

**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  
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March 26, 2018

Jake Lubbers  
AECOM  
525 Vine Street, Suite 1800  
Cincinnati, Ohio 45202

**Re:** 18-313; Beaver - Brownhelm 138 kV Transmission Line Rebuild Project

**Project:** The proposed project involves upgrading and rebuilding approximately 2.5 miles of the 138 kV overhead electric transmission line within the existing right-of-way.

**Location:** The proposed project is located in Brownhelm Township, Lorain 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 records at or within a one-mile radius of the project area:

Round-leaved dogwood (*Cornus rugosa*), P  
Seaside spurge (*Euphorbia polygonifolia*), P

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.

Statuses are defined as: E = state endangered; T = state threatened; P = state potentially threatened; SC = state species of concern; SI = state special interest; A = species recently added to state inventory, status not yet determined; X = presumed extirpated in Ohio; FE = federal

endangered, FT = federal threatened, FSC = federal species of concern, FC = federal candidate species.

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

The DOW recommends that impacts to 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: 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 range of the Ohio lamprey (*Ichthyomyzon bdellium*), a state endangered fish, the lake sturgeon (*Acipenser fulvescens*), a state endangered fish and a federal species of concern, the channel darter (*Percina copelandi*), a state threatened fish, the American eel (*Anguilla rostrata*), a state threatened fish, and the bigmouth shiner (*Notropis dorsalis*), 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. Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact these species.

The project is within the range of the Blanding's turtle (*Emydoidea blandingii*), a state threatened species. This species inhabits marshes, ponds, lakes, streams, wet meadows, and swampy forests. Although essentially aquatic, the Blanding's turtle will travel over land as it moves from one wetland to the next. Due to the location, the type of habitat at the project site and within the vicinity of the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the spotted turtle (*Clemmys guttata*), a state threatened species. This species prefers fens, bogs and marshes, but also is known to inhabit wet prairies, meadows, pond edges, wet woods, and the shallow sluggish waters of small streams and ditches. Due to the location, the type of habitat at the project site and within the vicinity of the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the Kirtland's warbler (*Setophaga kirtlandii*), a state endangered and federally endangered bird. This species migrates through Ohio in the spring and fall, traveling between its breeding grounds in Michigan, Wisconsin, and Ontario and its wintering grounds in the Bahamas. While migration occurs in a broad front across the entire state, approximately half of all observations in Ohio have occurred within 3 miles of the Lake Erie shoreline. Migrating birds usually forage in forested or shrub/scrub habitat and may stay in one area for several days. Because so much of the southern Lake Erie shoreline is already developed, and stopover habitat is already so fragmented, the DOW recommends that this stopover habitat, (i.e. forested or shrub/scrub area), within three miles of the shoreline be preserved whenever possible. If clearing of suitable habitat cannot be avoided, to preclude adverse effects to Kirtland's warblers, clearing within 3 miles of the Lake Erie shoreline should be avoided from April 22<sup>nd</sup> through June 1<sup>st</sup>, and from August 15<sup>th</sup> through October 15<sup>th</sup>.

The project is within the range of the piping plover (*Charadrius melodus*), a state endangered and federally endangered bird. This species does not nest in the state but does utilize stopover habitat as it migrates through the region. Due to the location, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the sandhill crane (*Grus canadensis*), a state endangered species. Sandhill cranes are primarily a wetland-dependent species. On their wintering grounds, they will utilize agricultural fields; however, they roost in shallow, standing water or moist bottomlands. On breeding grounds they require a rather large tract of wet meadow, shallow marsh, or bog for nesting. If grassland, prairie, or wetland habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 1 to September 1. If this habitat will not be impacted, this project is not likely to have an impact on this 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.

The project is within the range of the northern harrier (*Circus cyaneus*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 15 to August 1. If this habitat will not be impacted, the 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.

**Water Resources:** The Division of Water Resources has the following comment.

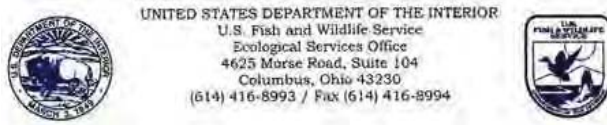
The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project. Your local floodplain administrator contact information can be found at the website below.

[http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List\\_8\\_16.pdf](http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List_8_16.pdf)

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 on behalf of Ohio, FW3 <ohio@fws.gov>  
**Sent:** Monday, March 05, 2018 9:49 AM  
**To:** Lubbers, Jake  
**Cc:** nathan.reardon@dnr.state.oh.us; kate.parsons@dnr.state.oh.us  
**Subject:** First Energy, Beaver-Brownhelm 138 kV Transmission Line Rebuild, Lorain Co.



TAILS# 03E15000-2018-TA-0858

Dear Mr. Lubbers,

We have received your recent correspondence requesting information about the subject proposal. There are no federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area. The following comments and recommendations will assist you in fulfilling the requirements for consultation under section 7 of the Endangered Species Act of 1973, as amended (ESA).

The U.S. Fish and Wildlife Service (Service) recommends that proposed developments avoid and minimize water quality impacts and impacts to high quality fish and wildlife habitat (e.g., forests, streams, wetlands). Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. All disturbed areas should be mulched and revegetated with native plant species. Prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

**FEDERALLY LISTED SPECIES COMMENTS:** All projects in the State of Ohio lie within the range of the federally endangered **Indiana bat** (*Myotis sodalis*) and the federally threatened **northern long-eared bat** (*Myotis septentrionalis*). In Ohio, presence of the Indiana bat and northern long-eared bat is assumed wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags  $\geq 3$  inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves and abandoned mines.

Should the proposed site contain trees  $\geq 3$  inches dbh, we recommend that trees be saved wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees  $\geq 3$  inches dbh cannot be avoided, we recommend that removal of any trees  $\geq 3$  inches dbh only occur between October 1 and March 31. Seasonal clearing is being recommended to avoid adverse effects to Indiana bats and northern long-eared bats. While incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule (see <http://www.fws.gov/midwest/endangered/mammals/nleb/index.html>), incidental take of Indiana bats is still prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

If implementation of this seasonal tree cutting recommendation is not possible, summer surveys may be conducted to document the presence or probable absence of Indiana bats within the project area during the summer. If a summer survey documents probable absence of Indiana bats, the 4(d) rule for the northern long-eared bat could be applied. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Endangered Species Coordinator for this office. Surveyors must have a valid federal permit. Please note that summer surveys may only be conducted between June 1 and August 15.

The proposed project lies within the range of the **Kirtland's warbler** (*Setophaga kirtlandii*), a federally listed endangered species. The Kirtland's warbler is a small blue-gray songbird with a bright yellow breast. This species migrates through Ohio in the spring and fall, traveling between its breeding grounds in Michigan, Wisconsin, and Ontario and its wintering grounds in the Bahamas. While migration occurs in a broad front across the entire state, approximately half of all observations in Ohio have occurred within 3 miles of the shoreline of Lake Erie. During migration, individual birds usually forage in shrub/scrub or forested habitat and may stay in one area for a few days. If clearing of suitable habitat cannot be avoided, to preclude adverse effects to migrating Kirtland's warblers, clearing within 3 miles of the shoreline of Lake Erie should not occur from April 22<sup>nd</sup>

– June 1<sup>st</sup>, or from August 15<sup>th</sup> – October 15<sup>th</sup>.

The project lies within the range of the **piping plover** (*Charadrius melodus*), a federally listed endangered 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. Relative to this species, this precludes the need for further action on this project as required by the 1973 Endangered Species Act.

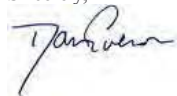
If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed. We recommend 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.

Due to the project type, size, and location, we do not anticipate adverse effects to any other 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 Service should be initiated to assess any potential impacts.

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 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](mailto: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](mailto:ohio@fws.gov).

Sincerely,



Dan Everson  
Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW  
Kate Parsons, ODNR-DOW





# 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 25, 2018

Jason Tucker  
AECOM  
525 Vine Street, Suite 1800  
Cincinnati, Ohio 45202

**Re:** 18-460; Beaver-Black River 138 kV Transmission Line Rebuild Project

**Project:** The proposed project involves the rebuild of approximately 8.5 miles of 138 kV transmission line from Structure 1055 at the Black River Substation in the City of Lorain to Structure 1044.

**Location:** The proposed project is located in Sheffield, Amherst, and Brownhelm Townships, Lorain 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 records at or within a one-mile radius of the project area.

Round-leaved dogwood (*Cornus rugosa*), P  
Great blue heron rookery  
Amherst Beaver Creek Reservation – Lorain Co. Metro Parks

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.

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.

**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 Ohio lamprey (*Ichthyomyzon bdellium*), a state endangered fish, the lake sturgeon (*Acipenser fulvescens*), a state endangered fish and a federal species of concern, the channel darter (*Percina copelandi*), a state threatened fish, the American eel (*Anguilla rostrata*), a state threatened fish, and the bigmouth shiner (*Notropis dorsalis*), a state threatened fish. The DOW recommends no in-water work from April 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water is proposed, this project is not likely to impact these species.

