input type="checkbox"/> SHALE [-1]	<input type="checkbox"/> NONE [1]			
								<input type="checkbox"/> COAL FINES [-2]				

NUMBER OF BEST TYPES: ☒ 4 or more [2] ☐ 3 or less [0]

Comments _____

2] **INSTREAM COVER** Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

AMOUNT

Check ONE (Or 2 & average)

<input checked="" type="checkbox"/> UNDERCUT BANKS [1]	<input type="checkbox"/> POOLS > 70cm [2]	<input type="checkbox"/> OXBOWS, BACKWATERS [1]	<input checked="" type="checkbox"/> EXTENSIVE >75% [11]
<input checked="" type="checkbox"/> OVERHANGING VEGETATION [1]	<input type="checkbox"/> ROOTWADS [1]	<input type="checkbox"/> AQUATIC MACROPHYTES [1]	<input checked="" type="checkbox"/> MODERATE 25-75% [7]
<input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	<input type="checkbox"/> BOULDERS [1]	<input type="checkbox"/> LOGS OR WOODY DEBRIS [1]	<input type="checkbox"/> SPARSE 5-<25% [3]
<input type="checkbox"/> ROOTMATS [1]			<input type="checkbox"/> NEARLY ABSENT <5% [1]

Comments _____

Cover Maximum 20

13

3] **CHANNEL MORPHOLOGY** Check ONE in each category (Or 2 & average)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]
<input type="checkbox"/> MODERATE [3]	<input type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input checked="" type="checkbox"/> MODERATE [2]
<input type="checkbox"/> LOW [2]	<input checked="" type="checkbox"/> FAIR [3]	<input checked="" type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]
<input checked="" type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]	

Comments _____

Channel Maximum 20

9

4] **BANK EROSION AND RIPARIAN ZONE** Check ONE in each category for EACH BANK (Or 2 per bank & average)

River right looking downstream

EROSION	RIPARIAN WIDTH	FLOOD PLAIN QUALITY	CONSERVATION TILLAGE
<input checked="" type="checkbox"/> NONE / LITTLE [3]	<input type="checkbox"/> WIDE > 50m [4]	<input checked="" type="checkbox"/> FOREST, SWAMP [3]	<input type="checkbox"/> URBAN OR INDUSTRIAL [0]
<input type="checkbox"/> MODERATE [2]	<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]	<input type="checkbox"/> MINING / CONSTRUCTION [0]
<input type="checkbox"/> HEAVY / SEVERE [1]	<input type="checkbox"/> NARROW 5-10m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	
	<input checked="" type="checkbox"/> VERY NARROW < 5m [1]	<input type="checkbox"/> FENCED PASTURE [1]	
	<input type="checkbox"/> NONE [0]	<input type="checkbox"/> OPEN PASTURE, ROWCROP [0]	

Indicate predominant land use(s) past 100m riparian.

Comments _____

Riparian Maximum 10

7

5] **POOL / GLIDE AND RIFFLE / RUN QUALITY**

MAXIMUM DEPTH

CHANNEL WIDTH

CURRENT VELOCITY

Check ONE (ONLY!)

Check ONE (Or 2 & average)

Check ALL that apply

<input type="checkbox"/> > 1m [6]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> TORRENTIAL [-1]	<input type="checkbox"/> SLOW [1]
<input checked="" type="checkbox"/> 0.7-<1m [4]	<input checked="" type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input type="checkbox"/> VERY FAST [1]	<input type="checkbox"/> INTERSTITIAL [-1]
<input type="checkbox"/> 0.4-<0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE WIDTH [0]	<input type="checkbox"/> FAST [1]	<input type="checkbox"/> INTERMITTENT [-2]
<input type="checkbox"/> 0.2-<0.4m [1]		<input checked="" type="checkbox"/> MODERATE [1]	<input type="checkbox"/> EDDIES [1]
<input type="checkbox"/> < 0.2m [0]		Indicate for reach - pools and riffles.	

Recreation Potential
Primary Contact
Secondary Contact
(circle one and comment on back)

Comments _____

Pool / Current
Maximum
12

6

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species:

Check ONE (Or 2 & average).

