

4906-15-07 ECOLOGICAL IMPACT ANALYSIS

This section of the Application provides a summary of the studies that have been made regarding the ecological impact of expanding the existing Knox Substation as the Preferred Site of the proposed Knox Transmission Substation Project (“Project”). The Knox Substation presently exists and the surrounding area contains sufficient space for the proposed Project with minimal impacts. As such, an Alternative Site has been identified, but fully developed data on that site is not provided as any alternative site would have the potential for creating more ecological impacts than utilizing the land immediately adjacent to the existing Knox Substation. Fully developed data is provided for the Project’s Preferred Site, and is based on published data within 1,000 feet and field evaluation studies conducted on the property where the site is located. As the Alternate Site is located a short distance to the south of the Preferred Site, the site data for the Preferred Site is largely applicable to the Alternate Site.

(A) SUMMARY OF ECOLOGICAL IMPACT STUDIES

As part of the preparation of this Application, an ecological survey was conducted for the Project. The field survey was supplemented by published ecological information within 1,000 feet of the Project acquired through the review of aerial photography, United States Geological Survey (“USGS”) maps, United States Fish and Wildlife Service (“USFWS”) National Wetlands Inventory (“NWI”) maps, and U.S. Department of Agriculture (“USDA”) Natural Resources Conservation Service (“NRCS”) soil survey maps.

Additional information regarding local vegetation and wildlife was obtained from the USFWS, Ohio Department of Natural Resources - Division of Wildlife (“ODNR-DOW”), and ODNR-DOW Ohio Biodiversity Database (“OBD”). Comments from all three agencies have been received and are discussed in Section 4906-15-07(B)(3)(e) below.

A field reconnaissance to quantify the occurrence and quality of wetlands and streams was conducted by URS ecologists at the request of ATSI at the location of the proposed expansion and along the proposed transmission lines in the vicinity of the Project Site on March 8, 2012 and July 25, 2012. No wetlands, ponds, or threatened and endangered species habitat areas were

identified within 100 feet of the proposed Preferred substation expansion site. However, five streams were identified within 100 feet of the proposed substation expansion.

(B) ECOLOGICAL FEATURES

A map at a scale of 1:24,000 illustrating areas within 1,000 feet of the Preferred Site is presented as Figure 04-1. Features within 1,000 feet of the proposed site were derived from published data and, where possible, supplemented by the field survey.

(1) Route Alignments

The expansion to the existing Knox Substation is necessary in order to provide a connection for the existing East Akron-Sammis 138 kV Transmission Line to the Knox Substation. The new build construction necessary to connect the existing transmission line to the substation will be submitted to the Board as a Letter of Notification under separate cover.

(2) Substations

The proposed location for the Preferred Site of the Project, an expansion of the existing Knox Substation, can be seen on Figure 04-1. The existing Knox Substation footprint is located within an “L” shaped fenced in area, encompassing approximately 1.41-acres of an approximately 21.88 acre parcel, situated at 6551 Knox School Road. Ohio Edison owns the property at this location, and the property is currently used as a substation site. The proposed expansion of the Knox Substation adds an “L” shaped, approximately 0.63-acre polygon and is designed to expand the west and south fence lines of the Knox substation to an entire approximately 2.04-acre rectangular shape. Additional, approximately 0.5 acres adjacent to the west side of the substation will be graded to install a stormwater detention basin. Adjacent properties include agricultural fields and upland woodlots to the north and south. West of the substation is existing right-of-way, upland woodlots, and wetlands. East of the substation is upland woodlots, agricultural fields, and residential lots east of Knox School Road.

(3) All Areas Currently Not Developed For Agricultural, Residential, Commercial, Industrial, Institutional, or Cultural Purposes, Including:

(a) *Streams and Drainage Channels:* Streams and drainage channels mapped within 1,000 feet of the Preferred Site are shown on Figure 04-1. One unnamed stream (a tributary to Middle Branch Sandy Creek) is depicted on the USGS topographical maps (Homeworth quadrangle) within 1,000 feet of the Preferred Site. An additional six unnamed streams were observed within 1,000 feet of the Preferred Site during the field survey.