The project is within a county where current records exist for the Blanding's Turtle (*Emydoidea blandingii*), a state threatened species. This species inhabits marshes, ponds, lakes, streams, wet meadows, and swampy forests. Although essentially aquatic, the Blanding's turtle will travel over land as it moves from one wetland to the next. Due to the location, the type of habitat at the project site and within the vicinity of the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the spotted turtle (*Clemmys guttata*), a state threatened species. This species prefers fens, bogs and marshes, but also is known to inhabit wet prairies, meadows, pond edges, wet woods, and the shallow sluggish waters of small streams and ditches. Due to the location, the type of habitat at the project site and within the vicinity of the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the Kirtland's warbler (*Setophaga kirtlandii*), a state endangered and federally endangered bird. This species migrates through Ohio in the spring and fall, traveling between its breeding grounds in Michigan, Wisconsin, and Ontario and its wintering grounds in the Bahamas. While migration occurs in a broad front across the entire state, approximately half of all observations in Ohio have occurred within 3 miles of the Lake Erie shoreline. Migrating birds usually forage in forested or shrub/scrub habitat and may stay in

one area for several days. Because so much of the southern Lake Erie shoreline is already developed, and stopover habitat is already so fragmented, the DOW recommends that this stopover habitat, (i.e. forested or shrub/scrub area), within three miles of the shoreline be preserved whenever possible. If clearing of suitable habitat cannot be avoided, to preclude adverse effects to Kirtland's warblers, clearing within 3 miles of the Lake Erie shoreline should be avoided from April 22<sup>nd</sup> through June 1<sup>st</sup>, and from August 15<sup>th</sup> through October 15<sup>th</sup>.

The project is within the range of the piping plover (*Charadrius melodus*), a state endangered and federally endangered bird. This species does not nest in the state but does utilize stopover habitat as it migrates through the region. Due to the location, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the sandhill crane (*Grus canadensis*), a state endangered species. Sandhill cranes are primarily a wetland-dependent species. On their wintering grounds, they will utilize agricultural fields; however, they roost in shallow, standing water or moist bottomlands. On breeding grounds, they require a rather large tract of wet meadow, shallow marsh, or bog for nesting. Due to the location, the type of habitat at the project site, and the type of work proposed, this project is not likely to impact this 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). Due to the location, the type of habitat at the project site, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the northern harrier (*Circus cyaneus*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. Due to the location, the type of habitat at the project site, and the type of work proposed, 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.

**Water Resources:** The Division of Water Resources has the following comment.

The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project. Your local floodplain administrator contact information can be found at the website below.

[http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List\\_8\\_16.pdf](http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List_8_16.pdf)

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:** Korfel, Lindsey <lindsey\_korfel@fws.gov>  
**Sent:** Monday, March 26, 2018 2:31 PM  
**To:** Tucker, Jason  
**Subject:** Beaver-Black River 138kV Transmission Line Rebuild, Lorain 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 # 03E15000-2018-TA-1013

Dear Mr. Tucker,

We have received your recent correspondence requesting information about the subject proposal. There are no federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area. The following comments and recommendations will assist you in fulfilling the requirements for consultation under section 7 of the Endangered Species Act of 1973, as amended (ESA).

The U.S. Fish and Wildlife Service (Service) recommends that proposed developments avoid and minimize water quality impacts and impacts to high quality fish and wildlife habitat (e.g., forests, streams, wetlands). Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. All disturbed areas should be mulched and revegetated with native plant species. Prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

**FEDERALLY LISTED SPECIES COMMENTS:** All projects in the State of Ohio lie within the range of the federally endangered **Indiana bat** (*Myotis sodalis*) and the federally threatened **northern long-eared bat** (*Myotis septentrionalis*). In Ohio, presence of the Indiana bat and northern long-eared bat is assumed wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags  $\geq 3$  inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves and abandoned mines.

Should the proposed site contain trees  $\geq 3$  inches dbh, we recommend that trees be saved wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees  $\geq 3$  inches dbh cannot be avoided, we recommend that removal of any trees  $\geq 3$  inches dbh only occur between October 1 and March

31. Seasonal clearing is being recommended to avoid adverse effects to Indiana bats and northern long-eared bats. While incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule (see <http://www.fws.gov/midwest/endangered/mammals/nleb/index.html>), incidental take of Indiana bats is still prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

If implementation of this seasonal tree cutting recommendation is not possible, summer surveys may be conducted to document the presence or probable absence of Indiana bats within the project area during the summer. If a summer survey documents probable absence of Indiana bats, the 4(d) rule for the northern long-eared bat could be applied. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Endangered Species Coordinator for this office. Surveyors must have a valid federal permit. Please note that summer surveys may only be conducted between June 1 and August 15.

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 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.

Due to the project type, size, and location, we do not anticipate adverse effects to any other 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 Service should be initiated to assess any potential impacts.

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 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](mailto: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](mailto:ohio@fws.gov).

Sincerely,





**Lindsey M. Korfel**

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Ohio Field Office  
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**APPENDIX C**  
**PHOTOGRAPHIC LOG**



<b>Client Name:</b> ATSI	<b>Site Location:</b> Beaver-Brownhelm Junction – Black River 138 kV Transmission Line Rebuild Project, Lorain, Ohio	<b>Project No.</b> 60563907 60568495
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<b>Date:</b> June 9, 2018				
<b>Description:</b> Photo Location 1  Open field right of way with forested edges.				
				
	Facing North	Facing East		
				
	Facing South	Facing West		

<b>Client Name:</b> ATSI	<b>Site Location:</b> Beaver-Brownhelm Junction – Black River 138 kV Transmission Line Rebuild Project, Lorain, Ohio	<b>Project No.</b> 60563907 60568495
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<b>Date:</b> June 9, 2018  <b>Description:</b> Photo Location 2  Planted open field right of way with forested edges and access roadway used for hunting and dog training.		
	 <p>Facing North</p>	 <p>Facing East</p>
	 <p>Facing South</p>	 <p>Facing West</p>







<b>Client Name:</b> ATSI	<b>Site Location:</b> Beaver-Brownhelm Junction – Black River 138 kV Transmission Line Rebuild Project, Lorain, Ohio	<b>Project No.</b> 60563907 60568495
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<b>Date:</b> June 9, 2018  <b>Description:</b> Photo Location 3  Planted open field right of way with forested edges and access roadway used for hunting and dog training.		
	 <p>Facing North</p>	 <p>Facing East</p>
	 <p>Facing South</p>	 <p>Facing West</p>

<b>Client Name:</b> ATSI	<b>Site Location:</b> Beaver-Brownhelm Junction – Black River 138 kV Transmission Line Rebuild Project, Lorain, Ohio	<b>Project No.</b> 60563907 60568495
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<b>Date:</b> June 9, 2018  <b>Description:</b> Photo Location 4  Planted open field right of way with forested edges and access roadway used for hunting and dog training.		
	 <p>Facing North</p>	 <p>Facing East</p>
	 <p>Facing South</p>	 <p>Facing West</p>

<b>Client Name:</b> ATSI	<b>Site Location:</b> Beaver-Brownhelm Junction – Black River 138 kV Transmission Line Rebuild Project, Lorain, Ohio	<b>Project No.</b> 60563907 60568495
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<b>Date:</b> June 9, 2018  <b>Description:</b> Photo Location 5  Planted open field right of way with forested edges and access roadway used for hunting and dog training.		
	 <p>Facing North</p>	 <p>Facing East</p>
	 <p>Facing South</p>	 <p>Facing West</p>



<b>Client Name:</b> ATSI	<b>Site Location:</b> Beaver-Brownhelm Junction – Black River 138 kV Transmission Line Rebuild Project, Lorain, Ohio	<b>Project No.</b> 60563907 60568495
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<b>Date:</b>  June 9, 2018  <b>Description:</b>  Photo Location 6  Maintained open field right of way with forested edges.  Gun range to the east (notice earthen berm).			
	 <p>Facing North</p>	 <p>Facing East</p>	
	 <p>Facing South</p>	 <p>Facing West</p>	





<b>Client Name:</b> ATSI	<b>Site Location:</b> Beaver-Brownhelm Junction – Black River 138 kV Transmission Line Rebuild Project, Lorain, Ohio	<b>Project No.</b> 60563907 60568495
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<b>Date:</b> June 9, 2018  <b>Description:</b> Photo Location 7  Maintained open field right of way with forested edges and roadway.		
	 <p>Facing North</p>	 <p>Facing East</p>
	 <p>Facing South</p>	 <p>Facing West</p>





**APPENDIX C**  
**PHOTOGRAPHIC LOG**



<b>Client Name:</b> ATSI	<b>Site Location:</b> Beaver-Brownhelm Junction – Black River 138 kV Transmission Line Rebuild Project, Lorain, Ohio	<b>Project No.</b> 60563907 60568495
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<b>Date:</b> June 9, 2018  <b>Description:</b> Photo Location 1  Open field right of way with forested edges.		
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<b>Client Name:</b> ATSI	<b>Site Location:</b> Beaver-Brownhelm Junction – Black River 138 kV Transmission Line Rebuild Project, Lorain, Ohio	<b>Project No.</b> 60563907 60568495
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<b>Date:</b> June 9, 2018  <b>Description:</b> Photo Location 2  Planted open field right of way with forested edges and access roadway used for hunting and dog training.		
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<b>Client Name:</b> ATSI	<b>Site Location:</b> Beaver-Brownhelm Junction – Black River 138 kV Transmission Line Rebuild Project, Lorain, Ohio	<b>Project No.</b> 60563907 60568495
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<b>Description:</b> Photo Location 3  Planted open field right of way with forested edges and access roadway used for hunting and dog training.			
			