☐ NO RIFFLE [metric=0]

RIFFLE DEPTH	RUN DEPTH	RIFFLE / RUN SUBSTRATE	RIFFLE / RUN EMBEDDEDNESS
<input type="checkbox"/> BEST AREAS > 10cm [2]	<input type="checkbox"/> MAXIMUM > 50cm [2]	<input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]
<input checked="" type="checkbox"/> BEST AREAS 5-10cm [1]	<input checked="" type="checkbox"/> MAXIMUM < 50cm [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input checked="" type="checkbox"/> LOW [1]
<input type="checkbox"/> BEST AREAS < 5cm [metric=0]		<input type="checkbox"/> UNSTABLE (e.g., Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]
			<input type="checkbox"/> EXTENSIVE [-1]

Comments _____

Riffle / Run Maximum 8

4

6] **GRADIENT** (8.72 ft/mi) ☐ VERY LOW - LOW [2-4]
DRAINAGE AREA (3.71 mi²) ☐ MODERATE [6-10]
☐ HIGH - VERY HIGH [10-6]

%POOL:

60

 %GLIDE:
 %RUN: %RIFFLE:

40

Gradient
Maximum
10

6

AJ SAMPLED REACH

Check ALL that apply

Comment RE: Reach consistency/Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

METHOD STAGE

- 1st sample pass-- 2nd
- ☐ BOAT ☐ HIGH
- ☐ WADE ☐ UP
- ☐ L. LINE ☐ NORMAL
- ☐ OTHER ☐ LOW
- ☐ DRY

DISTANCE

- ☐ 0.5 Km
- ☐ 0.2 Km
- ☐ 0.15 Km
- ☐ 0.12 Km
- ☐ OTHER

CLARITY

- 1st --sample pass-- 2nd
- ☐ < 20 cm
- ☐ 20-40 cm
- ☐ 40-70 cm
- ☐ > 70 cm/ GTB
- ☐ SECCHI DEPTH

meters

CANOPY

- ☐ > 85% OPEN
- ☐ 55%-<85%
- ☐ 30%-<55%
- ☐ 10%-<30%
- ☐ <10% CLOSED

CJ RECREATION

POOL: ☐ >100ft² ☐ >3ft

BJ AESTHETICS

- ☐ NUISANCE ALGAE
- ☐ INVASIVE MACROPHYTES
- ☐ EXCESS TURBIDITY
- ☐ DISCOLORATION
- ☐ FOAM / SCUM
- ☐ OIL SHEEN
- ☐ TRASH / LITTER
- ☐ NUISANCE ODOR
- ☐ SLUDGE DEPOSITS
- ☐ CSOs/SSOs/OUTFALLS

DJ MAINTENANCE

- PUBLIC / PRIVATE / BOTH / NA
- ACTIVE / HISTORIC / BOTH / NA
- YOUNG-SUCCESSION-OLD
- SPRAY / SNAG / REMOVED
- MODIFIED / DIPPED OUT / NA
- LEVEED / ONE SIDED
- RELOCATED / CUTOFFS
- MOVING-BEDLOAD-STABLE
- ARMOURED / SLUMPS
- ISLANDS / SCoured
- IMPOUNDED / DESICCATED
- FLOOD CONTROL / DRAINAGE