Stream assessments were conducted using the methods described in the Ohio Environmental Protection Agency's ("Ohio EPA") *Methods for Assessing Habitat in Flowing Waters: Using Ohio EPA's Qualitative Habitat Evaluation Index* (Rankin, 2006), and *Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams, version 1* (Davic, 2002).

Streams with a drainage basin less than one square mile were evaluated using the Ohio EPA's Headwater Habitat Evaluation Index ("HHEI") method. The HHEI is a rapid field assessment method for physical habitat that can be used to appraise the biological potential of most Primary Headwater Habitat ("PHWH") streams. Headwater streams are typically considered to be first- and second-order streams, meaning streams that have no upstream tributaries (or "branches") and those that have only first-order tributaries, respectively. Headwater streams are scored on the basis of channel substrate composition, bankfull width, and maximum pool depth. Assessed areas result in a score (0 to 100) that is converted to a specific PHWH stream class. Streams that are scored from 0 to 29.9 are typically grouped into "Class 1 PHWH Streams", 30 to 69.9 are "Class 2 PHWH Streams", and 70 to 100 are "Class 3 PHWH Streams". There is flexibility and some "gray area" in the scoring system; a stream can score relatively high, but actually belong in a lower class, and vice-versa. Evidence of anthropogenic alterations to the natural channel will result in a "Modified" qualifier for the stream.

The Qualitative Habitat Evaluation Index ("QHEI") is designed to provide a rapid determination of habitat features that correspond to those physical factors that most affect fish communities and which are generally important to other aquatic life (e.g., macroinvertebrates). The quantitative measure of habitat used to calibrate the QHEI score are Indices (or Index) of Biotic Integrity ("IBI") for fish. In most instances the QHEI is sufficient to give an indication of habitat quality,

and the intensive qualitative analysis used to measure the IBI is not necessary. It is the IBI, rather than the QHEI, that is directly correlated with the aquatic life use designation for a particular surface water.

The QHEI method is generally considered appropriate for waterbodies with drainage basins greater than one square mile, if natural pools are greater than 40 cm, or if the water feature is shown as blue-line waterways on USGS 7.5-minute topographic quadrangle maps. In order to convey general stream habitat quality to the regulated public, the Ohio EPA has assigned narrative ratings to QHEI scores. The ranges vary slightly for headwater streams (H, those with a watershed area less than or equal to 20 square miles) versus larger streams (L, those with a watershed area greater than 20 square miles). The Narrative Rating System includes: Very Poor (<30 H and L), Poor (30 to 42 H, 30 to 44 L), Fair (43 to 54 H, 45 to 59 L), Good (55 to 69 H, 60 to 74 L) and Excellent (70+ H, 75+ L).

Streams that were field delineated in the vicinity of the Preferred Site are shown on Figure 04-1. Five streams were delineated within 100 feet of the Preferred Site.

(b) Lakes, Ponds, and Reservoirs: No lakes, ponds or reservoirs were mapped within 1,000 feet of the Preferred Site on the USGS topographic maps, or were visible on aerial photography of the Preferred Site.

(c) Marshes, Swamps, and Other Wetlands: Wetlands are defined as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation (hydrophytic) typically adapted for life in saturated (hydric) soil conditions.

To identify whether wetlands potentially existed on the Site, as established by the USACE 1987 *Wetland Delineation Manual* (1987 Manual) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)* ("Regional Supplement"), a desktop study of available resources was reviewed prior to the field wetland delineation of the Project area. USFWS NWI maps and NRCS soil survey and hydric soil lists for Columbiana County, Ohio were reviewed for areas within 1,000 feet of the Site. NWI areas are shown on Figure 04-1. No NWI areas were mapped within 100 feet of the

Preferred Site, but one NWI area was mapped within 1,000 feet of the Preferred Site. This area is depicted approximately 660 feet north of the Preferred Site and is classified as a Palustrine Emergent Saturated (PEMB) wetland.