	Facing North	Facing East	
			
	Facing South	Facing West	

<b>Client Name:</b> ATSI	<b>Site Location:</b> Beaver-Brownhelm Junction – Black River 138 kV Transmission Line Rebuild Project, Lorain, Ohio	<b>Project No.</b> 60563907 60568495
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<b>Date:</b> June 9, 2018			
<b>Description:</b> Photo Location 4  Planted open field right of way with forested edges and access roadway used for hunting and dog training.			
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<b>Client Name:</b> ATSI	<b>Site Location:</b> Beaver-Brownhelm Junction – Black River 138 kV Transmission Line Rebuild Project, Lorain, Ohio	<b>Project No.</b> 60563907 60568495
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<b>Client Name:</b> ATSI	<b>Site Location:</b> Beaver-Brownhelm Junction – Black River 138 kV Transmission Line Rebuild Project, Lorain, Ohio	<b>Project No.</b> 60563907 60568495
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	 <p>Facing North</p>	 <p>Facing East</p>
	 <p>Facing South</p>	 <p>Facing West</p>

# **BEAVER-BROWNHELM JUNCTION AND BLACK RIVER 138kV TRANSMISSION LINE REBUILD PROJECT**

## ***WETLAND DELINEATION AND STREAM ASSESSMENT REPORT***

*Prepared for:*  
*American Transmission Systems, Inc.*  
*a FirstEnergy Company*  
*76 South Main Street*  
*Akron, Ohio 44308*



525 Vine Street, Suite 1800  
Cincinnati, Ohio 45202

October 2018

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|---|--|
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**LIST OF ACRONYMS and ABBREVIATIONS**

ATSI	American Transmission Systems, Inc.
DBH	Diameter at Breast Height
°F	Degree Fahrenheit
FAC	Facultative
FACU	Facultative upland
FACW	Facultative wetland
GPS	Global Positioning System
HHEI	Headwater Habitat Evaluation Index
IBI	Index of Biotic Integrity
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWP	Nationwide Permit
OAC	Ohio Administrative Code
OBL	Obligate wetland
OEPA	Ohio Environmental Protection Agency
OHWM	Ordinary high water mark
ORAM	Ohio Rapid Assessment Method
PEM	Palustrine Emergent
PFO	Palustrine Forested
PHWH	Primary Headwater Habitat
PSS	Palustrine Scrub/Shrub
QHEI	Qualitative Habitat Evaluation Index
ROW	Right-of-way
UPL	Upland
U.S.	United States
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WWH	Warmwater Habitat

## **1.0 INTRODUCTION**

American Transmission Systems, Inc. (ATSI), a FirstEnergy Company (FirstEnergy) is proposing to rebuild the existing Beaver to Brownhelm Junction and the Beaver to Black River 138 kV Transmission Lines (Project) in Lorain County, Ohio. The Beaver to Black River 138 kV Transmission line rebuild is approximately 8.5 miles long and begins at the Black River Substation in the City of Lorain and terminates just south of North Ridge Road in Lorain County at the Beaver-Brownhelm Junction. The Beaver to Brownhelm Junction 138 kV Transmission line rebuild is approximately 2.5 miles long and begins at Beaver Substation in the City of Lorain and terminates just south of North Ridge Road at the Beaver-Brownhelm Junction. The Project is illustrated on Figure 1.

Land uses crossed by the Project survey corridor were assigned a general classification based upon the principal land characteristics of the location as observed through aerial photography review and observations during the field surveys. General land use types in the vicinity of the proposed Project include: residential lots, agricultural, commercial lots, wetlands, wooded lots, and maintained transmission line right-of-way (ROW). Maintained transmission line ROW is the dominant land use in the vicinity of the Project.

## **2.0 METHODOLOGY**

Prior to conducting field surveys, digital and published county Natural Resources Conservation Service (NRCS) soil surveys, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps, and U.S. Geological Survey (USGS) 7.5-minute topographic maps were reviewed as an exercise to identify the occurrence and location of potential wetland areas (Figure 2). The purpose of the field survey was to assess whether wetlands and other “waters of the U.S.” are present within the Project’s survey corridor, which consisted of the existing 100-foot wide ROW with a 20-foot buffer on each side, and identified work limits beyond the ROW such as access roads, work pads, and laydown yards (Figure 3).

AECOM ecologists walked the Project survey corridor, access roads, and work areas to conduct a wetland delineation and stream assessment. Initial field investigations were conducted on July 9<sup>th</sup>, through July 12<sup>th</sup>, 2018. Follow-up field investigations were conducted on October 8, 2018. During the field survey, the physical boundaries of observed water features were recorded using sub-decimeter capable Trimble Global Positioning System (GPS) units. The GPS data was imported into ArcMap GIS software, where the data was then reviewed and edited for accuracy.

## **2.1 WETLAND DELINEATION**

The Project survey corridor was evaluated according to the procedures outlined in the U.S. Army Corps of Engineers (USACE) *1987 Wetland Delineation Manual (1987 Manual)* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0) (Regional Supplement)* (USACE, 2012). The *Regional Supplement* was released in August 2010 by the USACE to address regional wetland characteristics and improve the accuracy and efficiency of wetland delineation procedures. Version 2.0 was released in January 2012. The *1987 Manual* and *Regional Supplement* define wetlands as areas that have positive evidence of three environmental parameters: hydric soils, wetland hydrology, and hydrophytic vegetation. Wetland boundaries are placed where one or more of these parameters give way to upland characteristics.

Since quantitative data were not available for any of the identified wetlands, AECOM utilized the routine delineation method described in the *1987 Manual* and *Regional Supplement* that consisted of a pedestrian site reconnaissance, including identifying the vegetation communities, soils identification, a geomorphologic assessment of hydrology, and notation of disturbance. The methodology used to examine each parameter is described in the following sections.

During the field survey, the physical boundaries of observed water features were recorded using sub-decimeter capable Trimble GPS units, with the resulting data imported for use into ArcMap GIS software. Land uses observed within the Project survey corridor were assigned a general classification based upon the principal land characteristics of the location as observed through aerial photography review and observations during the field surveys.

### **2.1.1 Soils**

Soils were examined for hydric soil characteristics using a spade shovel to extract soil samples. A *Munsell Soil Color Chart* (Kollmorgen Corporation 2010) was used to identify the hue, value, and chroma of the matrix and mottles of the soils. Generally, mottled soils with a matrix chroma of two or less, or unmottled soils with a matrix chroma of one or less are considered to exhibit hydric soil characteristics (Environmental Laboratory 1987). In sandy soils, mottled soils with a matrix chroma of three or less, or unmottled soils with a matrix chroma of two or less are considered to be hydric soils.

### **2.1.2 Hydrology**

The *1987 Manual* requires that an area be inundated or saturated to the surface for an absolute minimum of five percent of the growing season (areas saturated between five percent and 12.5

percent of the growing season may or may not be wetlands, while areas saturated over 12.5 percent of the growing season fulfill the hydrology requirements for wetlands). The *Regional Supplement* states that the growing season dates are determined through onsite observations of the following indicators of biological activity in a given year: (1) above-ground growth and development of vascular plants, and/or (2) soil temperature (12-in. depth) is 41 degree Fahrenheit (°F) or higher as an indicator of soil microbial activity. Therefore, the beginning of the growing season in a given year is indicated by whichever condition occurs earlier, and the end of the growing season by whichever persists later.

The *Regional Supplement* also states that if onsite data gathering is not practical, the growing season can be approximated by the number of days between the average (five years out of ten, or 50 percent probability) date of the last and first 28°F air temperature in the spring and fall, respectively. The National Weather Service WETS data obtained from the NRCS National Water and Climate Center reveals for Lorain County that in an average year, this period lasts from April 20 to October 27, or about 190 days. In the Project area, five percent of the growing season equates to approximately ten days (NRCS 2017).

The soils and ground surface were examined for evidence of wetland hydrology in lieu of detailed hydrological data. This is an acceptable approach according to the *1987 Manual* and *Regional Supplement*. Evidence indicating wetland hydrology typically includes primary indicators such as surface water, saturation, water marks, drift deposits, water-stained leaves, sediment deposits and oxidized rhizospheres on living roots; and secondary indicators such as, drainage patterns, geomorphic position, micro-topographic relief, and a positive Facultative (FAC)-neutral test (USACE 2012).

### **2.1.3 Vegetation**

Dominant vegetation was visually assessed for each stratum (tree, sapling/shrub, herb and woody vine) and an indicator status of obligate wetland (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), and/or upland (UPL) was assigned to each plant species based on the U.S. Army Corps of Engineers *2016 National Wetland Plant List: Northcentral and Northeast Region* (Lichvar et al. 2016), which encompasses the area of the Project. An area is determined to have hydrophytic vegetation when, under normal circumstances, 50 percent or more of the composition of the dominant species are OBL, FACW and/or FAC species. Vegetation of an area was determined to be non-hydrophytic when more than 50 percent of the composition of the dominant species was FACU and/or UPL species. In addition to the dominance test, the FAC-Neutral test and prevalence tests are used to determine if a wetland has a predominance of hydrophytic vegetation. Recent USACE guidance indicates that to the extent possible, the hydrophytic vegetation decision should be based on the plant community that is

normally present during the wet portion of the growing season in a normal rainfall year (USACE 2012).