EJ ISSUES

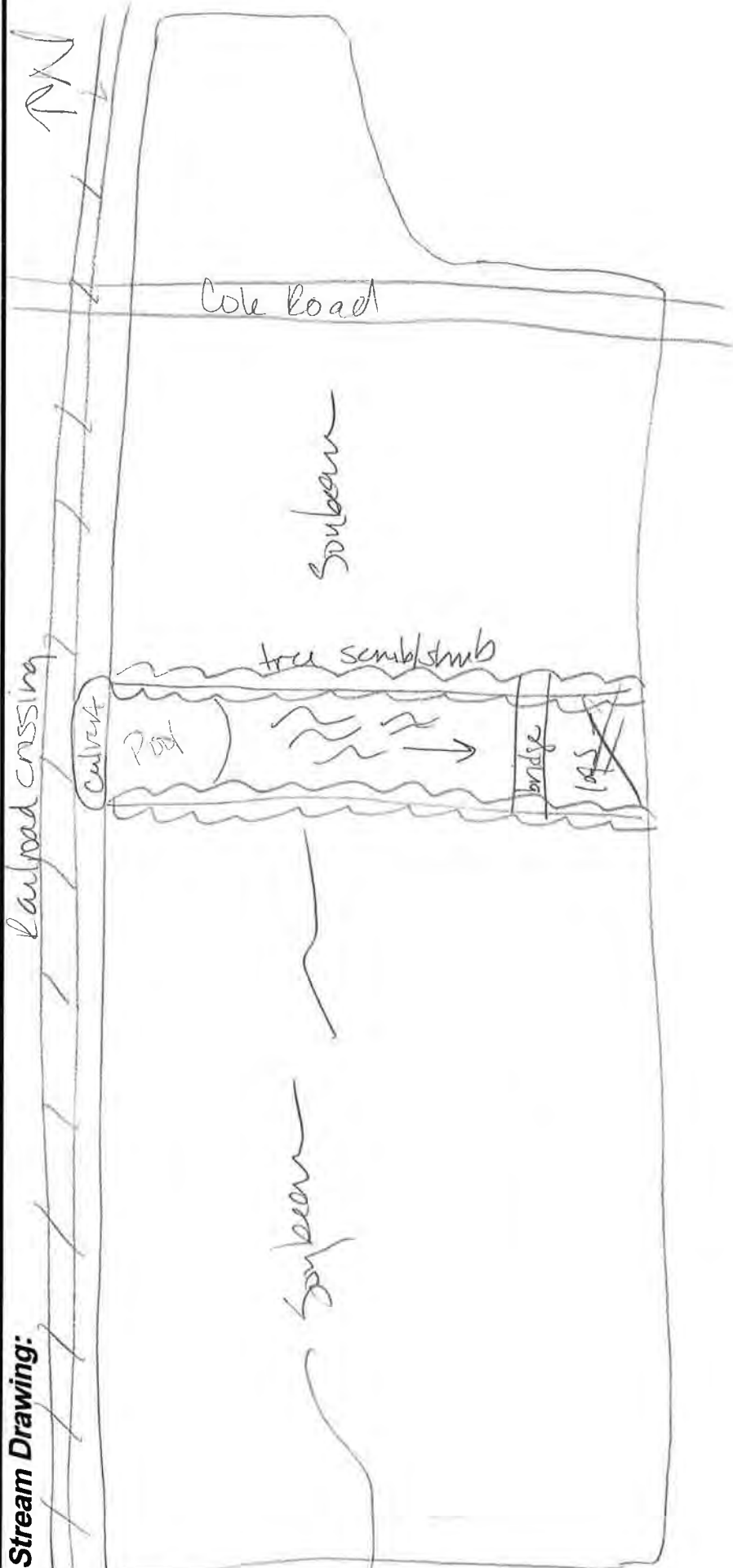
- WWTP / CSO / NPDES / INDUSTRY
- HARDENED / URBAN / DIRT&GRIME
- CONTAMINATED / LANDFILL
- BMPs-CONSTRUCTION-SEDIMENT
- LOGGING / IRRIGATION / COOLING
- BANK / EROSION / SURFACE
- FALSE BANK / MANURE / LAGOON
- WASH H₂O / TILE / H₂O TABLE
- ACID / MINE / QUARRY / FLOW
- NATURAL / WETLAND / STAGNANT
- PARK / GOLF / LAWN / HOME
- ATMOSPHERE / DATA PAUCITY

FJ MEASUREMENTS

- \bar{x} width
- \bar{x} depth
- max. depth
- \bar{x} bankfull width
- bankfull \bar{x} depth
- W/D ratio
- bankfull max. depth
- floodprone \bar{x}^2 width
- entrench. ratio

Legacy Tree:

Stream Drawing:



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in

Case No(s). 16-1558-EL-BLN

Summary: Letter of Notification - Part 7 of 7 electronically filed by Mrs. Erin C Miller on behalf of AEP Ohio Transmission Company