The Ohio Rapid Assessment Method v5.0 (“ORAM”) was developed to determine the relative ecological quality and level of disturbance of a particular wetland. Wetlands are scored on the basis of hydrology, upland buffer, habitat alteration, special wetland communities, and vegetation communities. Each of these subject areas is further divided into subcategories under ORAM v5.0 resulting in a score that describes the wetland using a range from 0 (low quality and high disturbance) to 100 (high quality and low disturbance). Wetlands scored from 0 to 29.9 are grouped into "Category 1", 30 to 59.9 are "Category 2" and 60 to 100 are "Category 3". Transitional zones exist between “Categories 1 and 2” from 30 to 34.9 and between “Categories 2 and 3” from 60 to 64.9. However, according to the OEPA, if the wetland score falls into the transitional range, it must be given the higher Category unless scientific data can prove it should be in a lower category (Mack 2001).

During the wetland delineation, no wetlands were delineated within 100 feet of the proposed Preferred Site.

(d) *Woody and Herbaceous Vegetation Land:* The Preferred Site is located in a rural area occupied by agricultural fields and some residences, approximately 1.4 miles north of Chambersburg, Ohio, as shown on Figure 07-1. Significant tree clearing for the proposed substation upgrade at the Preferred Site will not be conducted since the expansion is chiefly within the maintained area around the existing substation. A habitat description applicable to the Site is provided in section 4906-15-07(E).

(e) *Locations of Threatened and Endangered Species:* Correspondence letters were sent to USFWS, ODNR-DOW, and OBD requesting their initial comments regarding the Project and its potential, if any, to impact species of concern. The OBD sent a letter response on February 9, 2012 that said there are no records of rare or endangered species, as well as no unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, nature preserves, parks or forests, national wildlife refuges, parks or forests, or other protected natural areas within one mile of the Project area. The USFWS provided a letter response on June 6, 2012 that

indicated the Project is within the range of six Federally protected species of concern. The ODNR-DOW provided an email response on June 27, 2012 that indicated the Project is within the range of eight state protected species of concern, and they also recommended that the contractor check for potential abandoned underground mines, abandoned oil and gas wells, and reclaimed or unreclaimed strip mining at the site. Based on the comments provided by the three agencies, it is unlikely that the Project will impact threatened and endangered species since all work will occur largely within maintained areas outside the existing Knox Substation fence.

Correspondence letters from OBD, ODNR-DOW, and USFWS are included in Appendix 07-1. Table 07-1 lists the species identified in ODNR-DOW and USFWS correspondence, species state and/or Federal protection status, and a summary of the agency's comments.

TABLE 07-1
STATE AND FEDERALLY LISTED SPECIES IDENTIFIED IN AGENCY CORRESPONDENCE FOR THE
KNOX SUBSTATION EXPANSION PROJECT

Common Name	Scientific Name	State Status ¹	ODNR-DOW Comments	Federal Status ²	USFWS Comments
Amphibians					
Eastern Hellbender	<i>Cryptobranchus alleganiensis alleganiensis</i>	Endangered	Project is within the range of this species. Recommend the Project be developed to minimize indirect stream impacts.	Species of Concern	Project is within the range of this species. Due to the Project type, location, and onsite habitat, this species would not be expected within the Project area, and no impacts to this species are expected. This precludes the need for further action on this Project for this species.
Birds					
American Bittern	<i>Botaurus lentiginosus</i>	Endangered	Project is within the range of this species. Nesting bitterns prefer large undisturbed wetlands that have scattered small pools amongst dense vegetation. They occasionally occupy bogs, large wet meadows, and dense shrubby swamps. If this type of habitat will be impacted, construction must be avoided in this habitat during the species' nesting period of May 1 to July 31. If this habitat will not be impacted, the Project is not likely to impact this species.	None	Did not comment on this species.
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Endangered	Project is within the range of this species, however the Ohio Biodiversity Database currently has no records of this species near the Project area.	None	Species is protected under the Bald and Golden Eagle Protection Act and Migratory Bird Treaty Act. Due to the Project type, location, and onsite habitat, this species would not be expected within the Project area, and no impacts to this species are expected. Relative to this species, no further action on this Project is needed.
Mammals					