#### **2.1.4 Wetland Classifications**

Wetlands were classified based on the naming convention found in *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979). All identified wetlands within the survey corridor were classified as freshwater, palustrine systems, which include non-tidal wetlands dominated by trees, shrubs, emergents, mosses, or lichens. The palustrine wetland classification types are as follows:

- **PEM** – Palustrine emergent wetlands are characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants.
- **PSS** – Palustrine scrub/shrub wetlands are characterized by woody vegetation that is less than three inches diameter at breast height (DBH), and greater than 3.28 feet tall. The woody angiosperms (i.e., small trees or shrubs) in this broad leaved deciduous community have relatively wide, flat leaves that are shed annually during the cold or dry season.
- **PFO** – Palustrine forested wetlands are characterized by woody vegetation that is three inches or more DBH, regardless of total height. These wetlands generally include an overstory of broad-leaved and needle-leaved trees, an understory or young saplings and shrubs, and an herbaceous layer.
- **PUB** – Palustrine unconsolidated bottom wetlands includes all open water wetlands and deepwater habitats with at least 25 percent cover of particles smaller than stones, and a vegetative cover less than 30 percent. Palustrine open water wetlands are characterized by the lack of large stable surfaces for plant and animal attachment.
- **PAB** – Palustrine aquatic bed wetlands are characterized by plants that grow principally on or below the surface of the water for most of the growing season in most years. These plants are best developed in relatively permanent water or under conditions of repeated flooding.
- **PML** – Palustrine moss-lichen wetlands includes areas where mosses or lichens cover at least 30 percent of substrates other than rock and where emergents, shrubs, or trees alone or in combination cover less than 30 percent.

- **PUS** – Palustrine unconsolidated shore wetlands are characterized by substrates lacking vegetation except for pioneer plants that become established during brief periods when growing conditions are favorable. Unconsolidated shore wetlands have less than 30% areal coverage of vegetation and less than 75 percent areal cover of stones, boulders or bedrock.
- **PRB** – Palustrine rock bottom wetlands includes all wetlands and deepwater habitats with substrates having an areal cover of stones, boulders, or bedrock 75 percent or greater and vegetative cover of less than 30 percent. Rock bottom wetlands and deepwater habitats are characterized by substrates predominantly made up of stones, boulders, or bedrock.

For some wetlands, multiple Cowardin classifications may be present where more than one classification's vegetation is dominant (vegetation covers 30 percent or more of the substrate). Where multiple Cowardin classifications are present, the Cowardin classification of the plants that constitute the uppermost layer of vegetation is listed.

### **2.1.5 Ohio Rapid Assessment Method v. 5.0**

The Ohio Environmental Protection Agency (OEPA) *Ohio Rapid Assessment Method for Wetlands* v. 5.0 (*ORAM*) was developed to determine the relative ecological quality and level of disturbance of a particular wetland in order to meet requirements under Section 401 of the Clean Water Act. 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* 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).

#### ***Category 1 Wetlands***

Category 1 wetlands support minimal wildlife habitat, hydrological and recreational functions, and do not provide for or contain critical habitats for threatened or endangered species. In addition, Category 1 wetlands are often hydrologically isolated and have some or all of the following characteristics: low species diversity, no significant habitat or wildlife use, limited potential to achieve wetland functions, and/or a predominance of non-native species. These limited quality wetlands are considered to be a resource that has been severely degraded or has a limited potential for restoration, or is of low ecological functionality.



***Category 2 Wetlands***

Category 2 wetlands "...support moderate wildlife habitat, or hydrological or recreational functions," and as wetlands which are "...dominated by native species but generally without the presence of, or habitat for, rare, threatened or endangered species; and wetlands which are degraded but have a reasonable potential for reestablishing lost wetland functions." Category 2 wetlands constitute the broad middle category of "good" quality wetlands, and can be considered a functioning, diverse, healthy water resource that has ecological integrity and human value. Some Category 2 wetlands are lacking in human disturbance and considered to be naturally of moderate quality; others may have been Category 3 wetlands in the past, but have been degraded to Category 2 status.

***Category 3 Wetlands***

Wetlands that are assigned to Category 3 have "...superior habitat, or superior hydrological or recreational functions." They are typified by high levels of diversity, a high proportion of native species, and/or high functional values. Category 3 wetlands include wetlands which contain or provide habitat for threatened or endangered species, are high quality mature forested wetlands, vernal pools, bogs, fens, or which are scarce regionally and/or statewide. A wetland may be a Category 3 wetland because it exhibits one or all of the above characteristics. For example, a forested wetland located in the flood plain of a river may exhibit "superior" hydrologic functions (e.g., flood retention, nutrient removal), but not contain mature trees or high levels of plant species diversity.

**2.2 STREAM CROSSINGS**

Regulatory activities under the Clean Water Act provide authority for states to issue water quality standards and "designated uses" to all waters of the U.S. upstream to the highest reaches of the tributary streams. In addition, the Federal Water Pollution Control Act of 1972 and its 1977 and 1987 amendments require knowledge of the potential fish or biological communities that can be supported in a stream or river, including upstream headwaters. Streams were identified by the presence of a defined bed and bank, and evidence of an ordinary high water mark (OHWM). The USACE defines OHWM as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (USACE 2005).

Stream assessments were conducted using the methods described in the OEPA's Methods for Assessing Habitat in Flowing Waters: Using OEPA's *Qualitative Habitat Evaluation Index* (Rankin 2006) and *Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams, Version 3* (OEPA 2012).

### **2.2.1 OEPA Qualitative Habitat Evaluation Index**

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 quantitative 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 15.75 inches, 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 OEPA has assigned narrative ratings to QHEI scores. The ranges vary slightly for headwater streams (H are those with a watershed area less than or equal to 20 mi<sup>2</sup>) versus larger streams (L are those with a watershed area greater than 20 mi<sup>2</sup>). 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) (Rankin 2006).

### **2.2.2 OEPA Primary Headwater Habitat Evaluation Index**

Headwater streams are typically considered to be first-order and second-order streams, meaning streams that have no upstream tributaries (or "branches") and those that have only first-order tributaries, respectively. The stream order concept can be problematic when used to define headwater streams because stream-order designations vary depending upon the accuracy and resolution of the stream delineation. Headwater streams are generally not shown on USGS 7.5-minute topographic quadrangles and are sometimes difficult to distinguish on aerial photographs. Nevertheless, headwater streams are now recognized as useful monitoring units due to their abundance, widespread spatial scale and landscape position (Fritz et al. 2006). Impacts to headwater streams can have a cascading effect on the downstream water quality and habitat value. The headwater habitat evaluation index (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. The HHEI was developed using many of the same techniques as used for QHEI, but has criteria specifically designed for headwater habitats. To use HHEI, the stream must have a “defined bed and bank, with either continuous or periodically flowing water, with watershed area less than or equal to 1.0 mi<sup>2</sup> (259ha), and a maximum depth of water pools equal to or less than 15.75 inches” (OEPA 2012).

Headwater streams are scored on the basis of channel substrate composition, bankfull width, and maximum pool depth. Assessments 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". Technically, a stream can score relatively high, but actually belong in a lower class, and vice-versa. According to the OEPA, if the stream score falls into a class and the scorer feels that based on site observations that score does not reflect the actual stream class, a decision-making flow chart can be used to determine appropriate PHWH stream class using the HHEI protocol (OEPA 2012). Evidence of anthropogenic alterations to the natural channel will result in a “Modified” qualifier for the stream.

***Class 1 PHWH Streams:*** Class 1 PHWH Streams are those that have “normally dry channels with little or no aquatic life present” (OEPA 2012). These waterways are usually ephemeral, with water present for short periods of time due to infiltration from snowmelts or rainwater runoff.

***Class 2 PHWH Streams:*** Class 2 PHWH Streams are equivalent to "warm-water habitat" streams. This stream class has a "moderately diverse community of warm-water adapted native fauna either present seasonally or on an annual basis" (OEPA 2012). These species communities are composed of vertebrates (fish and salamanders) and/or benthic macroinvertebrates that are considered pioneering, headwater temporary, and/or temperature facultative species.

***Class 3 PHWH Streams:*** Class 3 PHWH Streams usually have perennial water flow with cool-cold water adapted native fauna. The community of Class 3 PHWH Streams is comprised of vertebrates (either cold water adapted species of headwater fish and or obligate aquatic species of salamanders, with larval stages present), and/or a diverse community of benthic cool water adapted macroinvertebrates present in the stream continuously (on an annual basis).

### **3.0 RESULTS**

AECOM delineated 24 wetlands, eight streams, and ten ponds within the survey corridor. These wetlands and other features are discussed in the following sections.

## 3.1 WETLAND DELINEATION

### 3.1.1 Preliminary Soils Evaluation

Soils within each wetland were observed and documented as part of the delineation methodology. According to the USDA/NRCS Web Soil Surveys of Lorain County, Ohio (NRCS 2017) and the NRCS Hydric Soils Lists of Ohio, 30 soil series are mapped within the Project survey corridor (NRCS 2017). Six of the 30 soil series are listed as hydric soils. In addition, map units of certain series commonly include minor percentages of hydric components. Table 1 provides a detailed overview of all soil series and soil map units within the Project survey corridor. Soil map units located within the Project survey corridor are shown on Figure 2.