TABLE 07-1
STATE AND FEDERALLY LISTED SPECIES IDENTIFIED IN AGENCY CORRESPONDENCE FOR THE
KNOX SUBSTATION EXPANSION PROJECT

Common Name	Scientific Name	State Status ¹	ODNR-DOW Comments	Federal Status ²	USFWS Comments
Black Bear	<i>Ursus americanus</i>	Endangered	Project is within the range of this species, however due to the mobility of this species, the Project is not likely to have an impact on this species.	None	Did not comment on this species.
Indiana Bat	<i>Myotis sodalis</i>	Endangered	Project is within the range of this species, therefore recommend that if tree cutting cannot be avoided, trees should only be cut between September 30 and April 1. If seasonal tree clearing guidelines cannot be implemented, surveys may be warranted to determine if bats are present.	Endangered	Project is within the range of this species, and recommend that suitable tree habitat not be cut. If trees must be cut, further coordination with this office (USFWS) is requested to determine if surveys are warranted.
Mussels					
Sheepnose	<i>Plethobasus cyphus</i>	Endangered	Project is within the range of these two species. If no in-water work is proposed in perennial streams, the project is not likely to impact these species.	Endangered	Project is within the range of these species. Due to the Project type, location, and onsite habitat, these species would not be expected within the Project area, and no impacts to these species are expected. This precludes the need for further action on this Project for these species.
Snuffbox	<i>Epioblasma triquetra</i>	Endangered		Endangered	
Snakes					
Eastern Massasauga	<i>Sistrurus catenatus</i>	Endangered	Project is within the range of this species, but due to the lack of records in the Project area for this species and the type of work proposed, the Project is not likely to impact this species.	Candidate Species	Project is within the range of this species. Due to the Project type, location, and onsite habitat, this species would not be expected within the Project area, and no impacts to this species are expected. This precludes the need for further action on this Project for this species.

State Status¹: ODNR Email; 06/27/2012. Knox Substation Expansion Project

Federal Status²: USFWS Letter; 06/07/2012. Re: Technical Assistance Knox Substation Expansion Project, Chambersburg, Ohio (Columbiana Co.)

(4) Soil Associations in the Corridor:

The Rittman-Wadsworth-Orrville soil association is mapped at the Site (U.S. Department of Agriculture [USDA], 1990). Figure 04-1 shows the soil associations in the study area. Based on soil series data, areas with slopes greater than 12 percent or highly erodible soils are limited in the study area, as shown on Figure 04-1. These areas are described in section 4906-15-07 (G). No soil conditions were found that would potentially limit construction of the proposed Project.

(C) IMPACTS OF ALTERNATIVE ROUTES ON WATERBODIES**(1) Construction Impact**

No wetland or pond crossings are anticipated during construction activities at the Preferred Site. However, in order to construct the expansion, five streams totaling approximately 739 linear feet will be filled. The stream channels will be incorporated into the footprint of the expanded substation and as part of the stormwater system.

United States Army Corps of Engineer's ("USACE") Nationwide Permit 12 ("NW-12") permits utility line activities that result in the loss of up to 0.5 acre of waters of the United States. The NW-12 Specific Regional Conditions require Pre-construction notification (PCN) for "All work in waters of the U.S., including special aquatic sites, associated with utility line substations." The total area (length impacted x bankfull width) of waters of the US affected by the Project is approximately 1,367 square feet, or approximately 0.0296 acre. Prior to commencing construction, a PCN will be submitted to the USACE requesting authorization for the work under NW-12. Given the limited scope, coordination or notice to Ohio EPA is not required.

Appendix 07-2 contains the *Wetland Delineation and Stream Assessment Report* for the proposed Knox Substation expansion project. Appendix 07-2 provides a more detailed review of the streams within the Project area, and includes associated forms and photos.

(2) Operation and Maintenance Impact

Once the new substation equipment is in operation, no significant impact to streams or drainage channels is anticipated. No major lakes, ponds, or reservoirs are anticipated to be affected by the operation or maintenance of the Site.

(3) Mitigation Procedures

A PCN will be submitted to the USACE requesting authorization for the work under NW-12. Stream mitigation is not anticipated. A Storm Water Pollution Prevention Plan (“SWPPP”) and Best Management Practices (“BMPs”) will be implemented during installation of the Project to control erosion. Areas where soil has been disturbed will be seeded and mulched to prevent soil erosion and sedimentation.

(D) WETLANDS IMPACT**(1) Construction Impact**

No wetlands were identified within the footprint of the Preferred Site. Therefore, no impacts to wetlands are anticipated during construction of the Project at the Preferred Site.

(2) Operation and Maintenance Impact

No wetlands were identified within the footprint of the Preferred Site. Therefore, no impacts to wetland are anticipated during operation or maintenance of the Project at the Preferred Site.

(3) Mitigation Procedures

No wetland impacts are expected. Therefore, no mitigation procedures are proposed.

(E) VEGETATION IMPACT**(1) Construction Impact**

Since the Preferred Site is currently utilized as a maintained substation and upland field, and no wooded areas are located within the expanded fence line of the Project site at the Preferred Site, there is no potential impact to woody vegetation. Since the Project site is currently utilized as a maintained substation and upland field, there will be some minimal impact to herbaceous vegetation.

(2) Operation and Maintenance Impact

During operation of the substation, no impacts to vegetated land are anticipated any impact would have occurred during construction. The land in the vicinity of the Preferred Site that is not disturbed by construction should retain its current vegetation composition and continue successional development at a normal rate, unless within existing transmission line right-of-ways or the maintained substation area.

(3) Mitigation Procedures

Experience shows that seeding in non-wetland areas is effective to control erosion on areas disturbed by construction activities. Seeding is typically included as part of the construction stormwater BMPs in order to rapidly restore site surface soils and prevent erosion and possible sedimentation. These measures should preserve the aesthetic qualities adjacent to the site and help prevent erosion and sedimentation.

**(F) COMMERCIAL, RECREATIONAL, AND
THREATENED/ENDANGERED SPECIES IMPACTS**

The Project is located in a rural setting with agricultural, forested, and some residential properties scattered through the landscape. The Preferred Site is currently developed with the existing Knox Substation, and the proposed expansion of the existing substation will occur primarily in maintained areas and upland field, which could provide potential habitat for some wildlife species.

Discussions regarding protected species are based on results of the OBD review and agency comments from USFWS and ODNR-DOW.

Details on the expected impacts of construction, operation and maintenance, and mitigation procedures can be found following the commercial, recreational, and threatened and endangered species descriptions.

(1) Construction

Commercial Species: The commercially important species that could utilize the maintained upland field and right-of-way include the following:

Coyote (*Canis latrans*): Historically, coyotes prefer open territory, but in Ohio they have adapted to various habitat types. Coyotes are a very adaptable species that has prospered despite the expanding presence of human impact. This species could live near the proposed Preferred Site and use it as hunting grounds. This species was not observed during the field investigation.

Raccoon (*Procyon lotor*): The raccoon is abundant and widespread in Ohio. Raccoons are found principally around aquatic and woodland habitats, with occasional forages into croplands and open areas. This species was not observed during the field investigation, but it could utilize the proposed Preferred Site.