**TABLE 1**  
**SOIL MAP UNITS AND DESCRIPTIONS WITHIN THE BEAVER-BROWNHelm AND BLACK RIVER**  
**138 kV TRANSMISSION LINE REBUILD PROJECT SURVEY CORRIDOR**

Soil Series	Symbol	Map Unit Description	Topographic Setting	Hydric	Hydric Component (%)
Allis	AkA	Allis loam, 0 to 2 percent slopes	Depressions	Yes	Allis (95%), Areas 40-60 inches deep over shale bedrock (5%)
	AIA	Allis silty clay loam, 0 to 2 percent slopes	Depressions	Yes	Allis (94%), Areas with a darker surface layer (3%), Areas with thin layer of glacial till over shale bedrock (3%)
Allis-Urban	AmA	Allis-Urban land complex, nearly level	Depressions	Yes	Allis (60%), Miner shale substratum (5%)
Bogart	BtB	Bogart loam, 2 to 6 percent slopes	Terraces	No	N/A
Chagrin	Ch	Chagrin silt loam	Flood plains	No	Holly (4%)
Udorthents	Cz	Udorthents	None	Unranked	N/A
Dekalb	DkB	Dekalb very channery loam, 1 to 6 percent slopes	Hills	No	N/A
Del Rey	DsB	Del Rey silt loam, 1 to 4 percent slopes	Till plains	No	N/A
Ellsworth	EIB2	Ellsworth silt loam, 2 to 6 percent slopes, eroded	Till plains on uplands	No	Trumbull (5%)
	EIC2	Ellsworth silt loam, 6 to 12 percent slopes	Till plains on uplands	No	N/A
Fulton	FuA	Fulton silt loam, 0 to 2 percent slopes	Lake plains	No	N/A
Haskins	HsA	Haskins loam, 0 to 2 percent slopes	Lake plains	No	Merrill (3%)
	HsB	Haskins loam, 2 to 6 percent slopes	Lake plains	No	N/A
Hornell	HZA	Hornell silt loam, 0 to 2 percent slopes	Lake plains	No	Allis (4%), Miner, shale substratum (4%)
	HZB	Hornell silt loam, 2 to 6 percent slopes	Lake plains	No	Allis (5%), Miner, shale substratum (5%)

**TABLE 1**  
**SOIL MAP UNITS AND DESCRIPTIONS WITHIN THE BEAVER-BROWNHelm AND BLACK RIVER**  
**138 kV TRANSMISSION LINE REBUILD PROJECT SURVEY CORRIDOR**

Soil Series	Symbol	Map Unit Description	Topographic Setting	Hydric	Hydric Component (%)
Jimtown	JsA	Jimtown sandy loam, 0 to 2 percent slopes	Terraces	No	N/A
	JtA	Jimtown loam, 0 to 2 percent slopes	Terraces	No	N/A
Lockport	LcB	Lockport silty clay loam, 1 to 4 percent slopes	Hills	No	N/A
Lorain	Ln	Lorain silty clay loam	Depressions	Yes	Lorain (90%), Areas with an organic surface (4%)
Mahoning-Tiro	MkA	Mahoning-Tiro silt loams, 0 to 2 percent slopes	Till plains on uplands	No	Sebring (5%), Trumbull (5%)
	MkB	Mahoning-Tiro silt loams, 2 to 6 percent slopes	Till plains on uplands	No	Trumbull (5%)
Mahoning-Urban	MmA	Mahoning-Urban land complex, 0 to 2 percent slopes	Till plains on uplands	No	Trumbull (5%)
Mentor	MnC	Mentor silt loam, 6 to 12 percent slopes	Terraces on valleys	No	N/A
Mermill	Mo	Mermill loam	Depressions	Yes	Mermill (90%)
Miner	Mr	Miner silty clay loam, 0 to 2 percent slopes	Depressions on till plains	Yes	Miner (85%)
	Ms	Miner silty clay loam, shale substratum, 0 to 2 percent slopes	Depression on till plains	Yes	Miner (85%)
Mitiwanga	MtA	Mitiwanga silt loam, 0 to 2 percent slopes	Till plains	No	N/A
Mitiwanga-Urban	MxB	Mitiwanga-Urban land complex, gently sloping	Till plains	No	N/A
Olmsted	Om	Olmsted fine sandy loam	Depressions	Yes	Olmsted (92%), Mermill (5%)
Orrville	Or	Orrville silt loam	Flood plains	No	Holly (5%)
Oshtemo	OtB	Oshtemo sandy loam, 2 to 6 percent slopes	Terraces	No	N/A
Quarries	Qu	Quarries	N/A	Unranked	N/A
Rawson	RdA	Rawson loam, 0 to 2 percent slopes	Hills	No	N/A
Senecaville	Se	Senecaville silt loam	Flood plains	No	N/A
Stafford	Sw	Stafford fine sandy loam	Beach ridges	No	N/A
Tyner	TyB	Tyner loamy sand, 1 to 6 percent slopes	Beach ridges on lake plains	No	N/A
	TyC	Tyner loamy sand, 6 to 12 percent slopes	Beach ridges on lake plains	No	N/A
Weikert	WeB	Weikert channery fine sandy loam, 1 to 6 percent slopes	Hills	No	N/A

**NOTES:**

(1) Data sources include:

USDA, NRCS. 2017 Web Soil Survey. Available online at: <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

USDA, NRCS. 2015. National Hydric Soils List by State. Available online at: <http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/>

USDA, NRCS. 1976. Soil Survey of Lorain County, Ohio.

### **3.1.2 National Wetland Inventory Map Review**

According to NWI maps of the Vermillion East, and Lorain, Ohio quadrangles, the Project survey corridor contains ten mapped NWI wetlands: two palustrine, unconsolidated bottom, intermittently exposed (PUBG); four Riverine, intermittent, streambed, seasonally flooded (R4SBC); and four riverine, unknown perennial, unconsolidated bottom, permanently flooded (R5UBH) (USFWS 2017). The mapped NWI features that were delineated in the field are described in Table 2. Locations of the NWI mapped wetlands are shown on Figure 2.

### **3.1.3 Delineated Wetlands**

During the delineation, AECOM identified a total of 24 wetlands, ranging in size from 0.02 to 3.57 acres, within the Project survey corridor. Some wetland boundaries extend beyond these areas, but only what was identified within the Project survey corridor, access roads, and work areas were assessed. The 24 wetlands within the Project survey corridor are of three different wetland habitat types: 21 PEM wetlands, two PSS wetlands, and one PFO wetland. See Table 2 for a summary of the delineated wetlands within the Project survey corridor.

The locations and approximate extent of the wetlands identified within the Project survey areas are shown on Figure 3. Completed USACE and ORAM wetland delineation forms are provided in Appendix A and B, respectively. Representative color photographs taken of selected wetlands are provided in Appendix D.

TABLE 2  
DELINEATED WETLANDS WITHIN THE BEAVER-BROWNHELM JUNCTION AND BLACK RIVER 138 kV TRANSMISSION LINE  
REBUILD PROJECT SURVEY CORRIDOR

Wetland Name	Latitude	Longitude	Cowardin Classification	NWI Classification	ORAM Score	ORAM Category	Acreage within Survey Corridor
Wetland BBR-01	41.4273	-82.2635	PEM	N/A	18.5	Category 1	<0.01
Wetland BBR-02	41.4266	-82.2630	PEM	N/A	18.5	Category 1	0.22
Wetland BBR-03	41.4223	-82.2630	PEM	N/A	22.5	Category 1	2.64
Wetland BBR-04	41.4183	-82.2633	PEM	N/A	27.0	Category 1	1.19
Wetland BBR-05	41.4176	-82.2642	PEM	N/A	20.0	Category 1	0.19
Wetland BBR-06	41.4167	-82.2651	PEM	N/A	19.0	Category 1	0.13
Wetland BBR-07	41.4137	-82.2671	PEM	N/A	16.5	Category 1	0.20
Wetland BBR-08	41.4101	-82.2676	PEM	N/A	23.5	Category 1	0.11
Wetland BBR-09	41.4085	-82.2677	PEM	N/A	23.5	Category 1	0.19
Wetland BBR-10	41.4059	-82.2677	PEM	N/A	21.5	Category 1	0.55
Wetland BBR-11	41.4049	-82.2678	PEM	N/A	13.5	Category 1	0.02
Wetland BBR-12	41.3989	-82.2681	PEM	N/A	14.5	Category 1	0.08
Wetland BBR-13	41.3914	-82.2683	PEM	N/A	22.0	Category 1	0.73
Wetland BBR-14	41.3928	-82.2652	PEM	N/A	23.0	Category 1	0.20
Wetland BBR-15	41.3932	-82.2645	PEM	N/A	19.5	Category 1	0.28
Wetland BBR-16	41.3967	-82.2608	PSS	PUBG/R4SBC/ R5UBH	38.0	Category 2	0.57
Wetland BBR-17	41.4039	-82.2503	PEM	N/A	19.5	Category 1	0.15
Wetland BBR-18	41.4081	-82.2368	PEM	N/A	14.5	Category 1	0.07
Wetland BBR-19	41.4089	-82.2343	PEM	N/A	19.5	Category 1	0.42
Wetland BBR-20	41.4107	-82.2290	PSS	N/A	32.5	Category 2	0.54
Wetland BBR-21	41.4128	-82.2246	PEM	N/A	18.0	Category 1	0.03
Wetland BBR-22	41.4136	-82.2239	PEM	N/A	13.0	Category 1	0.12



TABLE 2  
DELINEATED WETLANDS WITHIN THE BEAVER-BROWNHELM JUNCTION AND BLACK RIVER 138 kV TRANSMISSION LINE  
REBUILD PROJECT SURVEY CORRIDOR

Wetland Name	Latitude	Longitude	Cowardin Classification	NWI Classification	ORAM Score	ORAM Category	Acreage within Survey Corridor
Wetland BBR-23	41.4239	-82.2106	PFO	N/A	32.0	Category 2	0.10
Wetland BBR-24	41.4095	-82.2377	PEM	N/A	18.5	Category 1	0.01
<b>Total: 24</b>	PEM: 21; PSS 2; PFO 1						<b>8.72</b>

Cowardin Classification<sup>a</sup>: PEM = palustrine emergent; PSS = palustrine scrub/shrub; PFO = palustrine forested

## 3.1.4 Delineated Wetlands ORAM V5.0 Results

Within the Project survey corridor, 21 wetlands are identified as Category 1, and three wetlands are identified as Category 2. Wetland BBR-22 received the lowest ORAM score, 13.0, while Wetland BBR-16 had the highest score, 38.0. A breakdown of ORAM scores can be found in Table 2 and Table 3. Completed ORAM forms are provided in Appendix B.

**TABLE 3**  
**SUMMARY OF DELINEATED WETLANDS WITHIN THE BEAVER-BROWNHelm**  
**JUNCTION AND BLACK RIVER 138 kV TRANSMISSION LINE REBUILD PROJECT**  
**SURVEY CORRIDOR**

Cowardin Wetland Type <sup>a</sup>	ORAM Category 1	ORAM Category 2	ORAM Category 3	Number of Wetlands	Acreage within Project Survey Corridor
PEM	21	0	0	21	7.52
PSS	0	2	0	2	1.10
PFO	0	1	0	1	0.10
<b>Total</b>	<b>21</b>	<b>3</b>	<b>0</b>	<b>24</b>	<b>8.72</b>

Cowardin Classification<sup>a</sup> : PFO = palustrine forested, PSS = palustrine scrub/shrub, PEM = palustrine emergent

### *Category 1 Wetlands*

Category 1 wetlands delineated within the Project survey consist of 21 PEM wetlands. The lowest scoring Category 1 wetland was Wetland BBR-22, with a score of 13.0 and the highest scoring Category 1 wetland was Wetland BBR-04, with a score of 27.0. The wetlands exhibited narrow to medium upland buffers and a range of very low (e.g., 2nd growth or older forest) to high intensive surrounding land use (e.g., agricultural). The wetlands also exhibited poor to fair plant community development with a sparse to extensive percentage of invasive species, and characteristically had habitat and hydrology in the early stages of recovering from previous manipulation due to mowing, clear cutting, selective cutting and other disturbances.

### *Category 2 Wetlands*

Category 2 wetlands delineated within the Project survey consist of two PSS wetlands, and one PFO wetland. The lowest scoring Category 2 wetland was Wetland BBR-23 with a score of 32.0 and the highest scoring Category 2 wetland was Wetland BBR-16, with a score of 38.0. These wetlands generally exhibited medium upland buffers and very low (second growth forest) to high land use (agricultural, and urban). These wetlands also exhibited fair to moderately good habitat development with a sparse to moderate coverage of invasive species. These wetlands characteristically had habitat and hydrology recovering or recovered from previous manipulation due to sedimentation, selective cutting, and other likely disturbances.

### *Category 3 Wetlands*

No Category 3 wetlands were identified during the field surveys within the Project survey corridor.

### **3.2 STREAM CROSSINGS**

AECOM identified eight streams, totaling 2,172 linear feet, within the Project survey corridor, as listed in Table 4. The streams are comprised of two ephemeral streams, one intermittent stream, and five perennial streams. The locations of the streams identified within the survey corridor are shown on Figure 3.

The OEPA has established water use designation for streams throughout Ohio as outlined in the Ohio Administrative Code (OAC), OAC-3745-1-07. Water use designations within the Black River drainage basin are regulated under OAC-3745-1-27. Quarry Creek, Beaver Creek and Martin Run have an OEPA state of Ohio aquatic use designation of Warmwater habitat (WWH). These streams were not scored using the QHEI or HHEI method.

HHEI evaluations were conducted on four streams within the Project survey corridor. QHEI evaluation was conducted on one stream in the survey corridor. AECOM evaluations were conducted at or near the proposed transmission line crossing or access road crossing of each stream. These streams were identified using USGS topographic maps, aerial photography, and field reconnaissance.

**TABLE 4**  
**DELINEATED STREAMS WITHIN THE BEAVER-BROWNHELM JUNCTION AND BLACK RIVER 138 KV TRANSMISSION LINE REBUILD PROJECT**  
**SURVEY CORRIDOR**

Report Name	Latitude	Longitude	Waterbody	Flow Regime	Form Used <sup>1</sup>	Score <sup>2</sup>	Class or Narrative Description	Bankfull Width (feet)	Maximum Pool Depth (inches)	OEPA 401 WQC Eligibility for NWP <sup>3</sup>	Linear Feet within Survey Corridor and Work Limits
Stream BBR-01	41.4107	-82.2677	Quarry Creek	Perennial	NA	NA	Warmwater	5	12	Eligible	226
Stream BBR-02	41.4021	-82.2676	Tributary to Quarry Creek	Ephemeral	HHEI	25	Modified Class 1	2	0	Eligible	325
Stream BBR-03	41.4102	-82.2294	Beaver Creek	Perennial	NA	NA	Warmwater	40	24	Eligible	654
Stream BBR-04	41.4229	-82.2122	Tributary to Beaver Creek	Intermittent	HHEI	26	Modified Class 1	3	1	Eligible	149
Stream BBR-05	41.4242	-82.2105	Tributary to Beaver Creek	Perennial	QHEI	55.5	Good Warmwater	10	16	Eligible	183
Stream BBR-06	41.4272	-82.2058	Tributary to Beaver Creek	Perennial	HHEI	56	Modified Class 2	5	3	Eligible	504
Stream BBR-07	41.4322	-82.1901	Martin Run	Perennial	NA	NA	Warmwater	6	12	Eligible	22
Stream BBR-08	41.4370	-82.1714	Tributary to Martin Run	Ephemeral	HHEI	21	Modified Class 1	2	0	Eligible	109
<b>Total: 8</b>											<b>2,172</b>

1. QHEI = Qualitative Habitat Evaluation Index, HHEI = Headwater Habitat Evaluation Index,
2. NA = Not Assessed (default to the State of Ohio's aquatic use designation)
3. As defined by OEPA Division of Surface Water Stream Eligibility Map. Available online at: <http://oea.maps.aecis.com/apps/webappviewer/index.html?id=c6b46d29a38f6229e1eb47dece49b6>

### **3.2.1 Qualitative Habitat Evaluation Index**

One stream identified within the Project survey corridor was assessed using the QHEI methodology. Stream BBR-05 was a Good Warmwater habitat stream. Including Beaver Creek, Quarry Creek, and Martin Run (which have an OEPA aquatic use designation of WWH), the streams totaled 1,085 linear feet within the Project survey corridor. The completed QHEI data form is provided in Appendix C. Representative color photographs were taken during field survey and are provided in Appendix D.

***Good Warmwater Habitat Streams*** – Stream BBR-05, totaling 183 linear feet, was classified as a Good Warmwater Habitat stream, with a QHEI score of 55.5. The substrate of this stream generally consisted of bedrock and silt with smaller amounts of boulder, sand, cobble, gravel, and artificial. The stream generally showed evidence of moderate to heavy bank erosion, moderate channel sinuosity, fair to good channel development, and overhanging vegetation, undercut banks, shallows (in slow water), boulders, and logs/woody debris as in-stream cover. Maximum pool depth was 16 inches and the average bankfull width was 10 feet.

### **3.2.2 Primary Headwater Habitat Evaluation Index**

Four headwater streams, totaling 1,087 linear feet, were identified within the Project survey corridor. These streams included three Modified Class 1 streams, and one Modified Class 2 stream. Completed HHEI forms for each stream are provided in Appendix C. Representative color photographs of selected streams were taken during the field survey and are provided in Appendix D.

***Modified Class 1 Headwater Streams*** – Three Modified Class 1 headwater streams, totaling 583 linear feet, with scores ranging from 21.0 to 26.0 were identified during the field investigations. One intermittent stream and two ephemeral streams were identified. The substrates primarily consisted of gravel, silt, and sand with lesser amounts of cobble, artificial, and leaf pack/woody debris. The streams showed evidence of stream channel modification (e.g., channelization, culverting, etc.) that resulted in the stream receiving a Modified Class 1 designation. The maximum pool depth for the streams ranged from zero to one inch, and average bankfull widths ranged from two to three feet.

***Modified Class 2 Headwater Stream*** – One Modified Class 2 headwater stream totaling 504 linear feet, with a score of 56.0 was identified during the field investigations. Stream BBR-06 was identified as a perennial stream. The substrates of this stream primarily consisted of artificial material and cobble, with lesser amounts of gravel, sand, silt, and leafy debris. The stream showed evidence of stream channel modification (e.g., channelization, culverting, etc.)



that resulted in the stream receiving a Modified Class 2 designation. The maximum pool depth was three inches, and average bankfull width was five feet.

### **3.3 PONDS**

Ten ponds, totaling approximately 1.76 acres, were identified within the Project survey corridor. The ponds appear to be man-made for stormwater retention. The locations of the ponds are shown on Figure 3. Representative color photographs taken of the ponds during the field survey are provided in Appendix D.

## **4.0 SUMMARY**

The ecological survey of the Project survey corridor identified a total of 24 wetlands, eight streams, and 10 ponds. The 24 wetlands within the Project survey corridor are of three different wetland habitat types: 21 PEM wetlands, two PSS wetlands, and one PFO wetland. All 24 wetlands were identified as ORAM Category 1 or Category 2 wetlands. No ORAM Category 3 wetlands were identified within the Project survey corridor.