Red fox (*Vulpes vulpes*): The red fox occurs throughout Ohio and is most prevalent in areas of maximum interspersed of woodland, cropland, brush, pastures, and edges of open areas that provide suitable hunting ground. This species was not observed during the field investigation, but it could utilize the proposed Preferred Site.

Striped skunk (*Mephitis mephitis*): The skunk prefers a semi-open habitat of mixed woods, brush, farmland, open grassland, and small caves in proximity to water. These mammals are common statewide. This species was not observed during the field investigation, but it could utilize the proposed Preferred Site.

Virginia opossum (*Didelphis virginiana*): The opossum's preferred habitat is an area interspersed with woods, wetlands, and farmland. This species was not observed during the field investigation, but it could utilize the proposed Preferred Site.

Recreational Species: Recreational terrestrial species consist of those hunted as game. Recreational species that could utilize the proposed site include the following:

Fowl

American crow (*Corvus brachyrhynchos*): The American crow is found in all 88 Ohio counties and thrive in habitats with open fields. American crows were observed during the field investigation near the proposed Preferred Site.

American woodcock (*Scolopax minor*): Woodcock are native Ohio shorebirds that prefer a combination of wet, early successional understory and drier uplands. They prefer to nest in northeast and northwest Ohio along Lake Erie, but likely breed in every Ohio county. This species could inhabit the proposed Preferred Site. No American woodcocks were observed during the field investigation.

Mourning dove (*Zenaida macroura*): Mourning doves regularly reside near rural and suburban residences, nesting in shrubbery and shade trees while finding plentiful sources of food on residential lawns and bird feeders. They are also numerous in rural farmlands where they forage in cultivated fields and nest along fencerows and the edges of woodlots. Habitat for this species is present at the proposed Preferred Site, and several individuals of this species were observed at the Preferred Site.

Northern bobwhite quail (*Colinus virginianus*): The bobwhite quail is a forest edge species that prefers to live on dry ground and seek cover in brush or woodlands. Typically, these birds do not migrate, but adapt to seasonal changes. This species could exist at the proposed Preferred Site, however, it was not observed.

Wild turkey (*Meleagris gallopavo*): Wild turkeys are very adaptable animals. Although they prefer mature forests, with substantial cover and suitable food

sources, they can live successfully in areas with as little as 15 percent forest cover. Wild turkeys were not observed at the proposed Preferred Site, however they could utilize the site as foraging habitat.

Mammals

Eastern cottontail rabbit (*Sylvilagus floridanus*): It is abundant in both rural and urban areas and prefers field borders, brushy areas, and thickets that occur along the proposed routes. This species preferred habitat is found within the proposed Preferred Site, however, no rabbits were observed.

White-tailed deer (*Odocoileus virginianus*): White-tailed deer occur throughout Ohio. Deer are very adaptable animals that can be found in almost all habitats throughout Ohio. This species was not observed, but it likely utilizes the Preferred Site as foraging habitat.

Woodchuck (*Marmota monax*): The woodchuck or groundhog is a common ground squirrel found throughout Ohio. It prefers sloped areas at the fringe of wooded and open areas. This species could inhabit the proposed Preferred Site, but was not observed.

Game Fish: Based upon the nature of the surface waters crossed, no game fish are anticipated to inhabit the streams that are within the proposed Preferred Site for the substation expansion.

Protected Species: The USFWS and ODNR-DOW were contacted regarding the potential for occurrence of threatened and endangered species in the Project vicinity. The USFWS commented that the Project is within the range of six Federally protected species of concern. The ODNR-DOW commented that the Project is within the range of eight state protected species of concern. All six species discussed by USFWS were also included in the comments provided by ODNR-DOW. None of the species listed by the USFWS or ODNR-DOW were observed at the time of the field reconnaissance.

Amphibians

Both the ODNR-DOW and USFWS indicated that the Project is in the range of the eastern hellbender. The ODNR-DOW recommended that the Project be developed to minimize indirect stream impacts. The USFWS said that due to the Project type, location, and onsite habitat, this species would not be expected within the Project area, and no impacts to this species are expected.