The eight streams identified within the Project survey corridor include two ephemeral streams, one intermittent stream, and five perennial streams. Four streams were assessed using the HHEI methodology (drainage area less than 1 mi<sup>2</sup>) and one stream was assessed using the QHEI methodology (drainage area greater than 1 mi<sup>2</sup>). Three streams (Quarry Creek, Beaver Creek and Martin Run) were not assessed as they are larger waterbodies with an OEPA issued aquatic use designation.

Ten ponds, totaling approximately 1.76 acres, were identified within the Project survey corridor. The ponds appear to be man-made for stormwater retention purposes.

Based on the Stream Eligibility Web Map found on the OEPA 401 website, all eight streams assessed are located in a watershed eligible for impacts to be permitted using Nationwide Permit (NWP) 12. No impacts to the streams are expected at this time.

AECOM has preliminarily determined that all assessed streams and wetlands within the Project survey corridor appear to be jurisdictional (i.e., waters of the U.S.), as they all appear to be tributaries or wetlands that flow into or combine with other streams (waters of the U.S.). The locations of the streams and wetlands identified within the survey corridor are shown on Figure 3.

The information contained in this wetland delineation report is for a study area that may be much larger than the actual Project limits-of-disturbance; therefore, lengths and acreages listed in this

report may not constitute the actual impacts of the Project defined in subsequent permit applications. If necessary, a separate report that identifies the actual Project impacts will be provided with agency submittals.

The field survey results presented herein apply to the existing and reasonably foreseeable site conditions at the time of our assessment. They cannot apply to site changes of which AECOM is unaware and has not had the opportunity to review. Changes in the condition of a property may occur with time due to natural processes or human impacts at the project site or on adjacent properties. Changes in applicable standards may also occur as a result of legislation or the expansion of knowledge over time. Accordingly, the findings of this report may be invalidated, wholly or in part, by changes beyond the control of AECOM.

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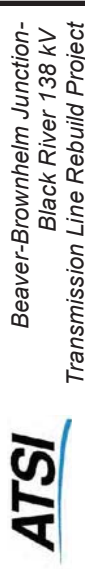
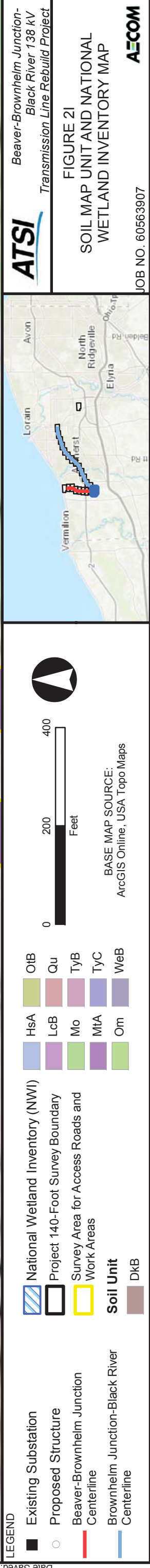
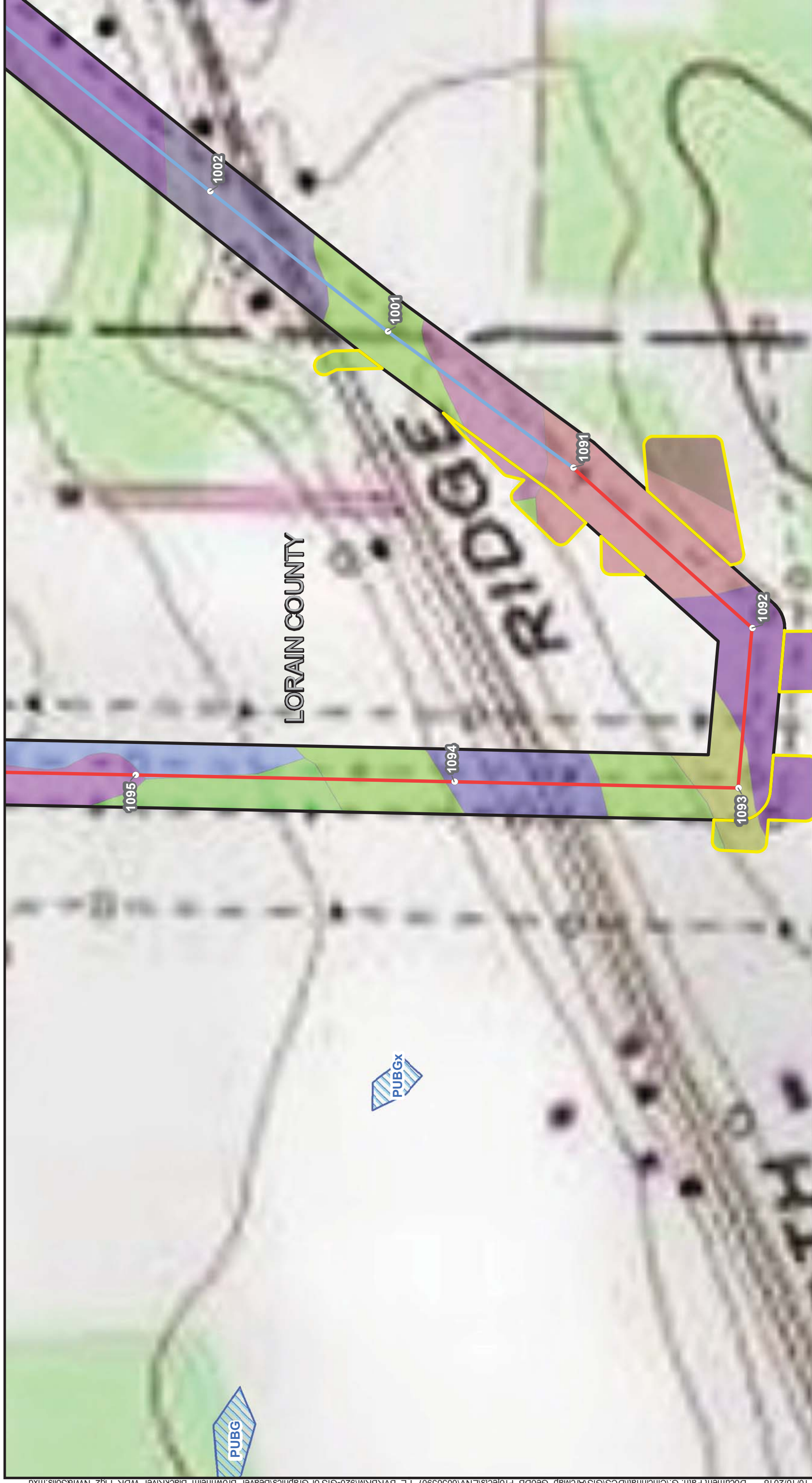
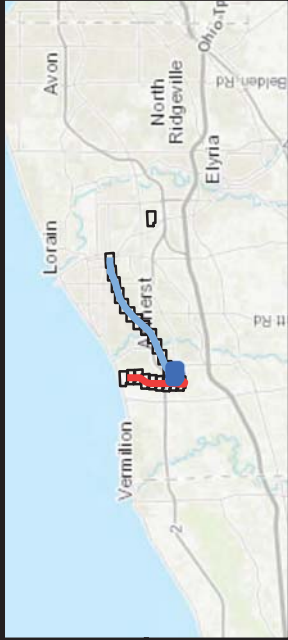


FIGURE 2H  
SOIL MAP UNIT AND NATIONAL  
WETLAND INVENTORY MAP

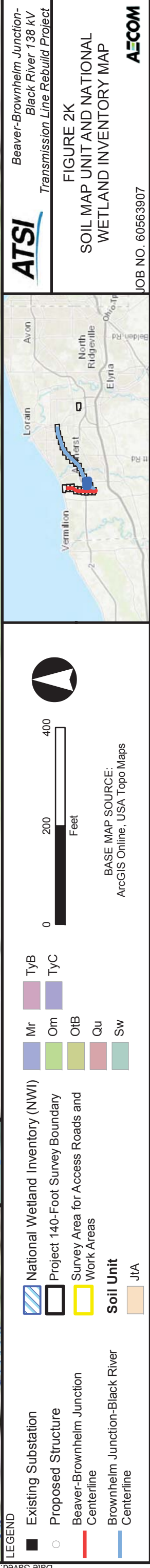


















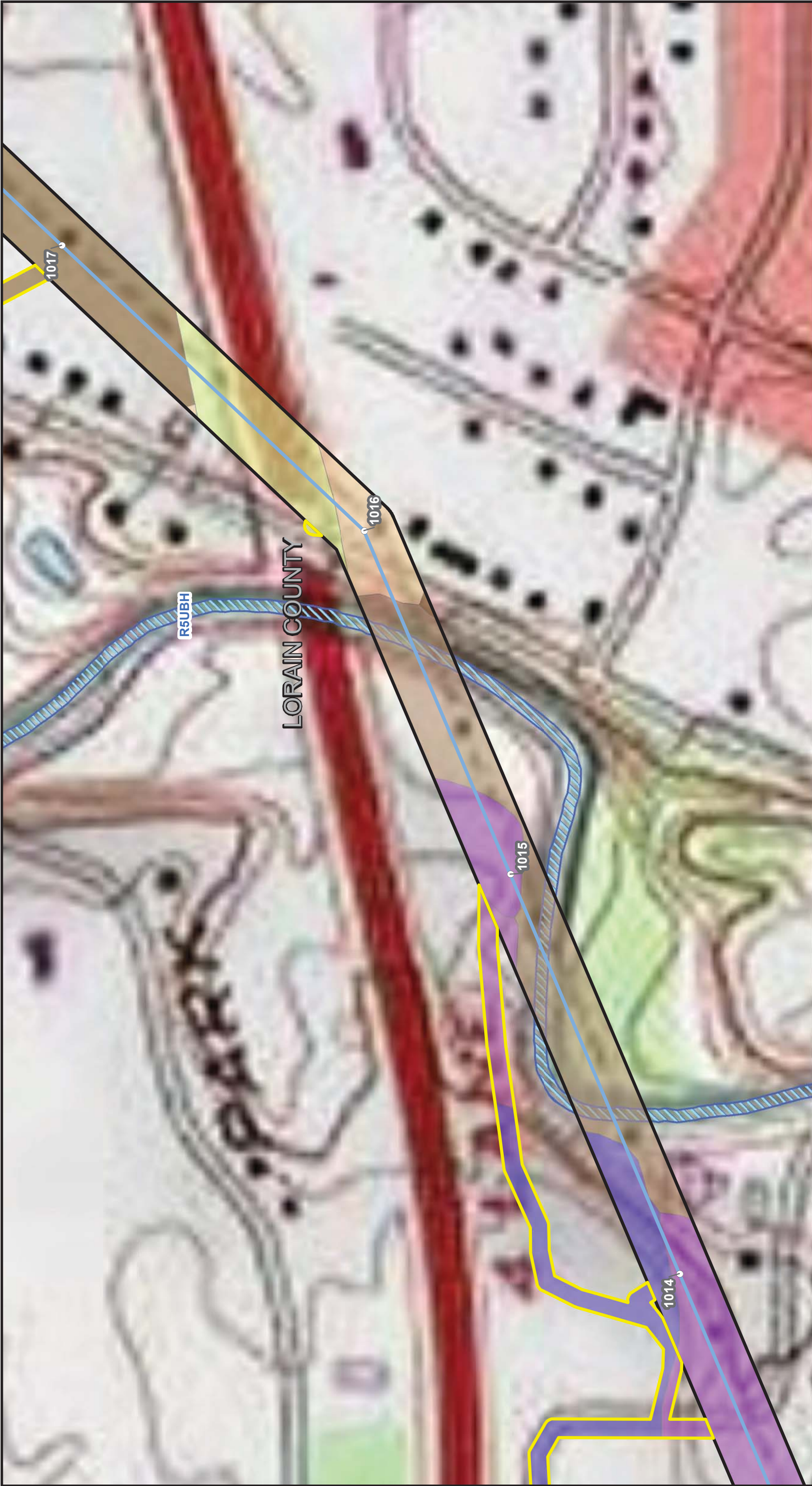




 Existing Substation  
 Proposed Structure  
 Beaver-Brownhelm Junction Centerline  
 Brownhelm Junction-Black River Centerline







**LEGEND**

Existing Substation	National Wetland Inventory (NWI)	Cz	Se
Proposed Structure	Project 140-Foot Survey Boundary	DsB	
Beaver-Brownhelm Junction Centerline	Survey Area for Access Roads and Work Areas	JtA	
Brownhelm Junction-Black River Centerline		LcB	
		MKA	

**Soil Unit**

A/A
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0 200 400 Feet

BASE MAP SOURCE:  
ArcGIS Online, USA Topo Maps

North Arrow

**ATSI**

Beaver-Brownhelm Junction-Black River 138 kV Transmission Line Rebuild Project

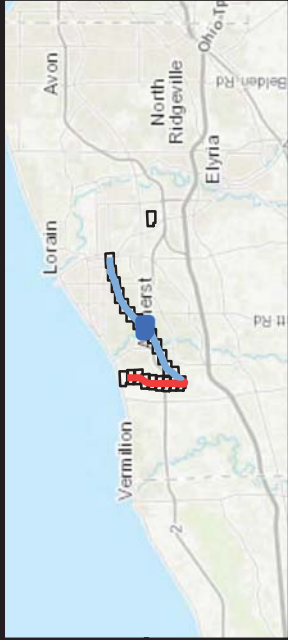
**FIGURE 2N**

**SOIL MAP UNIT AND NATIONAL WETLAND INVENTORY MAP**

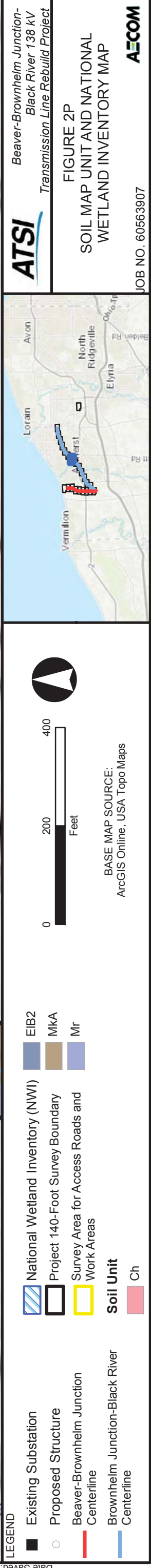
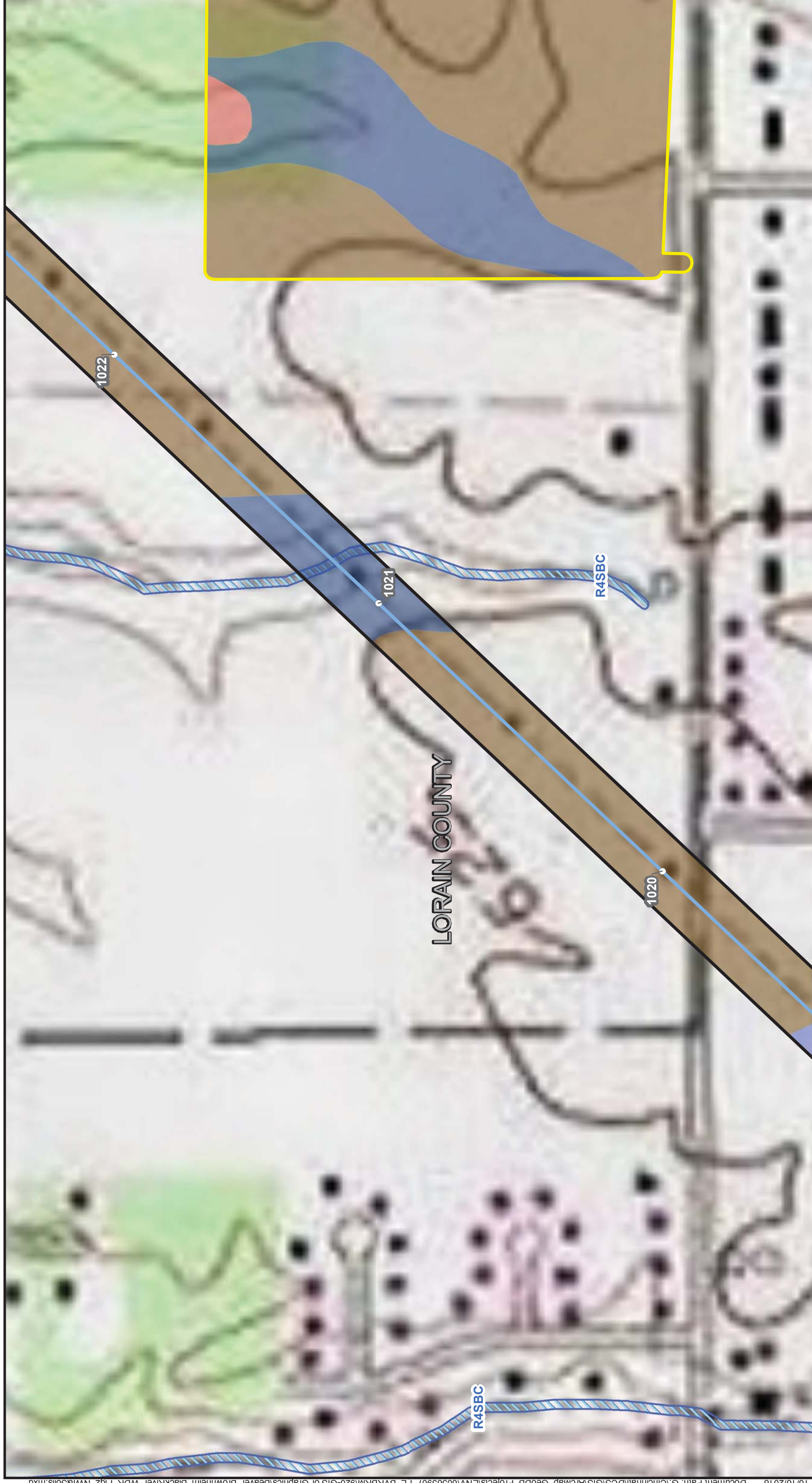
JOB NO. 60563907

**AECOM**















 Existing Substation  
 Proposed Structure  
 Beaver-Brownhelm Junction Centerline  
 Brownhelm Junction-Black River Centerline



SOIL MAP UNIT AND NATIONAL  
WETLAND INVENTORY MAP



**This foregoing document was electronically filed with the Public Utilities**

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**11/15/2018 3:04:21 PM**

**in**

**Case No(s). 18-1395-EL-BLN**

Summary: Letter of Notification Application Appendices 4 of 10 electronically filed by Mr. Robert J Schmidt on behalf of American Transmission Systems Inc.