Birds

The ODNR-DOW commented that if construction must occur in bogs, large wet meadows, and dense shrubby swamps, construction must not occur in this habitat during the American bittern's nesting period of May 1st through July 31st. The USFWS did not comment on the American bittern.

Both the ODNR-DOW and USFWS indicated that the Project is in the range of the bald eagle, however there are no Ohio Biodiversity Database records of this species near the Project area and there should be no construction impacts to this species.

Mammals

The ODNR-DOW stated that although the Project is within the range of the black bear, the Project is not likely to have an impact on this species due to its mobility. USFWS did not comment on this species.

To avoid direct impacts to Indiana bat roosting and foraging habitat, ODNR-DOW recommended that tree clearing be completed between September 30th and April 1st, or that ecological surveys be conducted during summer months to determine whether Indiana bats are using the Project area for summer roosting and foraging. USFWS recommended that suitable tree habitat not be cut, however, if tree cutting is necessary, further coordination with their office is required. Based on the field surveys, there are no trees within the proposed footprint for the expansion area. In the event tree removal must occur, ATSI will coordinate any necessary surveys to establish whether the Indiana bat is present or not with USFWS.

Mussels

The ODNR-DOW commented that if no in-water work is proposed in perennial streams, the Project is not likely to impact sheepnose and snuffbox mussels. The USFWS also commented that based on the Project type, location, and onsite habitat, the sheepnose and snuffbox mussels would not be expected within the Project area, and no impacts to these species are expected.

Snakes

The ODNR-DOW commented that although the Project is within the range of the eastern massasauga, the Project is not likely to impact the species based on the lack of records in the Project area, and the type of work proposed. The USFWS commented that due to the Project type, location, and onsite habitat, this species would not be expected within the Project area, and no impacts to this species are expected.

Construction adjacent to the existing substation footprint at the Preferred Site would likely result in no impacts to protected species due to the lack of suitable habitat for animal species at the current Site. Based on the nature of the proposed Project activities and habitat characteristics of the surrounding vicinity, construction impacts to protected species are not anticipated.

(2) Operation and Maintenance Impact

During operation and maintenance of the substation, impacts on wildlife are anticipated to be minor.

(3) Mitigation Procedures

The Preferred Site has been examined in the field and reviewed on aerial photographs by experienced biologists. No significant problem areas that would require the use of special mitigation measures for wildlife have been identified. If, however, such

conditions are recognized at a later date, the condition should be mitigated appropriately on an individual basis.

(G) SLOPES AND ERODIBLE SOILS

(1) Construction Impact

A map of slopes exceeding 12 percent (as calculated from the USGS Digital Elevation Model of the area) is provided on Figures 04-1. Although no soil types exceeding 12 percent slope are mapped at the site, a portion of the northern area of the Preferred Site is shown with a slope of up to 12 percent. This soil type is the Rittman silt loam, 6 to 12 percent slopes (RsC). A description of this soil type is provided below:

Rittman silt loam, 6 to 12 percent slopes (RsC)

According to the Soil Survey of Columbiana County, Ohio, this is a very deep, moderately well-drained soil found on backslopes, shoulders and summits of till plains. The parent material is loamy till, with approximately 2 to 3 percent organic matter content in the surface layer. Permeability is moderate above the fragipan and slow in the fragipan. The potential for surface runoff is high, but the potential for wind erosion is slight. The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. The Soil Survey of Columbiana County states that this soil is poorly suited to building site development and structures may need special design to avoid damage from wetness.

A SWPPP will be implemented during construction to control erosion.

(2) Operation and Maintenance Impact

Once the substation equipment is in place, no impacts or erosion hazards are expected.

(3) Mitigation Procedures

No special mitigation procedures are anticipated beyond those required as part of the stormwater permit and stormwater pollution prevention plan.

(H) Other Issues

No other issues are anticipated.

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